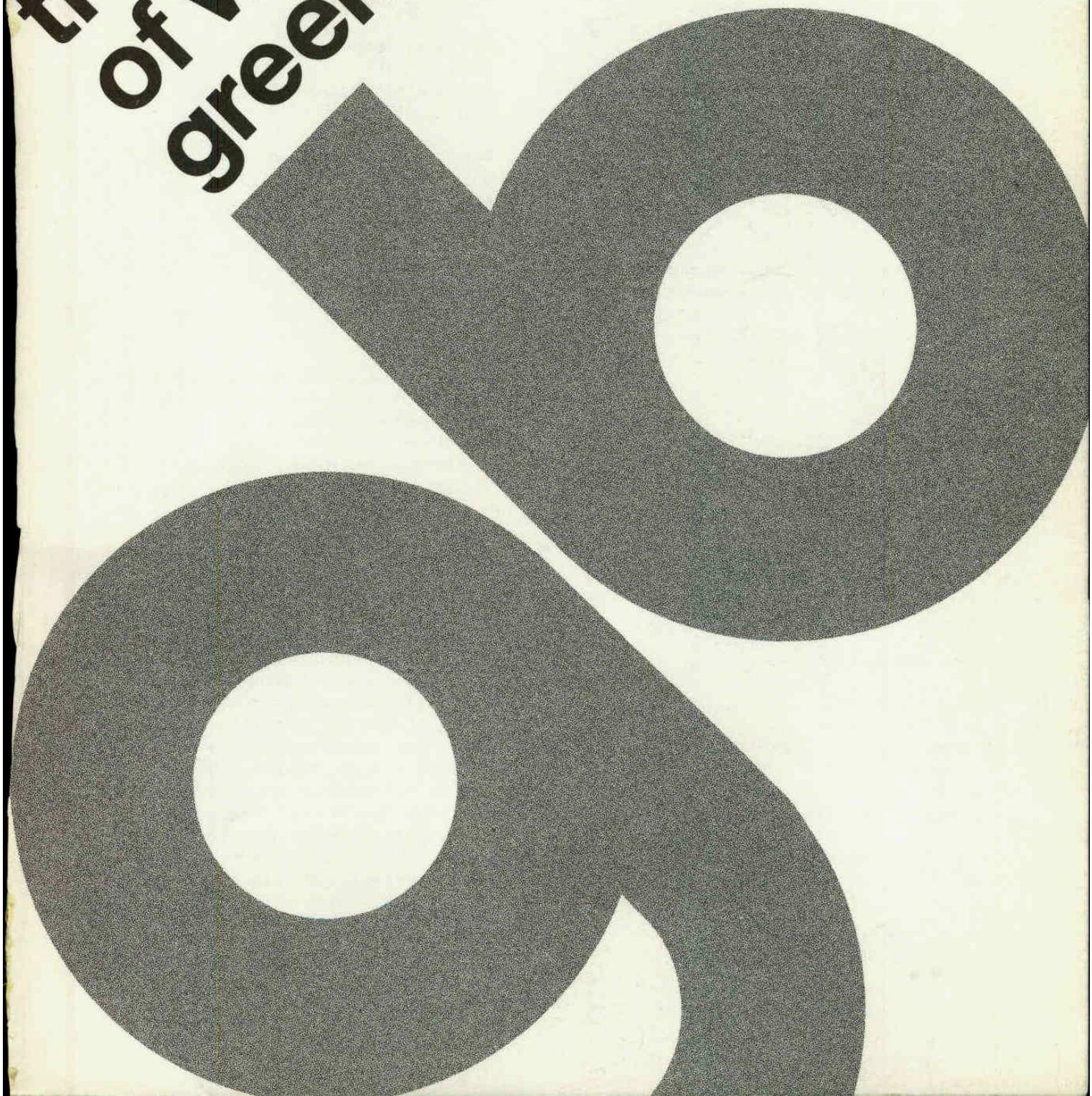


**the university  
of wisconsin  
green bay 71-72**





## **FOR MORE INFORMATION**

Inquiries about The University of Wisconsin—Green Bay are welcomed and should be directed to the appropriate office. Unless otherwise listed, the address is The University of Wisconsin—Green Bay, Green Bay, Wisconsin 54302.

### **Admission information, residency, credit evaluation**

Office of Admissions  
1567 Deckner Avenue  
Green Bay, Wisconsin 54302  
(414-435-7536)

### **Brochures, applications, student information, catalogs, campus visits, general information**

Office of School and College Relations  
(414-435-3211)

### **Housing**

Office of Housing  
(414-435-3211)

### **Scholarships and other financial aids**

Office of Student Financial Aids  
1567 Deckner Avenue  
Green Bay, Wisconsin 54302  
(414-435-6681)

### **Student records, transcripts**

Office of the Registrar  
1567 Deckner Avenue  
Green Bay, Wisconsin 54302  
(414-435-8396)

### **Academic advising, counseling, testing**

Student Development Center  
(414-435-3211)

## **Branch Campus Addresses**

Academic advising, counseling and housing information are also available from the Office of Student Services at:

### **Fox Valley Campus**

Midway Road  
Menasha, Wisconsin 54952  
(414-734-8731)

### **Manitowoc County Campus**

705 Viebahn Street  
Manitowoc, Wisconsin 54220  
(414-682-8251)

### **Marinette County Campus**

Bay Shore Road  
Marinette, Wisconsin 54143  
(715-735-7477)

Direct bus, rail, and air routes connect Green Bay with Chicago, Milwaukee, Madison, Detroit, and Minneapolis. Frequent passenger service is available via Greyhound Bus Lines, Chicago and Northwestern Railway and North Central Airlines.

