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

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

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

UMGB 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 150 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 6 Computer connected to a Univa 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 Phoenix Sports Center.

UMGB 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. UMGB'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 UMGB a singular position within the University of Wisconsin System. UMGB 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 UMGB'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 UMGB.

Academic Calendar

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

UMGB'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

UMGB 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 UMGB 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

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

The intent of the program is threefold—to study the nature of physical, social, intellectual, and cultural environments, to contribute to the understanding and solution of problems in these areas, and to impart or improve career skills.
Several broad interdisciplinary tracks serve as foci for student studies and research. The program offers opportunities for students with undergraduate training in almost all traditional disciplines. In addition, students have an opportunity to design an individual program of study. In this way the student may draw upon resources and course offerings from the complete spectrum of the program.

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

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

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

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

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

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

GRADUATE STUDY FOR EDUCATORS: A variety of education and administration courses are offered which extend expertise in teaching and learning processes, curriculum development, educational testing, environmental education and the management of educational programs.

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

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

Costs and Financial Aids

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

RECIPIROCITY

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

NON-RESIDENT FEE WAIVERS

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

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

Eligibility requirements for receiving a graduate assistantship are: (1) the student must be admitted to the MEGS degree program; and (2) the student must be enrolled for a minimum of 6 credits of course work each semester and no less than 15 credits during the academic year.
Applications for a Graduate Assistantship should be filed before March 15. Applications received after this date or at other times of the year will be considered for any unfilled assistantships or assistantships funded from grant monies. Students who wish information on the availability of an assistantship are encouraged to inquire at the Graduate Office (CC 335).

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

Campus Life

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

The first alternative is the Bay Apartments. Privately owned and operated by Inland Steel Corporation, the Bay Apartments are adjacent to the campus and provide the most convenient housing. There are a total of nine buildings—each with one single bedroom, one efficiency and 15 two-bedroom apartments—providing living space for 567 students. While most of the apartments are fully furnished, some unfurnished apartments are available at a reduced rental rate. Four students share the two-bedroom apartments and the efficiency apartment accommodates one person. The cost for these accommodations ranges 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-AJ Wasserman Lane, Green Bay, Wisconsin 54301.

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

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

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

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

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

Health Services

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

Opportunities for Study and Support

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

Sea Grant Program

UWGB faculty participate in the University of Wisconsin Sea Grant College Program. The Green Bay program involves public education work and research projects dealing with water quality, fisheries, coastal marshes, and human impact on the bay of Green Bay and the Great Lakes.

The university owns several boats that are available for research. Two current research projects supported by the Sea Grant Program are:
- Dynamics of Herbivore Populations and First Year Yellow Perch in Lower Green Bay (Dr. Paul Sager)
- Biological Production in Green Bay Coastal Marshes (Dr. H.J. Harris)

School Services Bureau

The School Services Bureau is established to facilitate the utilization of faculty and staff at the University of Wisconsin-Green Bay and in local school districts to satisfy specific educational needs by assisting in:
- Identifying resource persons and programs for classroom and other in-school activities.
- Developing and conducting inservice programs.
Serving as a liaison to UWG departments which have responsibilities for providing credit courses and non-credit conferences, workshops, seminars and other educational activities.

Participating in cooperative study and research activities.

Arranging for consultant services.

Area Research Center

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

Brown County Energy Conservation Center

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

Resource Recovery Facility

A laboratory in the Laboratory Sciences building has been equipped for research on utilization of waste materials by a grant from the National Science Foundation. The laboratory contains analytical instrumentation including an atomic absorption spectrophotometer, an X-ray spectrometer, and a bomb calorimeter. The laboratory also houses a computer graphics terminal and an IBM device copier to interface instruments to the campus computer. Among the recent projects are: (1) evaluating use of sewage sludge on corn crops in clay soils of Brown County; (2) anaerobic digestion of farm and municipal wastes; and (3) evaluation of energy-intensiveness of solid waste collecting alternatives.

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

Recently Funded Research

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

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

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

Admission Requirements

While UWM 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.
   MAP-5 Master's program degree candidate; graduate program and thesis proposal approved.
   GSP Graduate Special Student.
   This classification indicates that coursework is being taken for graduate credit, however, the student is not participating in the MEAS Degree Program. A graduate special student who decides to pursue the MEAS Degree is required to submit an application to enter the degree program. Often the credits earned as a graduate special student can be applied toward the MEAS Degree; however, there is no guarantee of this.

Application Deadlines

Applications, undergraduate transcripts, and letters of recommendation should be submitted no later than August 1 for entry into the MEAS Degree Program for the fall semester. The application deadline for the spring semester is January 1. Students who do not meet these deadlines have an opportunity to take courses as a graduate special student and apply for admission to the degree program for the next semester.

Degree Requirements

The graduate program offers two basic program design options. The first is an individually designed program of study, designed by the student and his/her committee. If this option is chosen, the student may draw upon resources and course offerings from the complete spectrum of the curriculum with the proviso that the courses contribute to a coherent program of study.
The second option is to enter one of the graduate tracks. Graduate tracks often have slightly different requirements than the general program requirements. Tracks may require additional credits and may specify the courses to be completed.

Course Requirements

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

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

1. Graduate Core Courses (12 or more credits)
   (005-500 to 005-594)
2. Assigned Study
   (005-595 to 005-598)
3. A maximum of 12 credits of assigned study may be applied toward the 30 credits required for the degree.
4. Thesis Preparation (6 credits)
   (005-599)
   A student is required to register for a minimum of 1 credit of thesis during the semester in which the thesis defense is to occur.

Assigned Study and Internships are available in the following forms:

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

2. Selected Undergraduate Courses (xxx-3xx and/or xxx-4xx)
Approved courses at the 300 and 400 level may be taken under certain circumstances. Such courses cannot be chosen at random, but must fit into the overall program of study developed and approved by a student and his/her committee. The course may not be remedial in nature. Also, the student is expected to exceed the amount of work required of undergraduates. The nature of the extra work required will be decided upon by the instructor of the course. The assigned study course number for undergraduate courses taken must be obtained from the Graduate Office.

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

3. Internships (005-597)
An internship, usually undertaken outside of the University setting, must be an experience that provides a genuine training ground for the application of knowledge and understanding relevant to the student's area of study. Furthermore, it must be preplanned and incorporate predetermined criteria for grading. A full description of internship activities, including methods of academic evaluation, must be submitted to the student's major professor and the Director of Graduate Studies for inclusion in the student's file. The internship must be sponsored by a member of the graduate faculty, although day-to-day administration of the experience may be in the hands of a non-faculty supervisor. An internship may be required by some graduate tracks. Experience gained in permanent employment cannot normally be counted as an internship. The amount of credit to be acquired through an internship (normal maximum is 6 credits) is determined by the student's graduate committee subject to approval by the Director of Graduate Studies and/or graduate track requirements, where appropriate. The Graduate Program will not award credit for prior experience. An internship, however valid, if undertaken without the supervision of a member of the graduate faculty or undertaken prior to enrollment in the program, cannot carry credit towards the MEAS Degree.

4. Independent Study (005-598)
Independent study may be undertaken in the form of reading and research completed under the supervision of a member of the graduate faculty. This type of study should be undertaken only when appropriate for an individual program. Appropriate forms for permission to enroll may be obtained from the Registrar or Graduate Office. To arrange for an independent study, the student must prepare a proposal that includes a statement of objectives, a list of readings, and/or projects that are to be completed, and a statement of how the work is to be evaluated and graded. The proposal is to be filed in the Office of Graduate Studies and will be included in the student's file.

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

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

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

Grades

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

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

Use of Special Petition

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

Transfer Credits

A maximum of 12 semester credits of graduate work at another accredited institution may be accepted in transfer by UWGB. Such credits must be reasonably recent and shown to be an integral part of the student's current program. Evaluation of credits for transfer is the responsibility of the student's graduate committee. Acceptability of transfer credits is to be subject to review and approval by the Director of Graduate Studies or graduate track faculty, where appropriate. The total number of credits earned prior to matriculation into the degree program at other institutions or at UWGB as a graduate special student (GSP classification) cannot exceed 15.

Thesis Registration

Only students with a MAS classification are allowed to register for thesis writing credits (599). The MAS classification is assigned to a matriculated graduate student following the acceptance of an approved Graduate Program Plan and a Thesis Proposal. Enrollment for thesis credits (599) may be for 1 to 6 credits per term and may be spread over several terms as appropriate to the time available to work on the thesis. A student must be registered for a minimum of 1 thesis credit during the final semester in which the thesis defense has been scheduled.

Degree Completion Limit

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

Progress Toward the Degree

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

Selection of a Graduate Committee

It is the student's graduate committee members who make the final decisions as to the acceptability of course work and as to whether the student's thesis is of acceptable quality to deserve the award of the MAS 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 ensure 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 writer's guides or style manuals are commercially available.

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

**Thesis Defense**

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

The GR-3 Form is a request to schedule the thesis defense. This form is to be completed and submitted to the Graduate Office at least one week in advance of the proposed date for the defense. Before attending the thesis defense the candidate should obtain a GR-4 Form from the Graduate Office. This form should be given to the Major Professor, whose responsibility it is to have the form filled in, signed by the appropriate parties, and returned to the Graduate Office upon satisfactory completion of the thesis defense.

A dissenting signature must be accompanied by an explanation from the dissenting member, and the Director of Graduate Studies has the right to grant or withhold approval of the thesis defense pending resolution of such differences. A candidate is considered to have passed his thesis defense only after all difficulties have been resolved and the completed GR-4 has been returned to the Office of Graduate Studies.

**Deposition of the Thesis**

Upon satisfactory conclusion of the thesis defense and an acceptable graduate summary from the Registrar's Office, the candidate is expected to supply two (2) copies of the thesis, including two copies of all audio/visual aids where appropriate, to the Graduate Office. After appropriate signatures have been obtained, two copies will be forwarded with a $92.00 binding fee, collected from the student, to the UMBE Library as a per-
permanent record of the student's scholarly or creative activity. Diplomas are not awarded until all the requirements listed above have been met. If the student desires, additional copies may be bound at a cost of $6.00 per copy (payable to the library). Original works of art are deposited with the Curator of Art.

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

MEAS Degree Procedures

Student is fully or provisionally admitted as MAP.

Major Professor and Graduate Committee is selected or assigned. Student Program Plan is explored and developed.

Please obtain the above mentioned form from the Graduate Office with detailed instructions immediately after selecting your Graduate Committee.