## **EFFECTIVE DATES FOR THIS CATALOG**

Students registered during the summer of 1970 or during the 1970-1971 academic year at one of the UWGB campuses may elect to graduate either under the requirements outlined in the 1970-1971 catalog or those in the present document. Individual colleges and the School of Professional Studies have made minor changes in their requirements as new courses have been developed. New or transfer students who first register at a UWGB campus during the summer of 1971 or later must meet the requirements as set forth in this catalog.



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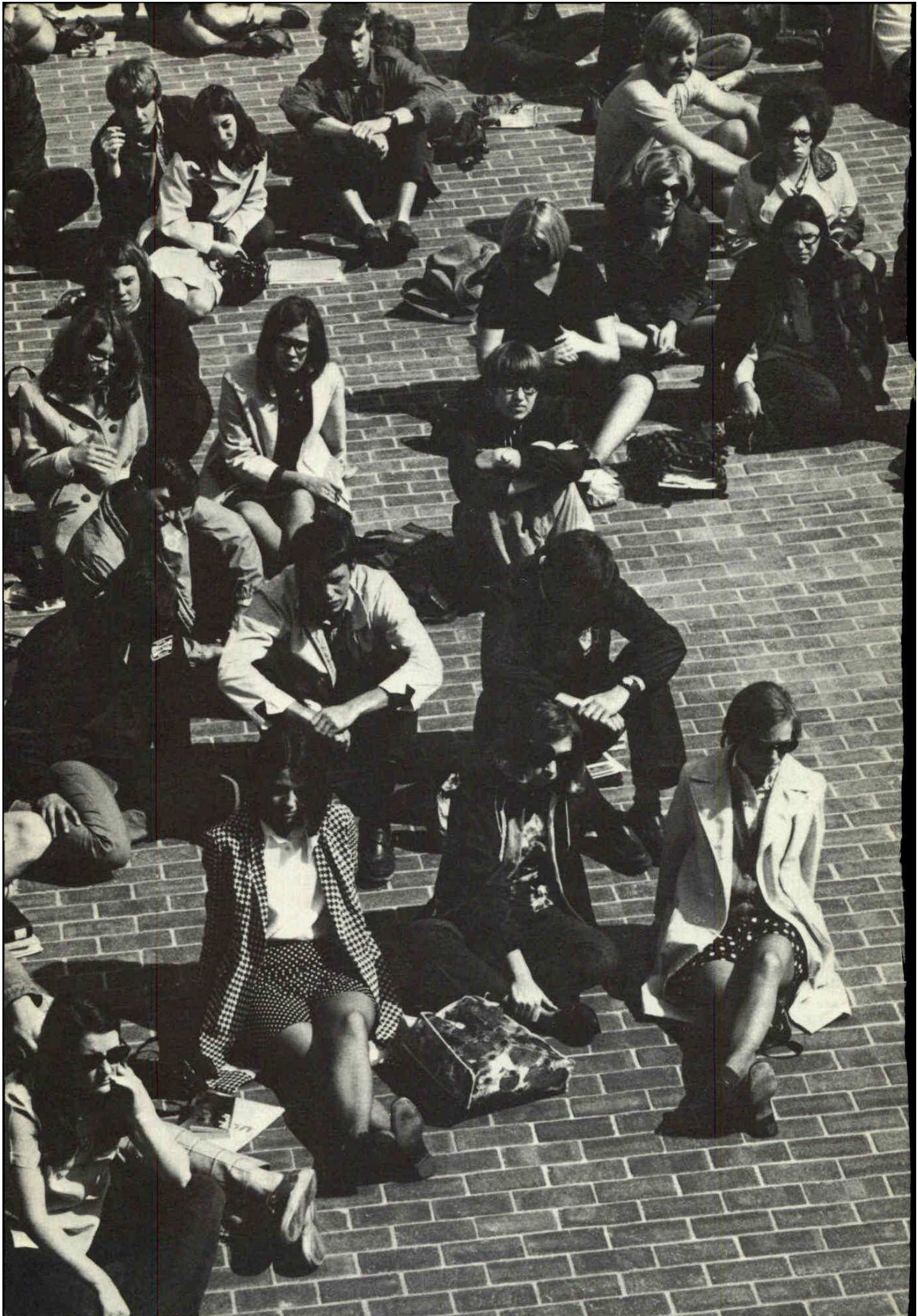


the university  
of wisconsin  
green bay



The University







# The University

## UNIVERSITY AND THE ENVIRONMENT: THE UWGB CASE\*

The 1970's have been called the decade of the environment. This is the period of time when man is to become fully conscious of his responsibilities to the environment. He is to take the first major steps toward eliminating pollution of the environment. He is to launch massive new programs to put the environment to effective use, regulation, and preservation.