Prior to completion of 15 credits:
Approval of Student Program Plan

15 credits:

After approval of Student Program Plan—Request to Present Thesis Proposal
(Approval of Thesis Topic)

Thesis Proposal submitted to Major Prof. & Committee

Approval of Thesis Proposal (Admittance to Degree Candidacy) (MAS)

Thesis presented to Major Prof. & Committee

Request for Thesis Defense

3 copies of Thesis to Graduate Office

Approval of Thesis Defense (Final Exam)

30 credits:
Registrar's Office
Graduate Summary: Graduation
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. Mendelson, Ph.D., Associate Professor. (414) 465-2395

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

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

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

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

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

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

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

Career Possibilities

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

A graduate might work:

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

Track Students

Most students have had considerable work experience in human service agencies as direct
service providers, administrators, planners, and in other roles. They hold, or have held, positions in centers for the developmentally disabled, hospitals, mental hospitals and clinics, crisis intervention centers, police departments, residential treatment homes, community mental health centers, mental health boards of directors, planning agencies, neighborhood organizations, counseling centers, school systems, clergy counseling programs and others. Many intend to stay in their present work settings. Many attend graduate school part time. Students enter the track with a wide variety of educational backgrounds. The resulting diversity of the student body increases the track's resources and the sophistication of both students and faculty.

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

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

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

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

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

Upon completion of the core courses, students are encouraged to specialize by taking courses, graduate or undergraduate, in their area of interest. For example, a student interested in administration can take additional course work in Environmental Administration or Managerial Systems. A student interested in program or evaluation research can take Evaluating Social Programs (005-565), Multivariate Statistical Analysis (005-566), and others. Besides these specializations, additional training is presently available in planning, personnel work, neighborhood organization, counseling, child development, and gerontology. A student interested in a specialization should consider doing his/her internship in a setting relevant to the specialization.

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

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

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

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

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

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

**Summer Session**
005-502 Principles and Practices of Consultation (3) or
005-XXX Interpersonal and Self-Awareness Skills Training
The Internship

The internship is a variable credit, supervised placement in a community setting linked to the delivery of human services. Internship sites have included mental health centers, counseling agencies, planning organizations, health agencies, police departments, centers for the developmentally disabled, and others. The internship reveals the full scope of the problems, opportunities and drama of a system in action. It allows the student to develop skills and test his/her abilities.

Time Requirements

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

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

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

Knowledge Requirements

The internship is evaluated on the basis of a written report that demonstrates an understanding of the characteristics of the system, supplemented by the field supervisor's evaluation of the intern. The system characteristics likely to be included in this analysis are:
1. the role and power structure;
2. the values, beliefs and norms;
3. the internal and external communication networks;
4. the factors related to efficiency and effectiveness;
5. the interaction of the internship system with other systems; and,
6. the financial and administrative management.

Internships in One's Place of Work

Regular duties do not qualify for the internship. New programs that arise from the work setting, those that are not part of the work setting, 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.

The Thesis Project

All track students complete and defend a thesis project. In general, the thesis is the culmination of the student's research of a problem area relevant to his or her program of study. Applied research in the community is encouraged, often in conjunction with a community agency. Most theses consist of the collection of new information and its subsequent analysis in the form of a research report with a prior problem statement and literature review. Track theses have included a study of the effectiveness of counseling agencies, an intervention designed to increase the effectiveness of a board of directors of a human service agency, and the development of a theory of crisis intervention.

Faculty Members

Community Human Services faculty members are:

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

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

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

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

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

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

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

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

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

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

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

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

Environmental Administration

Coordinator: Arthur A. Atkinson, Jr., Ph.D., Professor. (414) 465-2557
The graduate track in Environmental Administration develops knowledge and skills necessary for effective planning, management and evaluation of public policies, organizations, inter-organizational networks, and public service delivery systems. The graduate curriculum in Environmental Administration accomplishes these purposes through a particular focus on those systems relevant to management of the human environment, and provides students with the additional opportunity to develop a specialization in one of the component fields of professional public administrative practice.

Program Requirements

Program Prerequisites

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

- 350-101 The American Governmental System (3 cr.)
- 298-202 Macro Economic Analysis (3 cr.)
- 298-203 Micro Economic Analysis (3 cr.)
- 299-306 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 (003) level. Selection of courses from the list should be guided by the objective of extending the tool subject competencies exhibited by the student at time of entry into the program:

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

Core Program Courses (12 credits)

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

Group #1

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

Group #2

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

Field Specialization Courses (12 credits)

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

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

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

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

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

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

Comprehensive Field Examination

Each candidate will be expected to complete a comprehensive field examination which will be designed and administered by the appropriate field specialization advisor in cooperation with the candidate's graduate advisory committee. The examination may be conducted orally or in writing; may be based, in part, on review of the candidate's academic record and work experience; and may be conducted in one session, or at the option of the candidate, over several sessions. However, it is expected that each candidate will engage in substantial independent reading, study,

*These credits cannot be counted toward the MPPS degree requirements.
and in-the-field inquiry in preparation for the
examination. Such study is viewed as a major and
essential part of each candidate's graduate pro-
gram 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 com-
plete 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 reso-
lution 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 result-
ing products typical of those ex-
pected of mature practitioners in the
field.

005-597 Internship in Environmental Administra-
tion (6 cr.)
This option requires that the student
successfully complete a supervised
internship in an appropriate program
or agency. In completing the intern-
ship, 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 pro-
ject which exhibits a scope, quality,
and relevance to the above.

Graduate Course List

Graduate programs of study in Environmental
Administration are constructed from the fol-
lowing partial list of courses:

Organization and Management Group

005-550 Executive Decision-Making
005-553 Administrative Theory and Behavior
005-557 Administration of Public Systems
005-556 The Concept of Change and Social Inter-
vention
005-565 Evaluating Social Programs
005-589 Organizational and Occupational Systems
350-410 Administration of Local Government I
350-411 Administration of Local Government II
350-415 Administrative Planning, Programming,
and Budgeting Systems
575-336 Collective Bargaining
575-362 Principles of Personnel Management
575-385 Management of the Non-Profit Organiza-
tion
575-463 Labor Legislation and Administration

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

Quantitative Analysis and Decision-Making Group

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

Public Policy and Program Planning Group

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

Environmental and Health Sciences Group

005-524 Hazardous and Toxic Materials
005-551 Bases of Community Health
005-561 Global Environmental Monitoring
005-566 Waste Management/Resource Recovery Seminar
005-577 Hydrobiology
005-578 Epidemiology
005-50X Behavioral Toxicology
204-402 Advanced Microbiology
600-364 Biometrics
694-404 Food Science
694-421 Community Nutrition I
694-422 Community Nutrition II
779-412 Principles of Parasitology
779-456 Demographic Methods
862-312 Mycology
862-342 Environmental Geology
862-420 Soil Classification and Geography
862-422 Environmental Biochemistry
862-434 Water Chemistry.
Environmental Management

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

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

Program Requirements

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

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

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

**Tool Subjects**

- 005-551 Global Environmental Monitoring
- 005-564 Survey of Systems Analysis
- 005-567 Statistical Design and Analysis of Experiments
- 005-568 Multivariate Statistical Analysis
- 350-460 Public Policy Analysis
- 416-353 Air Photo Interpretation
- 600-251 Computer Science*
- 600-355 Applied Mathematical Optimization
- 600-364 Biometrics
- 834-356 Environmental Impact Analysis

**Track Core Courses**

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

- 005-545 Economic Analysis of Environmental Problems

  This course deals with economic issues vital to the evaluation of alternative 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 the interactions between 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 homoeocentric perspective; application of general systems theory and epidemiologic, demographic, and statistical tools to identification and analysis of problems impacting the human animal; principal stressors and substances comprising environmental threats to the human animal; data sources and information systems.

- 862-460 Resource Management Strategy

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

**Specialization**

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

(a) Policy and Management Systems

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

1. the analysis of environmental problems; policies, and service delivery systems;

2. the development of alternative policies, programs, and organizational schemes for resolving such problems;

*Credits for this computer science course cannot be counted toward the MEAS degree.*
3. the rational evaluation of environmentally related programs, services, and policies; and
4. the development, supervision, and management of work groups and project teams;
5. development of appropriate interfaces between environmental management services and governmental, policy, budgetary, and administrative management systems.

(b) Environmental Problems Assessment
Students who have strong undergraduate backgrounds in science and whose interest centers on biological or physical aspects of environmental problems can specialize in Environmental Problems Assessment. Courses in the specialty area should be carefully selected by the student and his/her committee to strengthen knowledge of ecosystems and to gain additional analytical skills which may be necessary to address a particular thesis research problem.

(c) Quantitative Decision-Making
In the past several years a new interest has developed in the use of mathematical models for solving environmental management problems and other public sector problems. These quantitative approaches generally are incorporated into operation research or management science courses. The student who selects quantitative decision-making as an area of study will be exposed to the theory of mathematical models, applications of the models to public sector problems, and the limitations of the models.

(d) Environmental Health
Environmental health relates to the impact of man's activities on his biophysical surroundings and the effects of the resulting environmental changes on mankind. These effects stemming from physical, chemical or biological factors may impact on health, safety, comfort and well-being. Environmental health practitioners are prepared in a number of scientific disciplines which are integrated or coordinated for solution of these problems through problem assessment, and through monitoring and controlling environmental factors so as to approach optimum conditions. A combination of science and social science based course work, and a health factor related thesis or project form the basis of a student's program.

(e) Environmental Planning
This area of specialization is aimed at the development of competencies required of the professionals in the field of planning. Environmental planning encompasses the definition of environmental problems, the design and conduct of analytical investigations leading to appropriate intervention 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; and the feasibility analyses of processing and disposal systems; and development and evaluation of financial and managerial arrangements in waste handling.

(g) Elective Specializations
It is possible for students in the program to devise their own areas of specialization by choosing from the elective offerings. Design of personal specialization will occur in cooperation with the student's faculty advisor.

(h) Elective Courses
The five courses in the specialty area will be chosen from the elective courses listed below.

005-524 Hazardous and Toxic Materials
005-538 Global Ecology: International Conservation of Natural Resources
005-541 Land Use Institutions and Policies
005-547 Trends and Issues in Regional Planning
005-551 Bases of Community Health
005-552 Environmental Policy and Administration
005-553 Administration Theory and Behavior
005-557 Administration of Public Systems
005-558 Problems in Environmental Administration
005-559 Coastal Zone Management
005-565 Evaluating Social Programs
Environmental Stressors

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

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

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

The aims of the program are to provide advanced instruction in the sciences necessary for an understanding of the nature and impact of environmental stressors; to provide training for individuals in the techniques required to identify environmental stressors and measure their levels; to provide the training necessary for the evaluation and understanding of the responses of an organism to environmental stressors.

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

Entrance Requirements

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

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

Chemistry
- General Chemistry
- Quantitative Analysis
- Organic Chemistry

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

Physics
- One year of general physics.