Increasingly, universities and colleges are being called upon to take dramatic action to help effectuate these changes. Many are responding. One adds a new course; another creates an institute, a third launches a research project, a fourth emphasizes extension programs—all of which focus on problems of the environment, all of which are useful, but at the same time all of which are mere add-ons, and none of which basically changes the nature of the university or its social role. It is for this reason that many critics of American higher education claim that the establishment goes on while the urgent needs of society such as those associated with man and his environment are ignored. It is for this reason that American universities seem to lack credibility. It is for this reason that many institutions are far removed from students at the same time that they are far removed from the communities that surround them.

### A New Institution

The University of Wisconsin—Green Bay is a new institution. We were years in the planning before we occupied our new main campus and launched our new academic plan in the fall of 1969. Superficially, it may appear as if The University of Wisconsin—Green Bay is like any other institution. We train chemists, biologists, physicists, and mathematicians. We train business administration specialists, elementary and secondary school teachers, artists, musicians, and actors.

\*Material up to "The Academic Plan" based on a speech by Chancellor Edward W. Weidner, UWGB.

A student may select a foreign language, English, philosophy, or history. And all of the social sciences can be found as well. There is much that is familiar at UWGB.

Our country and the world need persons who have majors in areas such as these. But our country and the world need citizens as well—citizens who are committed and dedicated to improving the lot of mankind on the planet earth. What good is a chemist if he does not relate his life and his specialty to the broader needs of mankind? What good is a sociologist if he does not see the broad world perspective? And surely the narrow specialists in the fine arts are stunted when they do not know the world.

The University of Wisconsin—Green Bay is one of the few institutions in the United States that has a focus for all of its activities. Our focus is man and his environment. It is our aim to make every part of our program related to our ecological crises. Whether it is teaching, research, or community outreach, the focus of the University remains consistently that of helping student, professor, and community member to relate more effectively to the environment, and to *do* something about the environment.

### The Communiversality Concept

We term our institution a *communiversality*. A communiversality is a socially responsible university relating to a socially responsible community. It conceives of the universe of a university as being the living, breathing larger community of which it is a part.

Thus UWGB is based on two fundamental ideas, namely, a focus on man and his environment and acceptance of the concept of a communiversality. As a consequence, UWGB has forged an educational program that departs from traditional paths.

There is a true reciprocal relationship between The University of Wisconsin—Green Bay and its surrounding community. University classrooms



#### 4 The University

are not confined to the buildings on the campus. Students and professors study, observe, and work in the community. In turn, members of the community come into the classroom and interact with faculty and students. There can be no sharp division between "town" and "gown" in a communiversity. Teaching is related to problem-solving and decision-making in a context of relevance to ecological problems.

Teaching, research, and community outreach meld into a single intellectual function. If one is studying pollution of a river, or the decay of a downtown urban area, the functions of teaching, research, and community outreach are one. Members of the community, students, and professors participate together in the entire process. No longer need a university be divided into three warring camps—those interested in undergraduate teaching, those interested in graduate work and research, and those interested in extension.

A focus on ecology and communiversity requires extensive and frequent contacts between faculty and students outside the classroom as well as inside. It means a joint search for solutions to some of man's most urgent problems, rather than a parroting of a second textbook in a lecture format, with the instructor disappearing once the class has come to an end.

UWGB's approach requires considerable student initiative in learning, as well as initiative by faculty members. If students are to play a major role in our environmental struggle in the decades ahead, they must learn to sort their values out clearly, identify the major problems, get adequate information to relate to the problems, and carry out a program of cooperative action. This very process should be that which epitomizes the learning process at a university.

The UWGB philosophy requires that a university must be organized to devote itself to ecological problems, rather than be imbued with the sanctity of individual disciplines and professions. At UWGB disciplines and professions are secondary, ecological problems are primary.

Both the primary mode of faculty organization and the primary contours of a student's program are determined along pan-disciplinary and ecological problem lines.

#### **Environmental Focus**

At UWGB, a student selects an environmental problem that forms the center of his intellectual interests. It may be a problem of the bio-physical environment such as environmental control in regard to air, water, land, natural resources, or environmental engineering; it may be a problem associated with the social environment such as urban decay, regional planning, or the modernization process; it may be a focus on population dynamics, nutrition and the resource-population ratio, or the effect of environment on human development; and it may be an emphasis on human identity in its diverse aspects as human beings are propelled into communication and action. If none of the formally stated ecological problems satisfy a student, he is invited to formulate his own.

The environmental problem then becomes the central point of relevance for a student's program. He chooses courses in the various disciplines and the various professions that contribute to thinking, problem-solving, and decision-making in regard to the particular environmental problem. Thus chemistry, art, secondary school teaching, and psychology all of a sudden come alive. They are means to a social end. They relate to each other, as well as to the environmental problem. The world outside the university is just as relevant to a student's learning objectives as the inside world of books and classroom materials. Choices of off-campus experiences and on-campus community lecturers are consequently made with this test of relevance in mind.