Psychology
- General Psychology

Degree Requirements

The program elements are:

1. A core of courses designed to give the student a broad overview of the field (19 credits).

2. Specialization in one of the areas of monitoring or evaluation (9-11 credits). Monitoring includes such things as the identification of environmental problems, measurement of environmental stressors and consideration of environmental regulation of the results obtained through monitoring and the analysis of experiments designed to measure the impact of known or potential environmental stressors on the organism.

3. Participation in program seminars (2 cr.).

4. Completion of a thesis (6 cr.). Some potential areas for thesis work might include measuring the impact of deleterious organic compounds on the reproductive or behavioral processes of animals, design of experimental procedures to measure the impact of chronic, low-level doses of contaminants, some aspects of the consequences of exposure to noise or crowding.

Courses Available

Required Courses

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

Courses in the Specialization of Monitoring

005-578 Epidemiology
204-402 Advanced Microbiology
779-412 Parasitology
862-434 Water Chemistry
862-450 Air Pollution Chemistry and Meteorology
226-418 Nuclear Physics and Radiochemistry
862-380 Radiobiology
938-353 Community Noise

Courses in the Specialization of Evaluation

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

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

Faculty

Dennis M. Girard, Ph.D., (Coordinator), Mathematics/Statistics (experimental design, multivariate analysis, application of statistical and mathematical techniques to threshold problems).

Charles Matter, Ph.D., Physiological Psychology (behavioral impact of chemical stressors and community noise).

Jack C. Normen, 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. Hyman, Ph.D., Physics (solid waste management).

Ronald H. Starkey, Ph.D., Organic Chemistry (air pollution chemistry).

James W. Wiersma, Ph.D., Analytic Chemistry (water pollution chemistry).

Global Ecology

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

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

a) other theme areas;

b) related components of the MEAS program, especially in the social sciences;

c) independent study courses; and

d) advanced undergraduate courses.

The integrity of the program is achieved by a common seminar in global ecology and by graduate courses on environmental management and administration that apply to all three themes. While theme area course work provides the breadth expected in the MEAS program, specific thesis projects provide an opportunity for specialized training consistent with individual interests and occupational goals.

Ecosystem Productivity

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

Environmental Quality

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

Community Health

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

Degree Requirements

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

Courses Pertinent to Global Ecology

005-538 Global Ecology: International Conservation of Natural Resources
005-542 Human Population Dynamics and Policy
005-551 Bases of Community Health
005-552 Environmental Policy and Administration
005-559 Coastal Zone Management
005-560 Topics in Global Ecology
005-561 Global Environmental Monitoring
005-564 Survey of Systems Analysis
005-567 Statistical Design and Analysis of Experiments
005-569 Multivariate Statistical Analysis
005-573 Soil-Plant Relationships
005-574 Ecology of Food Production
005-576 Bioclimatology
005-577 Hydrobiology
005-578 Epidemiology

Other Areas of Study

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

Graduate Study for Educators

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

The Graduate Program at UMGB 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 UMGB 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 UMGB 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 UMGB 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 UMGB 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 UMGB requires a minimum of 30 credits, 12 of which must be selected from regular graduate courses (courses numbered between 005-500 and 005-594). A maximum of 12 credits may be comprised of credits accepted for transfer from other institutions. special topics courses (005-595), independent study (005-598), internships (005-597), or undergraduate courses which have been approved for graduate credit. Special approval is required to take more than six credits of undergraduate courses for graduate credit within these 12 credits. The program also includes a six-credit thesis requirement. Each student will work with
a major professor and a graduate committee which will be responsible for approving his/her program. To provide the breadth and depth of study appropriate to the Master's Degree and to meet the student's educational/professional needs, courses from each of five categories are recommended for inclusion in these 24 credits. The five categories with examples of courses which may be taken under each category are as follows:

**Historical, Sociological, Psychological and Philosophical Foundations**

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

**Problem-Solving and Research Methodology**

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

**Strategies for Curriculum Development and Change**

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

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

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

**Specialized Studies in Education**

005-506 Mainstreaming of Exceptional Children
005-507 Outdoor Environmental Education: Philosophy and Practice
005-526 The Cognitive Developmental Approach to Environmental Education
005-581 Environmental Education: Processes and Materials
005-595 Special Topics in the Educational Environment
  -Values and Morality in the Schools
  -Simple Gifts: Teaching the Gifted and Talented
  -Improving Teacher and Student Morale
  -The Teacher and the Law

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

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

**Cooperation with Local Schools**

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

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

**Faculty Members**

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

Program Requirements

Musicianship and Performance

1) Musicianship competency requirement is fulfilled by demonstrating equivalency to Solfege I-II at Silver Lake College (determined by examination or by successful completion of Solfege I-II).

2) Performance competency requirement is fulfilled by examination. Some students may be required to continue applied study and enable performance to meet this requirement.

Core Courses

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

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

Assigned Study

Consideration of the Kodaly concept of music education is completed at Silver Lake College. The courses are:

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

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

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

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

Thesis Project

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

Enrollment at Silver Lake College

Students enroll in the Kodaly courses at Silver Lake College and pay tuition and fees there. These courses are then transferred to UWGB's graduate program, either a priori or a posteriori. The same is true for Folk Music Research.

Students who enroll in Solfege I-II to meet musicianship competency requirements pay Silver Lake College's tuition and fees. There is no fee for demonstration of competency by examination.

Enrollment at UWGB

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

The Arts in Society

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

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

Educational and vocational interests served by the track include artists wishing to broaden their intellectual horizons prior to or following upon MFA work, teachers of art and music in the schools, teachers of English and history, and persons interested in careers in arts manage-
ment in museum and theatre contexts. In addition, the track is designed to serve students on the way to doctoral level graduate work whose broad interests in the arts and society will come to more traditional and intensified focus eventually in that context.

**Entrance Requirements**

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

**Degree Requirements**

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

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

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

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

**Aesthetic Perception**

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

**Arts and Social Sciences**

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

**Research Methods**

- **005-518 Introduction to Musicology and Research Methods**
- **005-521 Literary Research and Criticism**
- **005-522 Qualitative Research Methods**

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

**Humanities - Special Topics**

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

**Visual and Performing Arts - Special Topics**

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

**Faculty**

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

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

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

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

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

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

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

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

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

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


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

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

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

E. Michael Thron, Ph.D.; Humanistic Studies, English.
Graduate Course Descriptions

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

005-502 Principles and Practices of Consultation 3 cr.
This course is designed to provide students with an understanding of the theoretical issues, applications process. The first part of the seminar focuses upon the relevant literature in the field. Guest lecturers from the University and the community are invited to relate the practical issues in varying the consultative settings. Throughout the seminar students are given the opportunity to role-play as consultants, with the latter portion of the course emphasizing practical experience.

005-503 Community Organization and Planning 3 cr.
This course reviews and examines community organization and social planning and the problems inherent in its practice. A community problem-solving model aimed at social planning and community organization examined include: setting priorities in a community, doing research studies, the politics of planning, developing and implementing plans of action, the strategy and tactics of social action, goal analysis, decision-making analysis, feedback mechanisms and planning management.

005-504 Discrete Multivariate Statistical Analysis 2 cr.
The statistical analysis of categorical data by long-linear models. Categorical data arises in circumstances when members of a population are characterized as either possessing or not possessing a particular property. For example, members of a human population may be characterized by sex, socio-economic status, medical status, presence of disease, opinion on current circumstances, etc. Customarily this leads to two-way cross classifications where the cell entries are counts of subjects, and analysis is by chi-squared. Should 3, 4 or more criteria of classification be used, analysis becomes vastly more complex. This course will discuss techniques for the analysis and interpretation of such complex situations.

005-505 Education: Mind Styles and Life Styles 3 cr.
This course is designed for the exploration of the relationship between education and consciousness. Formal education in the United States promotes specific views of reality, truth, and values. However, personal values and other cultural adaptations can transform consciousness and offer alternative realities for personal and cultural enrichment. Different realities, their associated mind styles and life styles, definitions, sources, contributions and potential for future consciousness will be considered through readings and experiences.

005-506 Mainstreaming of Exceptional Children 3 cr.
This course is designed to acquaint active educators with the types and/or kinds of exceptional children that are to be mainstreamed (including orthopedically handicapped). Content will include (1) identification, (2) appropriate evaluation techniques, and (3) consideration of learning environments and procedures that will satisfy the student's exceptional education needs in the least restrictive alternative method.

005-507 Outdoor Environmental Education: Philosophy and Practice 3 cr.
This course is for teachers and other people who want to become proficient in outdoor environmental education leadership roles. It will be sufficiently individualized to allow persons with minimal specific experience or training in outdoor environmental education as well as experienced outdoor environmental educators to further their studies and goals. Basic techniques of field ecology, botany, zoology and geology appropriate to outdoor environmental education will be included, as well as outdoor recreation skills and philosophies. Sensitizing processes such as acclimatization will also be considered. The course is intended for those in the humanities and social sciences as well as people in the natural sciences. Projects will focus on developing outdoor environmental education leadership skills and resources. A minimum of four class hours each week will be spent outdoors.

005-508 Educational Programs for the Gifted/Talented 3 cr.
Designed to acquaint educators with psychological characteristics and identification of gifted/talented students. Examines various adminis-
trative plans and teaching techniques for developing talent and improving adjustment. Includes steps in program planning, evaluation, and content modifications designed for gifted/talented.

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

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

005-510 Politics Through Literature 3 cr.

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

005-511 Perception: Models of Reality 3 cr.

A careful study of selected different perceptions of reality. Writers, painters, composers, psychologists, scientists, and all other creators have endeavored to impose different, and usually conflicting, models upon the world they have seen. Essential to significant understanding of the work in any area is an awareness of those different structures and a careful understanding of the effects of the assumptions implicit in the acceptance of a model. Significant assumed models not only provide means by which people obtain degrees of "perception" into their worlds; they can often impose a particular set of blinders which may actually be more restrictive than inclusive. 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 logic, 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. Pr: 6 credits in philosophy and 1 or more credits in natural sciences.

005-514 Aesthetic and Perceptual Awareness 3 cr.

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

005-516 The Artist in His Community 3 cr.

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

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

This seminar will survey and critically examine, in historical perspective, the
that present hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. The metals and nonmetals, by-products of the arts, radioactive materials, and pathogenic human, animal, and plant wastes. Required field trip.

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

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

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

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

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

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

This course is a sequel to the graduate-undergraduate course, The Social Functions of the Arts. Discussion, research and a major project will be expected involving the questions raised by considering the social functions of the arts. Students interested in the social aspects of
the verbal, visual and performing arts should find the course essential for their graduate study.