If the contemporary university is truly to be a socially responsible institution to encourage or contribute to the socially responsible individual and community, it must do far more than add a few courses, a couple of research projects, an institute or two, or some extension programs.



It must look to the very roots or nature of its philosophy and internal organization, and to its interface with the larger community. Only then can it help fulfill the promise that the decade of the 70's will be that period of time when true compatibility emerges between man and his environment.

### THE ACADEMIC PLAN

By focusing its academic plan on ecology—the study of man in relation to his surroundings—UWGB is being faithful to the traditional mission of The University of Wisconsin, which calls for the development of teaching, research, and community outreach activities, and to the mission stipulated by the Wisconsin Legislature when it created the new University in 1965: to respond to the needs and potential of the Northeastern Wisconsin communities and the Northern Great Lakes region. At UWGB, activities and projects are closely interwoven with the community in an effort to combine resources as we seek solutions to our ecological and environmental problems.

An ecological focus is broadening and liberalizing in its educational thrust. Because artificial boundaries of disciplines restrict the understanding of man's environments, ecology demands an interdisciplinary—indeed, a pan-disciplinary—focus. The study of any type of environment intersects many disciplines and involves all branches of knowledge—the physical, biological, and behavioral sciences and the humanities.

### Theme College Organization

The UWGB structure is based on environmental themes, rather than disciplines: majors, called concentrations, in the College of Environmental Sciences emphasize the problems of the natural environment; those in the College of Community Sciences focus on the process by which man relates to his social (man-made) environment; in the College of Human Biology they emphasize human adaptability to the social and physical environment, and in the College of Creative Communication they center on human

identity—man's impact on his social environment. A School of Professional Studies complements the theme colleges.

In addition to the theme colleges and concentrations, a full range of liberal arts disciplines with certain applied or professional emphases is available. Each theme college and concentration has responsibility for a coordinated program of undergraduate studies, research, and community outreach programs related to its special environmental concern. Each is responsible for developing its own course structure at all levels. Interdisciplinary courses are numerous, and interdisciplinary concentrations are required.





## 6 The Academic Plan

The theme colleges and concentrations emphasize the university's whole approach of involving the student in the interrelationships not only between the disciplines, but between knowledge and application, between the university and the community, and between the community and the world.

Teaching melds imperceptibly with research, and teaching and research with community outreach until it is difficult to tell where one leaves off and another begins.

A project undertaken during the first January Special Studies Period in 1970 illustrates the approach. Two freshmen, two sophomores, and a junior worked with a local clinic and physician on the relation between contraceptive pills and an apparent vitamin B<sub>6</sub> deficiency. Students prepared the patient questionnaires; the doctor administered them; the clinic took the blood samples, but students did the analyses, and the students reported the results. Traditionally, only graduate or honors students would be able to become involved in such a project.

### General Education

The UWGB student will find his undergraduate work a liberating experience. It is designed to liberate his spirit by development of his processes of thinking and by review and reinforcement of his values and sense of commitment.

At the core of the UWGB academic plan is a four-year series of liberal education seminars that begin with an introduction to values and environment, and culminate in the senior year in an all-University course that seeks to integrate knowledge from many fields.

During the intermediate two years, each theme college offers distinctive general or liberal education seminars grouped around some aspect of the environmental focus of the college. The purpose is to introduce the student to the knowledge of many disciplines as they relate to man's environment.

Individualization of learning is an important concept in the UWGB academic plan. All-University requirements are minimal, allowing the student great flexibility in designing his own program of study. In addition to the required four-year sequence of liberal education seminars, the student must satisfy two further requirements designed to (1) broaden his intellectual interests by providing him with a basic background in various environmental problems and disciplines and (2) make him familiar with different forms of communication and analysis.

To satisfy the first requirement—distribution—the student selects five or six hours of work in each of the theme colleges. Any course for which he is qualified may be selected, although certain courses are particularly appropriate. Courses in foreign language, data processing, mathematics, and studio experiences in the visual or performing arts meet the second requirement—tool subjects.

Either requirement can be satisfied by special examination that demonstrates the student's competence in the field. The student can take tool subjects that are not in his area of concentration on a pass-fail basis.

### Specialization

As the student begins to specialize, his interest in a particular discipline is related to certain environmental problems. The reciprocal is also true: his interest in certain environmental problems is related to particular disciplines. Thus a student primarily interested in chemistry can relate it to problems of the natural environment through concentrations in the College of Environmental Sciences or to problems of the environment's impingement on the individual with a concentration in the College of Human Biology. Similarly, a student interested in air or water or soil pollution could relate his concern to physics, chemistry, biology, geology, or the social sciences.