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

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

005-531 The Psychology of Work 3 cr.

Work as a cornerstone of contemporary living will be examined from a variety of points of view. Work as a social problem, i.e., work as a social role, work alienation, man 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 particular psychological theories deal with work and its impact and relationship to personality and behavior.

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

005-532 Qualitative Research Methods 3 cr.

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

005-534 Public Values and Science Policy 3 cr.

The course focuses on planning in an American context. Special attention is paid to the institutionalized influence of natural and social science on the environment. Private investment, government regulation and the public interest in the decision-making process are considered. Problem areas may include energy, communications, land use, water, transportation, landscape, recreation, education, and others. Seminar method.

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

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

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

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

005-537 Community Human Services 3 cr.

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

Behavioral Research Strategies 4 cr.

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

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

The Geography of Settlement 3 cr.

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

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.

Human Population Dynamics and Policy 3 cr.

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

P: A course in human population studies or consent of instructor.

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.
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.

Trends and Issues in Regional Planning 3 cr.

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

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


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

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.

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.

Bases of Community Health 2 cr.

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

Environmental Policy and Administration 3 cr.

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

Administrative Theory and Behavior 3 cr.

Focuses on the structure and internal system maintenance processes of formal organizations, with an emphasis on the roles of supervisors, team leaders, executives, managers, administrators, and administrative staff specialists. The major theories and schools of thought in the fields of administrative behavior, organizational theory, and leadership will be examined. Attention will be given to the major factors which influence the success of organizational activity and administrative behavior, and to the effects associated with a range of organizational and administrative practices and behavior.
005-554 Human Ecology and Public Policy 3 cr.

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

005-557 Administration of Public Systems 3 cr.

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

005-558 Problems in Environmental Administration 3 cr.

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

005-559 Coastal Zone Management 3 cr.

The coastal zone as a distinct and limited resource provides, within our own geographical setting, a unique opportunity to explore the complex interaction of socio-economic and 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 coastal zone of the regional area. A broader geographical perspective of coastal environments will be developed through lectures and the use of material (films & readings) acquired from other coastal states. Basic ecological concepts necessary for understanding the bio-physical limitations of the coastal zone will be presented; demands for resource development in coastal regions and attitudinal differences toward meeting these demands will be considered; and legal and institutional frameworks will be explored within the context of developing processes in the management of the coastal zone.

005-560 Topics in Global Ecology 1 cr.

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

005-561 Global Environmental Monitoring 2 cr.

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

005-564 Survey of Systems Analysis 3 cr.

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

Systems analysis techniques are stressed, with these main topics: problem formulation, construction of mathematical models, definition of a criterion function or a measure of merit, derivation of optimal solutions, testing of solutions and sensitivity of parameters, and implementation of solutions. Emphasis is placed upon applications of
systems analysis; theoretical background is discussed, not for its own sake, but as a means of deepening understanding of practical problems; case studies of applications of systems analysis are studied and computer tools are introduced.

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

005-565 Evaluating Social Programs 3 cr.
Progress providing social or educational services are more and more often expected to provide tangible evidence that they are effective. As a result, a new field—evaluation research has developed in recent years by adapting the methods of social research to the problem of assessing program quality. This course will provide an introduction to the principles and practices of evaluative research and will emphasize such issues as identifying program goals, choosing appropriate outcome measures, defining appropriate samples, developing and disseminating results. Political, administrative, and ethical problems of evaluation will be considered throughout. The course procedure will be relatively informal with much of the class time spent in the development and discussion of model evaluation studies.

005-566 Waste Management/Resource Recovery Seminar 3 cr.
Topics include the generation, processing, and disposal of municipal, industrial, and agricultural waste materials with an emphasis on the technical and economic feasibility of various recycling processes.

005-567 Statistical Design and Analysis of Experiments 4 cr.
A complete review of the common principles underlying the design of experiments and the methods of analysis for such experiments. The purpose of the course is to enable students to design and analyze their own experiments, for any degree of experimental complexity, and to understand the description and analysis of such experiments in the literature. The principles of replication, randomization, error, linear models, and least squares are introduced with reference to the completely randomized design. The principles are then extended to completely hierarchical models. Blocking is introduced, followed by factorial designs, and these are used to demonstrate single degree of freedom comparisons and range tests. Subsequently, more complex designs such as Latin squares, incomplete blocks, split plots, and the concepts of expectations of mean squares are developed as justification for the statistical tests applied. The final third of the course is devoted to non-parametric statistical methods, particularly as applied to designed experiments. The concepts of ordinal and nominal data are explained, and techniques for the analysis of experiments for two treatments, several treatments and blocked designs developed, and their advantages and limitations, relative to the analysis of variance described. Chi-squared contingency analysis for two-way layouts in principle. The principles are motivated throughout by reference to the theory and practice of scientific experimentation, and illustrated by judiciously chosen examples. Laboratory analyses are performed on actual experimental data.

005-568 Multivariate Statistical Analysis 4 cr.
Multivariate statistical analysis deals with the statistical analyses of data matrices where several variables are measured on each of N subjects. The techniques may be continuous or discrete. Techniques of analysis covered in this course include:

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

Other techniques of multivariate analysis are presented but not described. The course is intended for research workers who use statistical analysis as a primary research tool, and the method of presentation is descriptive. Mathematical explanations are presented graphically, and kept to the minimum necessary to understand adequately the techniques used. The course is illustrated by the analysis and interpretation of real data sets using the computer, but no prior computer experience is required. The use of computer statistical packages is taught as an integral part of the course. The course is likely to interest students of biology, sociology, economics, psychology and related fields, and illustrative data sets are chosen from all these areas. Others who may find the course valuable are computer scientists, mathematicians and systems analysts.
Seminar in Community Human Services
005-569
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.

Scientific and Technical Communications 3 cr.
005-570
A course designed for students interested in the scientific and technical aspects of their chosen majors. Instruction and experience will be combined in preparing and presenting representative reports and statements appropriate to the student's participation in the public and professional role for which his graduate program fits him.

Contemporary Educational Thought 3 cr.
005-572
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.

Soil-Plant Relationships 3 cr.
005-573
Examines the biological, chemical, and physical factors in soils and plants and their interactive effect on plant growth.

Ecology of Food Production 3 cr.
005-575
The major factors concerning global food production include edaphic, climatic, biological, environmental, and political. These factors are examined and evaluated separately and then in conjunction with the effects of interaction between and among the food production factors. Major topics include a contemporary view of present global food production; factors affecting food demand; crop plants and world affairs; crop production and the environment; soils of the world; crop geography and the plant environment; animal production; and prospects for future food production.

Bioclimatology 3 cr.
005-576
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 biology.

Hydrobiology 3 cr.
005-577
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.

Epidemiology 3 cr.
005-578
Basic concepts and methods of epidemiology are presented in lectures and in weekly problems. The problems are involved with the establishment of the criteria for research problem-describing and investigating epidemiological problems both in the community and on a global basis. The problems will include examples of both the infectious and non-infectious diseases. Examples of the non-infectious diseases will be environment in nature (for example the effect of noise, or color on work performance). A team-oriented field project will be a requirement for the course. Each student is expected to contribute to the project and to the preparation of a paper. The functioning of epidemiology in community health will be emphasized.

Evaluation of Environmental Stressors 2 cr.
005-579
This course is designed to acquaint the student with laboratory techniques for evaluating potential toxicity of chemical and other agents. Includes laboratory methods used to evaluate the effect of mutagenic, carcinogenic, teratogenic and organ specific toxicants and, as well as those agents that induce behavioral dysfunction. Statistical techniques
appropriate to the data collected will be discussed and used.

Selected Topics  Courses  1-4 cr.

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

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

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.

Aimed primarily toward examination of learning theories in the psychomotor, affective and cognitive domains: in the psychomotor domain, analysis of the theories and research that point toward a sound motor base being essential for academic readiness; in the affective domain, analysis of theories and research that deal with social and academic adjustment; in the cognitive domain, an examination of cognitive organization and functioning, concept formation and
problem solving abilities related to educational programs and learning in both formal and informal contexts.

005-586 Contemporary Innovations in Education 3 cr.

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

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

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

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

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

005-595 Special Topics in the Educational Environment

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

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

005-596 Undergraduate Courses for Graduate Credit

005-597 Internship

005-598 Independent Study

005-599 Thesis (1-6 credits)
Projected Schedule of Offerings
This projected schedule of course offerings has been prepared to assist students in the preparation of their programs of study. An asterisk (*) denotes a late afternoon or evening offering.

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<td>005-582</td>
<td>Educational Research Design and Thesis Problems</td>
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<tr>
<td>005-583X</td>
<td>Special Topics in Contemporary Literature</td>
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<td>005-585</td>
<td>Advanced Educational Psychology</td>
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<td>005-595</td>
<td>Special Topics in the Educational Environment</td>
</tr>
<tr>
<td>005-5XX</td>
<td>Interpersonal and Self-Awareness Training</td>
</tr>
</tbody>
</table>
Advising Guide
The following list of courses may be useful for planning a program of study. The courses are grouped into general topic areas or themes.

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

Environmental Science

Graduate Courses

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

Undergraduate/Graduate Courses

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

Environmental Biology and Human Ecology

Graduate Courses

005-542 Human Population Dynamics and Policy
005-551 Bases of Community Health
005-571 Physiological and Psychological Aspects of Environmental Stressors
005-578 Epidemiology
005-900 Evaluation of Environmental Stressors

Undergraduate/Graduate Courses

204-402 Advanced Microbiology
226-330 Biochemistry
226-331 Biochemistry Laboratory
478-402 Human Physiology
478-403 Human Physiology Laboratory
478-413 Neurophysiology
478-424 Neurophysiology Laboratory
478-430 Environmental Physiology
479-440 Seminar: Topics in Human Adaptability
694-485 Advanced Human Nutrition
694-488 Nutrition in Disease
779-401 Agricultural Genetics and World Food Production
779-402 Population Biology
779-412 Principles of Parasitology
779-450 Current Topics in Population Dynamics
862-380 Radiobiology

Quantitative Methods

Graduate Courses

005-504 Discrete Multivariate Statistical Analysis
005-539 Behavioral Research Strategies
005-564 Survey of Systems Analysis
005-565 Statistical Design and Analysis of Experiments
005-568 Multivariate Statistical Analysis

Undergraduate/Graduate Courses

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

Graduate Courses

005-510 Politics Through Literature
005-511 Perception & Models of Reality
005-512 Foundations of Knowledge in the Cultural and Natural Sciences
005-513 Historical Dimensions of the Arts
005-514 Aesthetic and Perceptual Awareness
005-515 Social Science Perspectives on the Arts
005-516 The Artist in the Community
005-517 Culture, the Arts, and Democracy
005-518 Introduction to Musicology and Research Methods
005-520 Analysis of Contemporary Literature
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
242-320 Communication: Extensions of Consciousness
246-321 Sociolinguistics
246-322 Modern Linguistics
246-324 Psycholinguistics
246-325 Applied Linguistics
246-430 Mass Media and Society
246-443 Advanced Problems in Creative Photography
493-323 Criticism of the Visual Arts
552-302 Fiction Writing Workshop
552-303 Poetry Writing Workshop
552-323 Approaches to Literature
552-490 Seminar in Literature

Community Environments and Systems

Graduate Courses

005-502 Principles and Practices of Consultation
005-503 Community Organization and Planning
005-532 Qualitative Research Methods
005-536 The Concept of Change and Social Intervention
005-537 Community Human Services
005-555 Evaluating Social Programs
005-569 Seminar in Community Human Services

Undergraduate/Graduate Courses

None.