A number of professional applications have been grouped together in the UWGB School of Professional Studies. They include business and



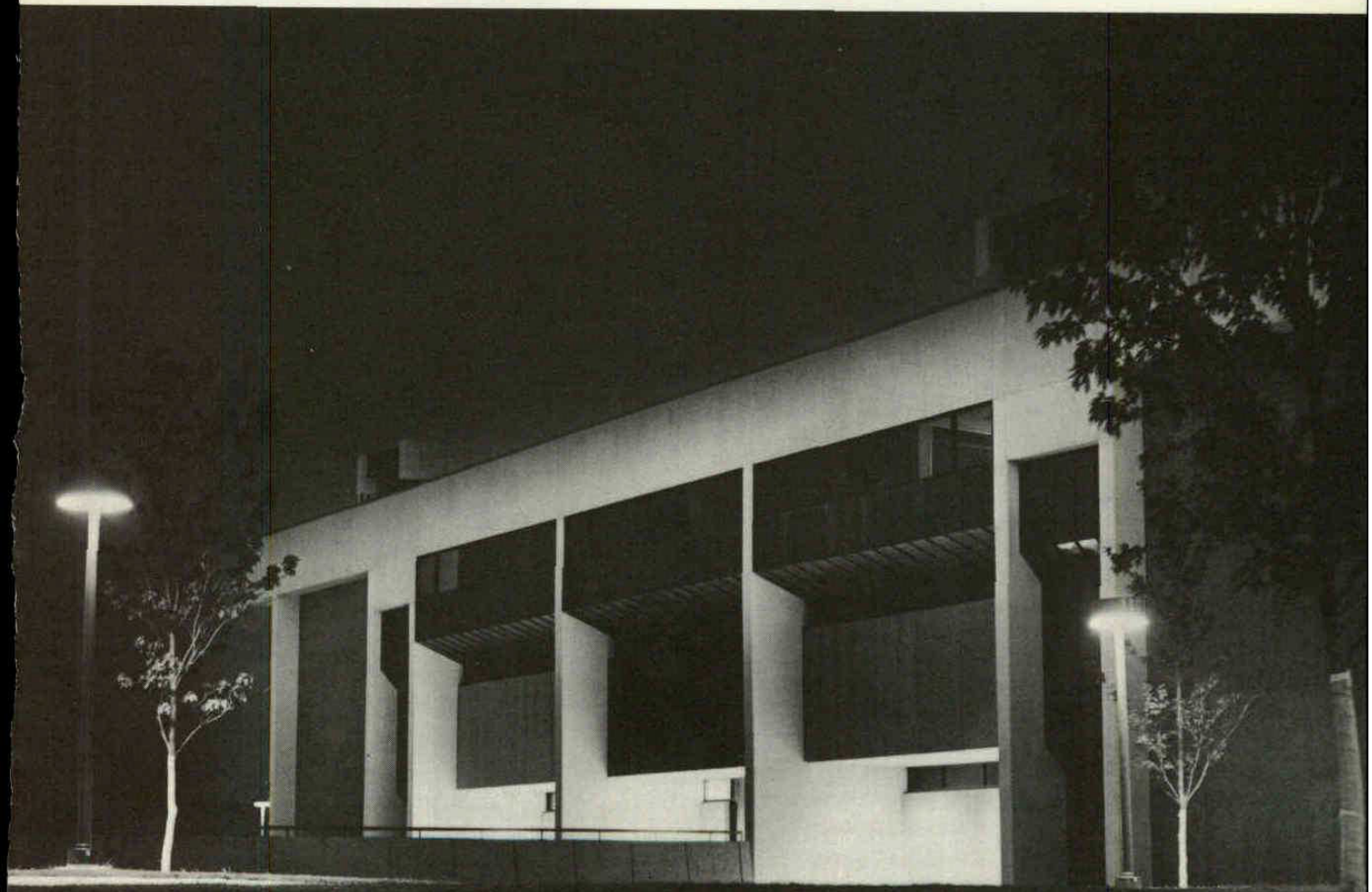
public administration, teacher education, leisure sciences, mass communications, and social services.

Students selecting professional applications are expected to relate them to one or more of the problems emphasized within the theme colleges. Here again the philosophy of the University is knowledge put to use—for example, not just knowledge of administration, but knowledge of administration related to specific social or environmental problems.

### **A MULTI-CAMPUS UNIVERSITY**

The University of Wisconsin—Green Bay knows that its mission to serve the people of North-eastern Wisconsin requires close ties to communities throughout the region. Its main campus in Green Bay is one of four which directly serve students and the community at large.

Within a 60-mile radius of Green Bay are the Fox Valley Campus in Menasha, the Manitowoc County Campus in Manitowoc, and the Marinette





## 8 Main Campus

County Campus in Marinette. At each of these campuses students can begin their education while living at home and members of the community can attend lectures, fine arts programs, sports events, and a variety of credit and non-credit workshops and classes.

Each campus is closely linked by past and present ties to The University of Wisconsin system. Each, including Green Bay through its building on Deckner Avenue, began as part of University Extension and joined the UW Center System when it was organized in 1964. County funds paid for buildings on each campus, which assures strong interest throughout the region in the development of UWGB.

The four former two-year Center System campuses began functioning July 1, 1968, as the multi-campus University of Wisconsin-Green Bay. The four campuses share a single faculty and central staff and are linked through social, recreational, and cultural activities. Library services and instructional media are available to all campuses through frequent delivery service. Closed circuit television and a computerized "learning bank" accessible by dial telephone from any study area are planned for the future.