Planning Processes and Policy Analysis

Graduate Courses

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

Undergraduate/Graduate Courses

350-305 Public Regulatory Processes
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
481-435 Developmental Problems and Deviations
493-390 Violence, Revolution, War, and Society
834-420 Regional Planning
834-421 Techniques and Methods of Regional Planning
862-460 Resource Management Strategy
875-400 Environmental Law
875-450 Schooling, Education and Social Change
875-460 Continuity and Change in Agrarian Society

Organizational, Institutional, and Management Studies

Graduate Courses

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

Undergraduate/Graduate Courses

350-410 Administration of Local Government I
350-411 Administration of Local Government II
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
575-404 Legal Issues in Business
575-410 Income Tax Theory & Practice
575-414 Advanced Managerial Accounting
575-424 Marketing Research
575-426 Marketing Management
575-427 Marketing Strategies for Non-Business Institutions

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>575-443</td>
<td>Financial Planning and Control</td>
</tr>
<tr>
<td>575-462</td>
<td>Seminar in Personnel Management</td>
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<tr>
<td>575-464</td>
<td>Cases in Collective Bargaining</td>
</tr>
<tr>
<td>575-489</td>
<td>Problems of Business Management</td>
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<tr>
<td>778-400</td>
<td>Intergovernmental Relations in the United States</td>
</tr>
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<td>778-426</td>
<td>American Legislation Process</td>
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<td>778-450</td>
<td>Political Change</td>
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<tr>
<td>820-415</td>
<td>Organizational Psychology</td>
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<td>820-438</td>
<td>Group Dynamics</td>
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<td>834-401</td>
<td>Regional Economic Analysis</td>
</tr>
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<td>875-400</td>
<td>Environmental Law</td>
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**Education**

**Graduate Courses**

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

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>302-308</td>
<td>Children's Literature: Contemporary Practices in the Elementary Schools</td>
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<tr>
<td>302-319</td>
<td>Adolescent Literature in Secondary School Reading</td>
</tr>
<tr>
<td>302-404</td>
<td>Creative Learning</td>
</tr>
<tr>
<td>302-405</td>
<td>Individualizing Instruction</td>
</tr>
<tr>
<td>302-406</td>
<td>Evaluation and Testing in Education</td>
</tr>
<tr>
<td>302-407</td>
<td>Developing Environmental Education Materials for the Schools</td>
</tr>
<tr>
<td>302-408</td>
<td>Reading Disability: Diagnosis and Remediation of Reading Problems</td>
</tr>
<tr>
<td>302-410</td>
<td>Introduction to the Education of Exceptional Children</td>
</tr>
<tr>
<td>302-411</td>
<td>Nature and Identification of Learning Disabilities</td>
</tr>
<tr>
<td>481-429</td>
<td>Theories of Personality Development</td>
</tr>
<tr>
<td>481-431</td>
<td>Cognitive Development</td>
</tr>
<tr>
<td>481-432</td>
<td>Cultural Impacts on Human Development</td>
</tr>
<tr>
<td>481-436</td>
<td>Developmental Guidance with Children and Adolescents</td>
</tr>
<tr>
<td>481-437</td>
<td>Developmental Guidance with Adults and the Aged</td>
</tr>
</tbody>
</table>
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. Interdisciplinary requires an acquaintance with many areas of study rather than only one, but students should not include as part of a master's program a course which, in the judgment of their committee, should have formed part of their undergraduate program.

2. The course must form part of a coherent program directed toward the student's chosen focus of study.

3. Extra work is to be assigned or a superior performance demanded for an equivalent grade, when compared with undergraduates enrolled in the same course. No additional work is assigned in courses identified as undergraduate/graduate (U/G).

4. Prerequisites for the course must be fulfilled, and these may not necessarily carry graduate credit. Entry to undergraduate courses is not guaranteed, but depends on informed consent of the responsible faculty members.

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

A list of upper division undergraduate courses follows. For course descriptions, consult the undergraduate catalog or timetable. In addition to the courses listed here, a number of 48XX courses—experimental courses being taught for the first time—are also available for graduate students.

**Anthropology**

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

**Biology**

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

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

**Chemistry-Physics**

226-300 Bio-Organic Chemistry
226-301 Bio-Organic Chemistry Laboratory
226-302 Organic Chemistry I
226-303 Organic Chemistry II
226-304 Organic Chemistry Laboratory I
226-305 Organic Chemistry Laboratory II
226-311 Analytical Chemistry
226-313 Mechanics III
226-320 Thermodynamics and Kinetics
226-321 Structure of Matter
226-322 Thermodynamics and Kinetics
226-323 Structure of Matter Laboratory
226-324 Advanced Physical Laboratory
226-330 Biochemistry (U/G)
226-331 Biochemistry Laboratory (U/G)
226-404 Electricity and Magnetism
226-405 Electronics for Scientists (U/G)
226-410 Inorganic Chemistry
226-413 Instrumental Analysis (U/G)
226-417 Nuclear Physics and Radiochemistry (U/G)
226-418 Nuclear Physics and Radiochemistry Laboratory (U/G)

**Communication and the Arts**

242-301 Communication Action Projects in the Community
242-302 Action Training
242-305 American Documentary Theater I
242-306 American Documentary Theater II
242-310 Criticism of the Performing Arts (U/G)
242-320 Communication: Extensions of Consciousness (U/G)
242-323 Language & Human Conflict
242-324 Psycholinguistics
242-328 Cultural Cross-Communications
242-329 Cultural Cross-Communications II
242-340 Greek and Roman Art
242-341 History of Seventeenth Century Painting
242-342 Italian Renaissance Art
242-361 Increasing Aesthetic Awareness
242-370 Modern American Culture
242-372 The Phenomenon of Style II: Traditional Styles
242-373 The Phenomenon of Style II: Avant-Garde Styles
242-395 The Individual and His Culture: The Film-Maker's View
242-395 Photographic Design for Print Media
242-401 Designing the Environment
242-402 Designing the Environment II
242-405 Urban Technological Design
242-462 Senior Seminar in Aesthetic Awareness (U/G)
242-471 Environmental Design Workshop II
242-472 Environmental Design Workshop IV
242-495 Styles of Expression: The Arts & Technology, Special Project
<table>
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<th>Course Name</th>
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<tbody>
<tr>
<td>246-303</td>
<td>Specialized Writing</td>
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<tr>
<td>246-305</td>
<td>Elements of Electronic Media</td>
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<tr>
<td>246-306</td>
<td>Electronic Media II</td>
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<tr>
<td>246-320</td>
<td>History of the English Language (U/G)</td>
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<tr>
<td>246-321</td>
<td>Sociolinguistics (U/G)</td>
</tr>
<tr>
<td>246-322</td>
<td>Modern Linguistics (U/G)</td>
</tr>
<tr>
<td>246-324</td>
<td>Psycholinguistics (U/G)</td>
</tr>
<tr>
<td>246-325</td>
<td>Applied Linguistics (U/G)</td>
</tr>
<tr>
<td>246-333</td>
<td>Persuasion and Argumentation</td>
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<tr>
<td>246-343</td>
<td>Creative Photography II</td>
</tr>
<tr>
<td>246-353</td>
<td>Practice in Print Journalism II</td>
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<tr>
<td>246-402</td>
<td>Television and Radio Internship</td>
</tr>
<tr>
<td>246-405</td>
<td>Professional Reporting Internship</td>
</tr>
<tr>
<td>246-430</td>
<td>Mass Media and Society (U/G)</td>
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<tr>
<td>246-442</td>
<td>Advanced Problems in Creative Photography (U/G)</td>
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**Community Sciences**

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<tr>
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<tbody>
<tr>
<td>225-305</td>
<td>Foundations for Social Research</td>
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**Earth Sciences**

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<th>Course Name</th>
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<tbody>
<tr>
<td>296-302</td>
<td>Geologic Evolution of the Earth</td>
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<td>296-303</td>
<td>Geologic Evolution of the Earth Laboratory</td>
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<tr>
<td>296-310</td>
<td>Paleobiology</td>
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<tr>
<td>296-340</td>
<td>Rock and Mineral Resources</td>
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<tr>
<td>296-350</td>
<td>Geologic Field Methods</td>
</tr>
<tr>
<td>296-366</td>
<td>Structural Geology</td>
</tr>
<tr>
<td>296-380</td>
<td>Geomorphic Processes</td>
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<tr>
<td>296-402</td>
<td>Stratigraphy and Sedimentation</td>
</tr>
<tr>
<td>296-441</td>
<td>Mineralogy</td>
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<tr>
<td>296-442</td>
<td>Petrology</td>
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**Economics**

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

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<tbody>
<tr>
<td>302-303</td>
<td>Elementary School Teaching Methods</td>
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<tr>
<td>302-304</td>
<td>Elementary School Teaching Methods in Music</td>
</tr>
<tr>
<td>302-305</td>
<td>Elementary School Teaching Methods in Mathematics and Science</td>
</tr>
<tr>
<td>302-308</td>
<td>Children's Literature: Contemporary Practices in the Elementary Schools (U/G)</td>
</tr>
<tr>
<td>302-319</td>
<td>Adolescent Literature in Secondary School Reading (U/G)</td>
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<tr>
<td>302-320</td>
<td>Teaching Methods in Aesthetic Education</td>
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<tr>
<td>302-321</td>
<td>Teaching Styles and Leadership Strategies for Nurses</td>
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<tr>
<td>302-355</td>
<td>Theory and Practice of Human Relations Skills</td>
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<tr>
<td>302-404</td>
<td>Creative Learning (U/G)</td>
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<tr>
<td>302-405</td>
<td>Individualizing Instruction (U/G)</td>
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<tr>
<td>302-406</td>
<td>Evaluation and Testing in Education (U/G)</td>
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<tr>
<td>302-407</td>
<td>Developing Environmental Education Materials for the Schools (U/G)</td>
</tr>
<tr>
<td>302-408</td>
<td>Reading Disability: Diagnosis &amp; Remediation of Reading Problems (U/G)</td>
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<tr>
<td>302-410</td>
<td>Introduction to the Education of Exceptional Children (U/G)</td>
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<tr>
<td>302-411</td>
<td>Nature &amp; Identification of Learning Disabilities (U/G)</td>
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<tr>
<td>302-451</td>
<td>Field Experience in Environmental Education</td>
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<tr>
<td>302-483X</td>
<td>Selected Topics in Education</td>
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**Environmental Administration**

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<th>Course Name</th>
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<tbody>
<tr>
<td>350-301</td>
<td>Environmental Administration</td>
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<tr>
<td>350-305</td>
<td>Public Regulatory Processes (U/G)</td>
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<tr>
<td>350-310</td>
<td>Administrative Leadership</td>
</tr>
<tr>
<td>350-401</td>
<td>Planning and Management of Public Systems</td>
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<tr>
<td>350-410</td>
<td>Administration of Local Government I (U/G)</td>
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<tr>
<td>350-411</td>
<td>Administration of Local Government II (U/G)</td>
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<tr>
<td>350-415</td>
<td>Administrative Planning, Programming, and Budgetary Systems (U/G)</td>
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<tr>
<td>350-421</td>
<td>Planning Processes and Methods I (U/G)</td>
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<tr>
<td>350-422</td>
<td>Planning Processes and Methods II (U/G)</td>
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<td>350-460</td>
<td>Public Policy Analysis (U/G)</td>
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**Geography**

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

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<td>448-302</td>
<td>History of American Thought &amp; Culture</td>
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<tr>
<td>448-303</td>
<td>History of American Thought &amp; Culture 3000 to the Present</td>
</tr>
<tr>
<td>448-304</td>
<td>History of European Thought &amp; Culture 1500 to the Present</td>
</tr>
<tr>
<td>448-309</td>
<td>History of Modern Science</td>
</tr>
<tr>
<td>448-310</td>
<td>American Colonial History</td>
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<tr>
<td>448-311</td>
<td>History of Wisconsin</td>
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<tr>
<td>448-312</td>
<td>History of the Great Lakes Region (from 1600 to the Present)</td>
</tr>
<tr>
<td>448-314</td>
<td>The Modernization of Russia 1850-1917</td>
</tr>
<tr>
<td>448-315</td>
<td>History of Soviet Russia (1917 to Present)</td>
</tr>
<tr>
<td>448-322</td>
<td>Economic and Business History of the United States</td>
</tr>
<tr>
<td>448-323</td>
<td>History of American Foreign Relations, 1776-1890</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>552-352</td>
<td>Major Foreign Poetry</td>
</tr>
<tr>
<td>552-431</td>
<td>Shakespeare</td>
</tr>
<tr>
<td>552-434</td>
<td>A Major British Writer (or Writers)</td>
</tr>
<tr>
<td>552-435</td>
<td>Exclusive of Shakespeare</td>
</tr>
<tr>
<td>552-490</td>
<td>Seminar in Literature (U/G)</td>
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**Managerial Systems**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>575-305</td>
<td>Business Law I</td>
</tr>
<tr>
<td>575-306</td>
<td>Business Law II</td>
</tr>
<tr>
<td>575-312</td>
<td>Managerial Accounting</td>
</tr>
<tr>
<td>575-313</td>
<td>Financial Accounting: Theory and Practice I</td>
</tr>
<tr>
<td>575-314</td>
<td>Financial Accounting: Theory and Practice II</td>
</tr>
<tr>
<td>575-316</td>
<td>Governmental and Institutional Accounting</td>
</tr>
<tr>
<td>575-322</td>
<td>Basic Marketing</td>
</tr>
<tr>
<td>575-324</td>
<td>Merchandise Management for Retail</td>
</tr>
<tr>
<td></td>
<td>Wholesale Operations</td>
</tr>
<tr>
<td>575-325</td>
<td>Principles of Public Relations</td>
</tr>
<tr>
<td>575-326</td>
<td>Principles of Purchasing</td>
</tr>
<tr>
<td>575-327</td>
<td>Selling and Sales Management</td>
</tr>
<tr>
<td>575-343</td>
<td>Corporate Finance</td>
</tr>
<tr>
<td>575-345</td>
<td>Principles of Risk Management</td>
</tr>
<tr>
<td>575-346</td>
<td>Public Finance and Fiscal Policy</td>
</tr>
<tr>
<td>575-362</td>
<td>Principles of Personnel Management</td>
</tr>
<tr>
<td>575-366</td>
<td>Collective Bargaining</td>
</tr>
<tr>
<td>575-382</td>
<td>Principles of Management</td>
</tr>
<tr>
<td>575-384</td>
<td>Industrial Management</td>
</tr>
<tr>
<td>575-385</td>
<td>Management of the Non-Profit Organization (U/G)</td>
</tr>
<tr>
<td>575-386</td>
<td>Small Business Management</td>
</tr>
<tr>
<td>575-387</td>
<td>Ethics and Social Issues in Business (U/G)</td>
</tr>
<tr>
<td>575-395</td>
<td>Practicum in Financial Statement Analysis</td>
</tr>
<tr>
<td>575-406</td>
<td>Legal Issues in Business (U/G)</td>
</tr>
<tr>
<td>575-410</td>
<td>Income Tax Theory and Practice (U/G)</td>
</tr>
<tr>
<td>575-411</td>
<td>Financial Information Systems</td>
</tr>
<tr>
<td>575-412</td>
<td>Auditing Standards and Procedures</td>
</tr>
<tr>
<td>575-414</td>
<td>Advanced Managerial Accounting (U/G)</td>
</tr>
<tr>
<td>575-422</td>
<td>Principles of Retailing</td>
</tr>
<tr>
<td>575-423</td>
<td>Principles of Advertising</td>
</tr>
<tr>
<td>575-424</td>
<td>Marketing Research (U/G)</td>
</tr>
<tr>
<td>575-425</td>
<td>Promotional Strategy</td>
</tr>
<tr>
<td>575-426</td>
<td>Marketing Management (U/G)</td>
</tr>
<tr>
<td>575-427</td>
<td>International Distribution and Marketing</td>
</tr>
<tr>
<td>575-428</td>
<td>Consumer Behavior</td>
</tr>
<tr>
<td>575-429</td>
<td>Marketing Strategies for Non-Business Institutions (U/G)</td>
</tr>
<tr>
<td>575-442</td>
<td>Problems of Investment</td>
</tr>
<tr>
<td>575-443</td>
<td>Financial Planning and Control (U/G)</td>
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<tr>
<td>575-445</td>
<td>International Finance</td>
</tr>
<tr>
<td>575-446</td>
<td>Seminar in Personnel Management (U/G)</td>
</tr>
<tr>
<td>575-463</td>
<td>Labor Legislation and Administration</td>
</tr>
<tr>
<td>575-464</td>
<td>Cases in Collective Bargaining (U/G)</td>
</tr>
<tr>
<td>575-466</td>
<td>International Labor Relations</td>
</tr>
<tr>
<td>575-485</td>
<td>Managerial Economics</td>
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<tr>
<td>575-486</td>
<td>Small Business Feasibility Analysis</td>
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<tr>
<td>575-489</td>
<td>Problems of Business Management (U/G)</td>
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<td>575-495</td>
<td>Budgetary Control: Theory and Practice</td>
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**Mathematics**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>600-309</td>
<td>Systems of Ordinary Differential Equations (U/G)</td>
</tr>
<tr>
<td>600-311</td>
<td>Advanced Calculus (U/G)</td>
</tr>
<tr>
<td>600-312</td>
<td>Real Analysis (U/G)</td>
</tr>
<tr>
<td>600-320</td>
<td>Linear Algebra I</td>
</tr>
<tr>
<td>600-321</td>
<td>Linear Algebra II (U/G)</td>
</tr>
<tr>
<td>600-328</td>
<td>Introduction to Algebraic Structures (U/G)</td>
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<tr>
<td>600-335</td>
<td>Numerical Analysis (U/G)</td>
</tr>
<tr>
<td>600-351</td>
<td>Data Structures, Storage &amp; Retrieval</td>
</tr>
<tr>
<td>600-353</td>
<td>Advanced Programming (U/G)</td>
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<tr>
<td>600-355</td>
<td>Applied Mathematical Optimization (U/G)</td>
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<tr>
<td>600-360</td>
<td>Theory of Probability (U/G)</td>
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<tr>
<td>600-361</td>
<td>Mathematical Statistics (U/G)</td>
</tr>
<tr>
<td>600-362</td>
<td>Methods of Statistical Analysis</td>
</tr>
<tr>
<td>600-364</td>
<td>Biometrics (U/G)</td>
</tr>
<tr>
<td>600-382</td>
<td>History of Mathematical Thought</td>
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<tr>
<td>600-385</td>
<td>College Geometry</td>
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<tr>
<td>600-410</td>
<td>Complex Analysis (U/G)</td>
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<tr>
<td>600-416</td>
<td>Orthogonal Functions and Partial Differential Equations (U/G)</td>
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<tr>
<td>600-472</td>
<td>Systems Simulation</td>
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**Nutritional Sciences**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>694-302</td>
<td>Nutrition and Culture</td>
</tr>
<tr>
<td>694-312</td>
<td>Quantity Food Production and Service</td>
</tr>
<tr>
<td>694-328</td>
<td>Principles of Nutritional Biochemistry</td>
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<tr>
<td>694-329</td>
<td>Nutritional Biochemistry Laboratory</td>
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<tr>
<td>694-404</td>
<td>Food Science (U/G)</td>
</tr>
<tr>
<td>694-421</td>
<td>Community Nutrition I</td>
</tr>
<tr>
<td>694-422</td>
<td>Community Nutrition II</td>
</tr>
<tr>
<td>694-485</td>
<td>Advanced Human Nutrition (U/G)</td>
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<tr>
<td>694-488</td>
<td>Nutrition in Disease (U/G)</td>
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**Performing Arts: Music**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>705-302</td>
<td>Piano for Elementary Teachers</td>
</tr>
<tr>
<td>705-315</td>
<td>Choral Arranging</td>
</tr>
<tr>
<td>705-316</td>
<td>Instrumental Arranging</td>
</tr>
<tr>
<td>705-317</td>
<td>Orchestration</td>
</tr>
<tr>
<td>705-318</td>
<td>Choral Literature</td>
</tr>
<tr>
<td>705-321</td>
<td>Bach and his Contemporaries</td>
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<tr>
<td>705-331</td>
<td>Choral Conducting</td>
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<tr>
<td>705-332</td>
<td>Instrumental Conducting</td>
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<tr>
<td>705-341</td>
<td>Woodwind Techniques</td>
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<tr>
<td>705-342</td>
<td>Brass Techniques</td>
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<tr>
<td>705-343</td>
<td>String Techniques</td>
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<tr>
<td>705-344</td>
<td>Choral Techniques</td>
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<tr>
<td>705-345</td>
<td>Percussion Techniques</td>
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<tr>
<td>705-346</td>
<td>Keyboard Accompanying</td>
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<tr>
<td>705-347</td>
<td>Keyboard Accompanying</td>
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<tr>
<td>705-351</td>
<td>Literature and Styles of Music III</td>
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<tr>
<td>705-352</td>
<td>Literature and Styles of Music IV</td>
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<tr>
<td>705-353</td>
<td>Advanced Musicianship III</td>
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<td>705-354</td>
<td>Advanced Musicianship IV</td>
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<tr>
<td>705-402</td>
<td>Creating Contemporary Music</td>
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<tr>
<td>705-411</td>
<td>Composition</td>
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<tr>
<td>705-412</td>
<td>Composition</td>
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<tr>
<td>705-417</td>
<td>Arranging for Jazz Ensemble</td>
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<tr>
<td>705-422</td>
<td>Music of the Twentieth Century</td>
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<td>705-423</td>
<td>Seminar in Music Literature</td>
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**Performing Arts: Theater**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>709-309</td>
<td>Theater History I</td>
</tr>
<tr>
<td>709-310</td>
<td>Theater History II</td>
</tr>
<tr>
<td>709-321</td>
<td>Scene Design</td>
</tr>
<tr>
<td>709-322</td>
<td>Costume Design</td>
</tr>
<tr>
<td>709-323</td>
<td>Stage Lighting</td>
</tr>
<tr>
<td>709-324</td>
<td>Stage Properties</td>
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<tr>
<td>709-325</td>
<td>Stage Make-Up</td>
</tr>
<tr>
<td>709-331</td>
<td>Acting V</td>
</tr>
<tr>
<td>709-332</td>
<td>Acting VI</td>
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<tr>
<td>709-335</td>
<td>Theatre Performance in the Community</td>
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<tr>
<td>709-337</td>
<td>Dance V</td>
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709-338 Dance VI
709-351 Directing I
709-352 Directing II
709-361 Playwriting I
709-362 Playwriting II
709-403 Seminar in Theatre Arts
709-404 Seminar in Theatre Arts
709-405 Theatre Management
709-423 Advanced Stage Lighting
709-424 Advanced Technical Practices