As a unit of The University of Wisconsin system, UWGB has access to one of the largest university libraries in the country, as well as to other facilities and services available at the campuses throughout the system. In the UW tradition, it is a free and democratic university in which students have a responsible voice on advisory groups and faculty committees. It offers to students of all races and creeds an education designed to help each student realize his fullest potential. A financial aid program of jobs, scholarships, and loans attempts to place a UWGB education within the reach of all qualified students.

### The Main Campus

The first buildings on the rolling, wooded, 600-acre main campus at the northeast edge of Green Bay opened in the fall of 1969. They

include the three-story Environmental Sciences Building containing classrooms, lounge and reading areas, exhibit halls, and a lecture hall-auditorium seating 350; the four-story Laboratory Sciences Building containing classrooms and teaching laboratories, special purpose research facilities, faculty offices, and a snack bar; and the Instructional Resources Building housing the library, temporarily, and an instructional television studio, a data processing center, and faculty offices.

Ground was broken in January, 1970, for the eight-story Library-Learning Center that will dominate the center of the campus when it opens in the fall of 1971. Located at the center of the academic "core" of the campus, the structure connects to the first three buildings at the level of the temporary library.

Library facilities occupy six floors of the new building, with the remaining two given over temporarily to administrative offices.

The next construction project will be buildings to house the College of Creative Communication: fine arts facilities for visual arts, music, and theater, and space for classrooms and offices. Later phases of the carefully designed building plan will provide permanent homes for the Colleges of Human Biology and Community Sciences.

The campus site includes the former Shorewood Country Club and nine holes of the golf course remain open to the public. The former club house is used as a student center and a new building provides expanded food service. Large playing fields for student athletic activities are being developed on other parts of the main campus.

The two entrances to University Circle Drive give access to two parking areas. Campus Road, the new entrance to the University, gives access to two additional parking areas. As later phases of the building plan are completed, these roads will interconnect. The interior of the campus, except for service roads, remains free for pedestrian traffic, with a spacious, beautifully-



landscaped and brick-paved plaza forming the focal point around the Library-Learning Center.

Each section of the campus is being developed as an entity. Future development has been planned to avoid disruption of the use of existing buildings as construction continues.

The first nine buildings in an apartment-style residence complex opened to 567 unmarried students in the fall of 1970. Construction of 14 similar buildings is planned to provide housing for a total of 1,500 students by the fall of 1971.

Privately built on land adjacent to the campus, the apartments were designed in cooperation with University staff members and students to reflect the type of housing facilities today's students want. Each two-bedroom unit contains a living room-study area, kitchen, and bath, is fully furnished, and accommodates four students. Basements provide heating equipment, laundry facilities, and individual storage areas. Also provided are common recreation areas, meeting rooms, and office space.

On privately owned land adjacent to the campus is the Ecumenical Center, an interfaith facility organized and supported by the churches of the region, which includes a conference-workshop center used by small groups for meetings and seminars.

For some time to come several small buildings that were on the site when it was purchased will continue to house administrative offices. Highest priority in construction will continue to be given to buildings that will meet the needs of the increasing student population.

Classroom, laboratory, and office space in the Deckner Avenue building—formerly the Green Bay two-year center—will continue to be used for a few years. The building is used primarily for the School of Professional Studies, University Extension, and, until 1972, for the performing arts. Its excellent gymnasium is used for various athletic activities. A former warehouse on Morrow Street provides laboratory space for the

visual arts. It is used primarily as a sculpture and ceramics studio. Regular bus transportation is provided for students and staff between the Deckner Avenue building and the new bay shore campus.

### **The Green Bay Community**

The main campus of UWGB is now contributing to the growth of a vigorous community that has an historically interesting past. The campus itself is just a few miles from the spot where Jean Nicolet stepped from his birch bark canoe in 1634 to become the first white man in recorded history to set foot in what became Wisconsin—just 14 years after the Pilgrims landed at Plymouth Rock.

Nicolet's mission for the French government in Quebec was to pacify the Indians, expand the fur trade, and investigate a possible route to the Orient. He was soon followed by fur trappers and missionaries who settled at the mouth of the Fox River, a circumstance that gives Green Bay claim to being the oldest city in Wisconsin.