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

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

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

Psychology
820-106 Psychology of Perception
820-309 Psychology of Motivation
820-320 Personality Psychology
820-335 Psychology of Attitude and Public Opinion
820-337 Social Behavior Dynamics
820-338 Psychology of Learning
820-415 Organizational Psychology (U/G)
820-416 Psychology of Intergroup Relations
820-417 Thinking and Problem Solving
820-438 Group Dynamics (U/G)
820-450 Psychological Stress and Adaptation

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

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

Science and Environmental Change
862-302 Principles of Ecology
862-303 Conservation of Natural Resources
862-308 Ecology of Invasions

Science and Environmental Change
862-302 Principles of Ecology
862-303 Conservation of Natural Resources
862-306 Biophysics (U/G)
862-308 Ecology of Invasions
862-310 Plant Taxonomy
862-311 Plant Physiology (U/G)
862-312 Mycology
862-313 Mechanics I
862-314 Mechanics II
862-316 Mechanics of Materials
862-317 Electromagnetic Radiation (U/G)
862-318 Engineering Systems and Automatic Control
862-319 Industrial Pollution Control Techniques (U/G)
862-320 The Soil Environment
862-321 The Soil Environment Laboratory
862-322 Ecosystems Analysis I (U/G)
862-323 Ecosystems Analysis II (U/G)
862-324 Urban Technological Design
862-330 Hydrology
862-331 Introduction to Oceanography
862-332 Geophysical Fluid Mechanics (U/G)
862-342 Environmental Geology (U/G)
862-350 Meteorology (U/G)
862-351 Synoptic Meteorology Laboratory (U/G)
862-363 Soil and Forest Pathology (U/G)
862-380 Radiobiology (U/G)
862-395 Ecology of Fire
862-395 Chemical Ecology (U/G)
862-403 General Limnology (U/G)
862-412 Bio-Energetics (U/G)
862-414 Conventional Energy Technology (U/G)
862-415 Solar and Alternative Sources of Energy (U/G)
862-420 Soil Classification and Geography (U/G)
862-422 Environmental Biogeochemistry (U/G)
862-424 Ecosystems Analysis III
862-434 Water Chemistry (U/G)
862-445 Planning in a Simulated Environment
862-450 Air Pollution Chemistry and Meteorology (U/G)
862-460 Resource Management Strategy (U/G)
862-495 Mathematical Political Science

Social Change and Development

875-301 Action Projects in the Community
875-311 The Role of Punishment in Society
875-320 Law, The Constitution, and American Development
875-325 Law in Society
875-326 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
875-377 Drug and Alcohol Use in Society
875-385 Dynamics of Revolutionary Change
875-390 Racism and Social Change
875-400 Environmental Law (U/G)
875-410 Science Fiction: Alternative Social Futures
875-415 Development, Technology and Environmental Quality
875-450 Schooling, Education and Social Change
875-460 Continuity and Change in Agrarian Societies (U/G)
862-317 Senior Seminar in Social Change and Development

Social Services

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

Sociology

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

Urban Studies

944-310 Studies in Urban Culture
944-311 Studies in Urban Resources
944-312 Studies in Urban Social Organization
944-313 The City Through Time and Space
944-325 Human Living Space I
944-326 Human Living Space II
944-330 Migration and Adaptation to an Urban Setting
944-335 On Aggression
944-336 Research on Aggression
944-350 The City as Habitat
944-351 Transportation and the City
944-353 Community Noise: Effects, Assessment, and Solutions (U/G)
944-370 Police in Modern Society
944-395 Advocacy Planning
944-414 The Self in the Urban Setting
944-421 Urban Planning I
944-422 Urban Planning II
944-430 Urban Aesthetics
944-432 Evolutionary Roots of Urban Behavior
944-435 Socio-Cultural Aspects of Urban Stress
944-440 Social Dynamics of Urban Life
944-444 National Issues and Community Reform
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: Designing with Fabrics
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
ABBOTT, Clifford E., Assistant Professor of Communication and the Arts (Linguistics); B.A. (1969), Tufts; M.A., M. Phil. (1972), Ph.D. (1973), Yale.
Illegible, especially Oneida, transformational generative grammar; 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. Trombone, low-brass instruments, and brass ensembles.

ABRAHAMS, Paul P., Associate Professor of Humanistic Studies (history); B.A. (1956), M.A. (1959), Syracuse University; Ph.D. (1968), UW-Madison.
American history.

ALESCH, Daniel J., Lecturer in Public and Environmental Administration (political science); B.S. (1962), M.S. (1964), UW-Madison; Ph.D. (1970), UCLA.

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 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.

BAR, Ronald K., Associate Professor of Urban Studies and Environmental Design, B.A. (1967), M.A. (1967), University of South California; Ph.D. (1975), University of Texas.

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 in higher education. Cultural and individual variations in temporal perspectives. Social psychology, social change, motivation and thinking.

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


BRICKLEY, Julia 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, and social change.

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


Acting, directing, voice, speech.

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


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. 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); B.A. (business) 1955, B.A. (English) 1957, University of Washington; M.A. (1959) University of Washington; Ph.D. (1963) University of 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 "Sheephead 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.


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

Applied anthropology and history. Specialist in the ethnohistory of the Upper Great Lakes Region, especially native tribal societies thereof. Cultural anthropology, educational anthropology, personality and culture, religion, and folklore. Native American studies and development of American Indian policy.

COBBS, Arthur L., Professor of Communication and the Arts (music); B.Mus. (1959), U-W-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., Associate 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.

COoley, 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), U-W-Stevens Point; M.S. (1958), Ph.D. (1966), U-Madison. On Leave.

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.


DAMKOEHLER, David L., Associate Professor of Communication and the Arts; B.S., U-W-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.

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

DEESE, Dawson C., Associate Professor of Human Biology (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 nucliec 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. (1975), California State University.
Theater technical director and producer.

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; pre-Cambrian geology.

FISCHBACH, Fritz A., Associate Professor of Science and Environmental Change (environmental health); B.A. (1959), Ph.D. (1966), UW-Madison.
Community ragweed pollenosis, air quality, small biological particulate structure and function, public health education. Environmental health, aerosolallergens, 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.

FISCH, Jack E., Associate Professor of Communication and the Arts (theater, communication processes); 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.

GALINSKY, David H., Associate Professor of Humanistic Studies (history); 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 sciences, African science. Social service theories and applications, environmental problems.

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

GANDRE, Donald A., Professor of Regional Analysis (geography); B.S. (1956), Arizona State; M.S. (1961), Illinois; Ph.D. (1965), UW-Madison.
GAWOREK, Norbert H., Associate Professor of Humanistic Studies (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); 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 contaminates, biometrics, biomathematics, multivariate statistical analysis, Fourier analysis, graph theory, econometric modeling statistical computing.

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

GOLDSEY, Alice I., Associate Professor of Science and Environmental Change (microbiology); B.A. (1942), M.S. (1953), Utah State; Ph.D. (1961), UW-Madison. Parasitic populations of domestic and wild animals. Water microbiology. The interaction of microbes with the environment.

GOODER, Lyle D., Assistant Professor of Regional Analysis (geography); B.S. (1948), M.S. (1949), UW-Madison. The Lake Michigan shoreline in northeastern Wisconsin, ice-age trails, the Netherlands, manufacturing logistics. Economics, regional geography (Europe, the Soviet Union), coastal zones, economic geography.

GREENBERG, Martin H., Associate Professor of Regional Analysis; 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 for analysis of the social sciences; the political philosophy of science fiction; bureaucratic and organizational behavior.

GRIFF, Gary F., Associate Professor of Humanistic Studies (philosophy); B.A. (1959), M.A. (1960), Spokane; Ph.D. (1965), Toronto. 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 psychologies and their contribution to understanding and effecting significant trends in contemporary society. Social and political philosophy.

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.


HARDEN, Donald F., Associate Professor of Community Sciences and Associate Chancellor; B.A. (1956), M.A. (1961), Ph.D. (1969), Michigan State. History, philosophy and sociology of higher education; principles of administration.


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.

Intelligence and 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.