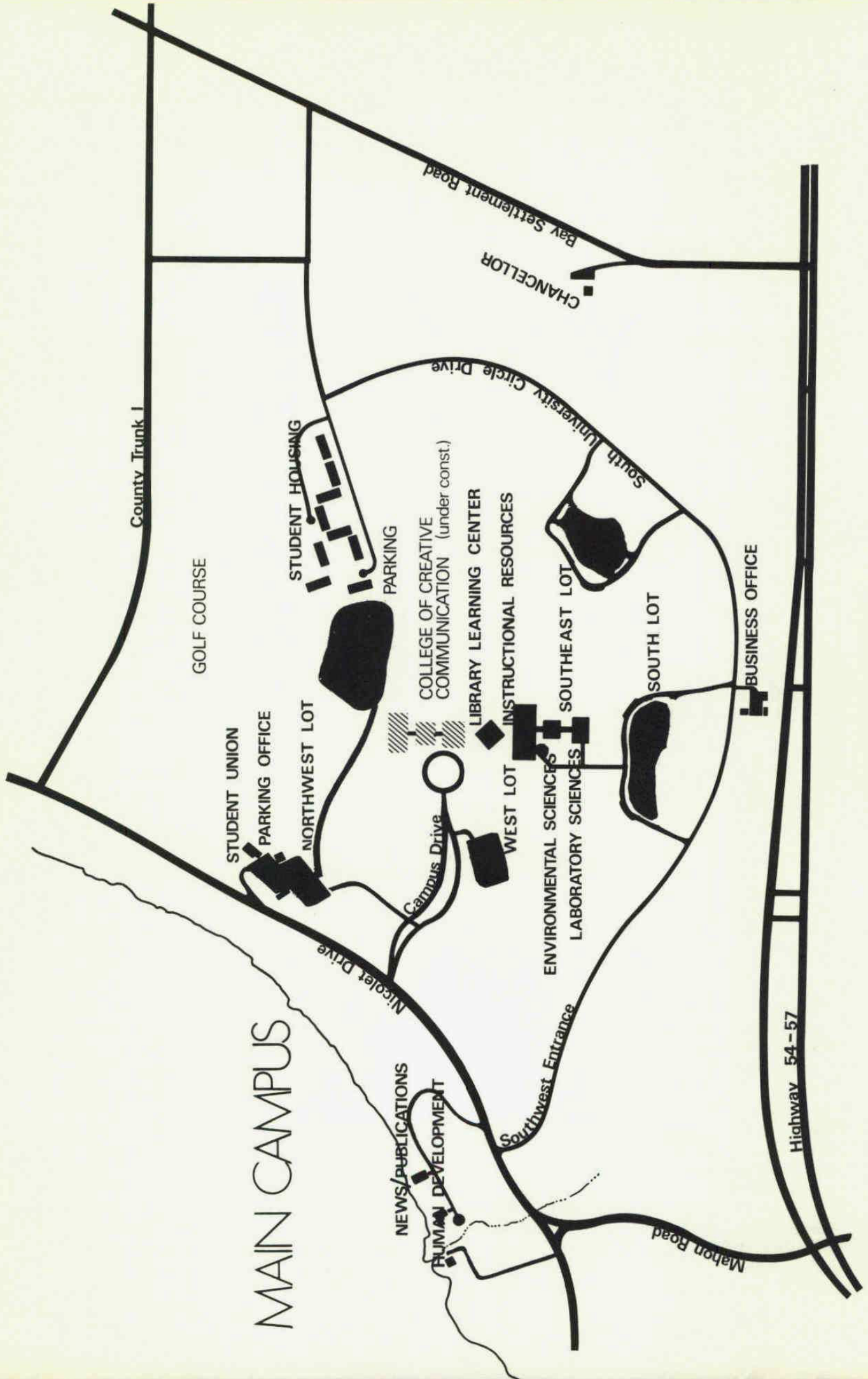
As fur trading gave way to lumbering, the French settlers made room for new immigrants, many enticed to work in the developing paper mills by the offer of free transportation and two weeks' room and board. Germans, Belgians, Dutch, and Scandinavians came to work in the mills and to farm. The distinctive marks of early settlers and their descendants are still in evidence today.

Green Bay's strategic location dictated its early and continuing development as a trading center connecting the Fox-Wisconsin waterway with the Great Lakes and the world beyond. Railways, highways, and airlines have maintained and increased the importance of trade. The recent renewed interest in Great Lakes shipping brings vessels from around the world to the port of Green Bay.

The manufacture of paper products continues to be Green Bay's largest industry. Other important economic activities include cheese processing; the storage and processing of food; manufacture of such diverse items as clothing and sheet



# MAIN CAMPUS



County Trunk I

GOLF COURSE

STUDENT UNION  
PARKING OFFICE

NORTHWEST LOT

STUDENT HOUSING

PARKING

COLLEGE OF CREATIVE  
COMMUNICATION (under const.)

LIBRARY LEARNING CENTER  
INSTRUCTIONAL RESOURCES

WEST LOT

ENVIRONMENTAL SCIENCES  
LABORATORY SCIENCES

SOUTHEAST LOT

SOUTH LOT

BUSINESS OFFICE

CHANCELLOR

Bay Settlement Road

South University Circle Drive

Nicolet Drive

Campus Drive

Southwest Entrance

Mahon Road

Highway 54-57



metal, mittens and auto parts, concrete products and mattresses, and office furniture and power shovels.

Green Bay is at the center of a varied recreational area. Lake Michigan and the Door Peninsula to the east and northeast, the Fox River valley to the south, the quiet wilderness streams and woods of North Central Wisconsin to the west and the waters of Green Bay at its doorstep attract visitors from many states. The city's 35 parks and playgrounds offer more than 630 acres of recreational space to residents as well as tourists.