IKEE, Charles A., Associate Professor of Human Biology (population dynamics—biology); B.S. (1960), U.C.-Oakland; M.S. (1966), Nebraska-Omaha; Ph.D. (1969), Oregon State.


IVES, Lovell G., Associate Professor of Communication and the Arts (music); B.S. (1957) UW-Stevens Point; M.M. (1964), 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.

JACKEL, Wayne A., 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.

JOHNSON, Per K., Associate Professor 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.


KANGAVAPPAN, Kumarsamy, Associate Professor of Regional Analysis (economics); B.A. (1956), Madras (India); M.S. (1958), Annaunai (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.

KAPLAN, William C., Professor of Human Biology (biology); B.A. (1948), Minnesota; M.S. (1952), Illinois; Ph.D. (1951), Washington.

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

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.A. (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 figative pigments and papers.

KAYE, Harvey J., Assistant Professor of Social Change and Development (sociology); B.A. (1971), Rutgers University; M.A. (1973), University of London; Ph.D. (1976), Louisiana State University.

Latin American and Third World studies, especially rural and peasant studies/political economy, social structure, and political sociology of advanced-capitalist societies/sociology of culture, ideology, and hegemony. All of the above in historical perspective.

KELLOOG, 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., Professor of Urban Studies; B.A. (1964), Antioch; Ph.D. (1971), Boston.

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

NOLRA, James W., Associate Professor of Social Change and Development (political science, law); B.S. (1960), UW-Eau Claire; J.D. (1963), UW-Madison; Ph.D. (1969), Univ. of Kansas. (On leave)

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

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

KUEPPERS, William G., Vice-Chancellor and Associate Professor of Regional Analysis (geography); B.S. (1958), M.S. (1960), Ph.D. (1964), 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 (geography); B.S. (1960), Carroll; M.S. (1966), Oklahoma; Ph.D. (1972), Alberta.


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

Engineering analysis of conventional energy systems used to support urban areas. Energy conservation practices and equipment modification in HVAC (heating, ventilating and air conditioning) and other existing energy intensive systems. Scientific analysis of 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; interrelationships 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.

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

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


LOCKARD, Craig A., Associate 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 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.

LOUDA, Sveta, Assistant Professor in Communication and the Arts (linguistics); B.A. (1969), M.A. (1971), Univ. of California-Los Angeles; Ph.D., UC-Berkeley.

MATTER, Charles P., Associate Professor of Urban Studies (psychology); A.B. (1966), Wyoming, Ph.D. (1972), Washington.

MATULIS, Anatole C., Associate Professor of Communication and the Arts; B.A. (1955), Wayne State; Ph.D. (1963), Michigan State. (On leave).
Linguistics and psychology; German and Lithuanian language; Russian language.

MC IEFE, Judith S., Assistant Professor of Urban Studies (sociology); B.A. (1973), San Diego State University; M.A. (1974), Ph.D. (1976), UC-San Diego.

MC INTOSH, Elaine N., Associate Professor of Human Biology (nutritional sciences); B.A. (1945), Augustana; M.A. (1949), South Dakota; Ph.D. (1954), Iowa State.
Community nutrition. Changing nutritional needs of the life phases. Special nutritional needs of "target" population groups. Problems of food safety, potential toxicity of substances in food. Dietetics, nutrition education.

MC INTOSH, Thomas H., Professor of Science and Environmental Change (earth science) and Senior Adviser to the Chancellor; B.S. (1956), M.S. (1958), Ph.D. (1962), Iowa State Univ.
Soils, agronomic systems, biogeochemical cycles, especially nitrogen, remote sensing.

MISRA, 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).


MENDELSOHN, Robert A., Associate Professor of Urban Studies and Psychology; 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.

MORAN, Joseph M., Associate Professor of Science and Environmental Change (earth science); B.A. (1965), M.S. (1967), Boston College; Ph.D. (1972), UW-Madison.
Nature of climatic change, air pollution meteorology. Applications of paleoclimatic reconstruction techniques to Glacial-age evidence. Environmental implications of current climatic changes. Quaternary climatology, geology.

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

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.

MURS, Paul J., Assistant Professor in Social Change and Development (psychology); B.S. (1971), Loyola University (Chicago); M.A. (1974), Michigan State Univ.; Ph.D., (1977), UW-Madison.

MURPHY, Michael W., Associate Professor of Humanistic Studies (English); 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 (economics); B.S. (1956), M.A. (1958), North Dakota; Ph.D. (1962), Oregon. On Leave. 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.Sc., Madras; M.Sc., Aligarh; Associate I.A.R.I., Agricultural-Ministry (New Delhi); Ph.D. (1964), UW-Madison.


NARAYAN-PARKER, Deepa, Assistant Professor of Human Biology (human development); B.S. (1973), M.S. (1975), Delhi University, India; Ph.D. (1979), Iowa State University.

NESSBERG, Lloyd S., Assistant Professor of Social Change and Development (visual arts); Ph.B. (1942), M.S. (1948), Ph.D. (1954), UW-Madison.

Learning theory: theoretical and applied, approaches 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-physiology); B.S. (1960), New Hampshire; Ph.D. (1965), UW-Madison.

Nuclear and radio-chemistry; environmental radioactivity. Distribution and cycling of natural and artificial radionuclides in the environment. Solar and other alternative sources of energy. Appropriate technology applications and education.

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.

GREENBERGER, Robert W., Associate Professor of Managerial Systems; B.S. (1964), UW-Whitewater; M.S. (1966), Northern Illinois Univ.; Ph.D. (1974), Louisiana State.

Consumer behavior, consumerism, marketing and non-business/non-profit 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, Teresa J., Assistant Professor of Communication and the Arts (music); B.M. (1968), M.S. (1972), Ph.D. (1975), UW-Madison.

Social function of art and criticism of popular music. Music theory and history.

O'HEARN, George T., Professor of Education (music); 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.


PETRAKOPPOULOS, Nikitas L., Associate Professor of Science and Environmental Change (mathematics); 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-Jacob-Einstein equations connecting analytical dynamics, quantum mechanics and general relativity.

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


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

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 judgement 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. Social-cultural aspects of urban stress. The relationship of conformity and compliance to social change. Altruism and helping behavior.


Environmental, economic, and legal constraints to small business feasibility and management. Market determination and buyer behavioral 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 Humanistic Studies and Senior Advisor to the Chancellor; Abitur, Paedagogium Bad Godesburg; Ph.D. (1955), Bonn (Germany).

English and American philosophy and ethnology. German language and literature.


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

PREWETT, 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.

PUN, Robert J., Associate Professor of Communication and the Arts (visual arts and art education); 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.

RANNER, 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.

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


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


ROBESCH, Jerrold C., Associate Professor 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.R.H., University of Minnesota; Ph.D. (1977), University of Minnesota.

Cultural anthropology, socio-political change, socialist societies, drugs and society, contemporary American culture, Inner Asian culture area.

SAGER, Dorothea B., Assistant Professor of Human Biology (population dynamics and medical technology); B.A. (1961), Iowa; Ph.D. (1968), UW-Madison.


SAGER, Paul E., Professor of Science and Environmental Change (biology); B.S. (1959), Michigan; M.S. (1963), Ph.D. (1967), UW-Madison.


SCHWARTZ, Leander J., Associate Professor of Science and Environmental Change (biology); B.S. (1957), UW-Plattville; M.S. (1959), Ph.D. (1963), UW-Madison.

Resource recovery: anaerobic digestion of organic wastes and/or use as fertilizers and in other applications; bacterial survival in aquatic ecosystems.
SELL, Nancy J., Associate Professor of Science and Environmental Change (chemistry-physics); B.A. (1967), Lawrence; M.S. (1968), Ph.D. (1972), Northwestern.

SHARIF, Ismail, Associate Professor of Regional Analysis (economics); M.A. (1960), Ph.D. (1965), U-W-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.

SHAY, William, Assistant Professor of Science and Environmental Change (mathematics); B.A. (1971), St. Mary's College; M.A. (1973), Ph.D. (1978), U-W-Milwaukee.

SHERGILL, 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. Innovations in higher education and institutional change, aesthetic awareness.

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

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.

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

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

STAMBERG, 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.


STERNITZ, Ronald D., Assistant Professor of Science and Environmental Change (earth science—geology); B.S. (1963), U-W-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.

Law.
SMERTON, Elvin N., Jr., Associate Professor of Urban Studies (political science); B.A. (1960), M.S. (1964), Univ. of Massachusetts; Ph.D. (1967), Univ. of Kentucky. (On leave).

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

THRUNHILL, Marlys R., Assistant Professor of Communication and the Arts (music); B.A. (1961), Milton College, M.M. (1964), Manhattan School of Music, Opera Theatre. Teaching responsibilities include: applied voice; director of vocal ensemble; German, French, Italian literature and diction courses; singing and communication; director of January musical.


WALLACH, Martha K., Associate Professor of Humanistic Studies; B.A. (1966), M.A. (1967) 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.

WEITNER, Edward W., Chancellor and Professor of Community Sciences; B.A. (1942), M.A. (1943), Ph.D. (1946), University of 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.


WHITE, Rolfe E., Assistant Professor of 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.

WIESMAN, James H., Associate Professor of Science and Environmental Change (chemistry); B.S. (1961), UW-Oshkosh; M.S. (1965), Ph.D. (1967), University of Missouri-Kansas. Assessment of effects of water pollutants and water pollution abatement procedures on aquatic ecosystems. Development of new analytical chemical methods with emphasis on techniques applied to environmental problems. General interest areas—water chemistry and hazardous and toxic materials.
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.

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

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
Registration and new student period
(or register by mail earlier)
Classes begin
Thanksgiving recess
Classes end
Final examinations
Commencement
Holiday recess

JANUARY INTERIM PERIOD
Begins
Jan. 7
Ends
Feb. 1

SPRING SEMESTER
Registration and new student period
(or register by mail earlier)
Winter recess
Classes begin
Spring recess
Classes end
Final examinations
Commencement

SUMMER SESSION
Registration and new student period
(or register by mail earlier)
Classes begin
Independence Day (holiday)
Classes end (finals)

For Other Information
(Area Code for all numbers is 414)
Graduate Office
Charles R. Rhyner, Director
465-2484
Admissions & Orientation
Myron Van de Ven, Director
465-2111
Dean of Students
Gerald H. Olson
465-2152
Financial Aid Office
Myron Van de Ven, Director
465-2075
Registrar's Office
Ronald Dhuey, Registrar
465-2055

Academic Advising Office
Paul Hensen, Coordinator
465-2362
Student Housing
Off-Campus
On-Campus: Bay Apartments
465-2400
465-0374
Student Life Programs
Richard Christie, Director
465-2400
Student Development Office
Dick Jansen, Director
465-2343
UWGB Information Center
465-2293

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

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