A number of museums and buildings call attention to the history of the city and the nation and are open to the public in the summer months. These include Fort Howard, the Cotton house, the Baird law office, Tank cottage, East Moravian Church, and Hazelwood, all restored and furnished to show how the original residents lived, worshipped, and conducted their business. Also located in Green Bay is the National Railroad Museum, preserving the story of American railroading, and the Neville Public Museum.

Various civic organizations enhance the social, recreational, and cultural life of the community. Chief among these are the Green Bay Symphony Orchestra, Green Bay Community Theater, Civic Music Association, and, for sports fans, the Green Bay Packers football team and the Green Bay Bobcats hockey team. In addition, the Milwaukee Bucks basketball team schedules some games in the Brown County Veterans Memorial Arena, which also serves as home court for the Bobcats and the UWGB basketball team.

The city has three hospitals, excellent public and private counseling services, a growing public library system, churches representing every major denomination, one daily and four weekly newspapers, three television stations, three radio stations, and excellent YMCA and YWCA facilities. The area supports several business

colleges and the Green Bay School of Vocational and Adult Education. St. Norbert College, a coeducational Catholic-sponsored, liberal arts college, is in nearby DePere.

### FOX VALLEY CAMPUS

Located in Menasha, just 36 miles south of the main campus, the Fox Valley Campus serves the cities of the Fox River valley. It draws students from Neenah, Menasha, Appleton, Kimberly, and Kaukauna, as well as from smaller communities in the surrounding area. This area is the home of more than 100,000 people—and one of the fastest growing areas in the state.

Because of the make-up of the area—a series of interconnected but politically independent small cities—the Fox Valley community serves as a natural and on-the-spot laboratory for students doing research on urban problems.

The present campus building was completed in 1963. It contains excellent laboratories in the physical sciences, a planetarium, a library, and a Fine Arts Theatre seating 350. A cafeteria and lounge provide opportunity for faculty and students to meet informally in a relaxed atmosphere. Classrooms, offices, an art studio, and a lecture hall also fit into this well-arranged and efficient plant, all under one roof.

Fox Valley offers many opportunities for older persons to partake of academic life. Adults whose college entry has been delayed, or who have other responsibilities, are welcome to enroll in regular courses. In cooperation with University Extension, the campus offers seminars and institutes in fields ranging from humanities to business. Late afternoon and evening classes make it possible for housewives and persons with regular jobs to continue their education.

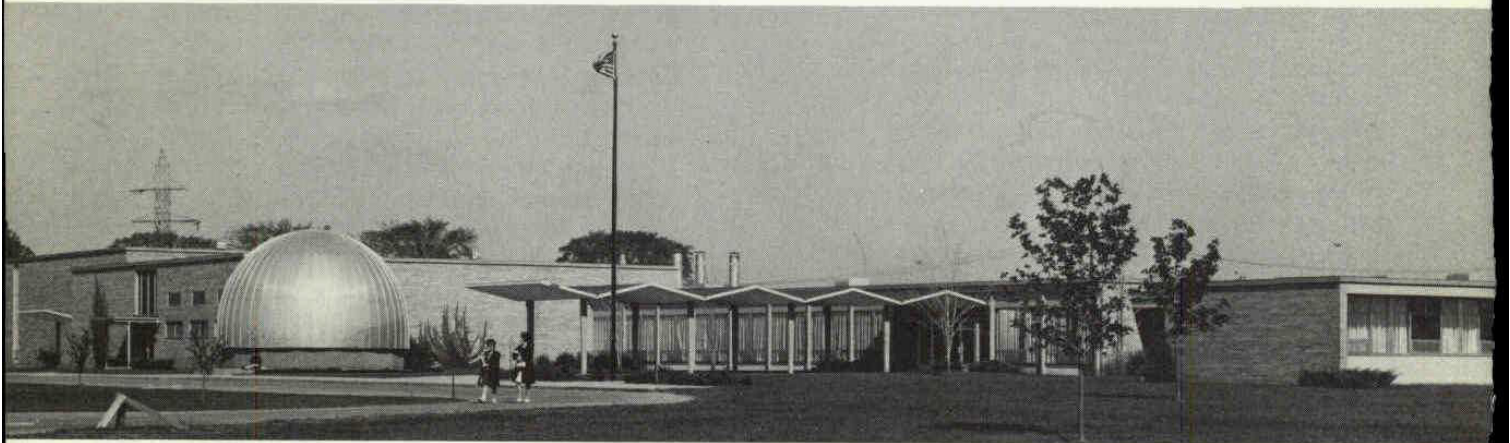
The paper industry dominates the Fox River valley. Paper plants and other commercial enterprises provide resources for course work at the campus. Students are able to find part- and full-time employment readily in local business and industry.



The Fox River valley has many cultural and recreational opportunities besides those at the campus itself. Lawrence University in Appleton offers a wide variety of public lecture and fine arts programs and is the home for the Worcester Art Center and the Institute of Paper Chemistry. Fox Valley students may use the Samuel Appleton-Carnegie Library at Lawrence as well as other facilities and resources throughout the community.

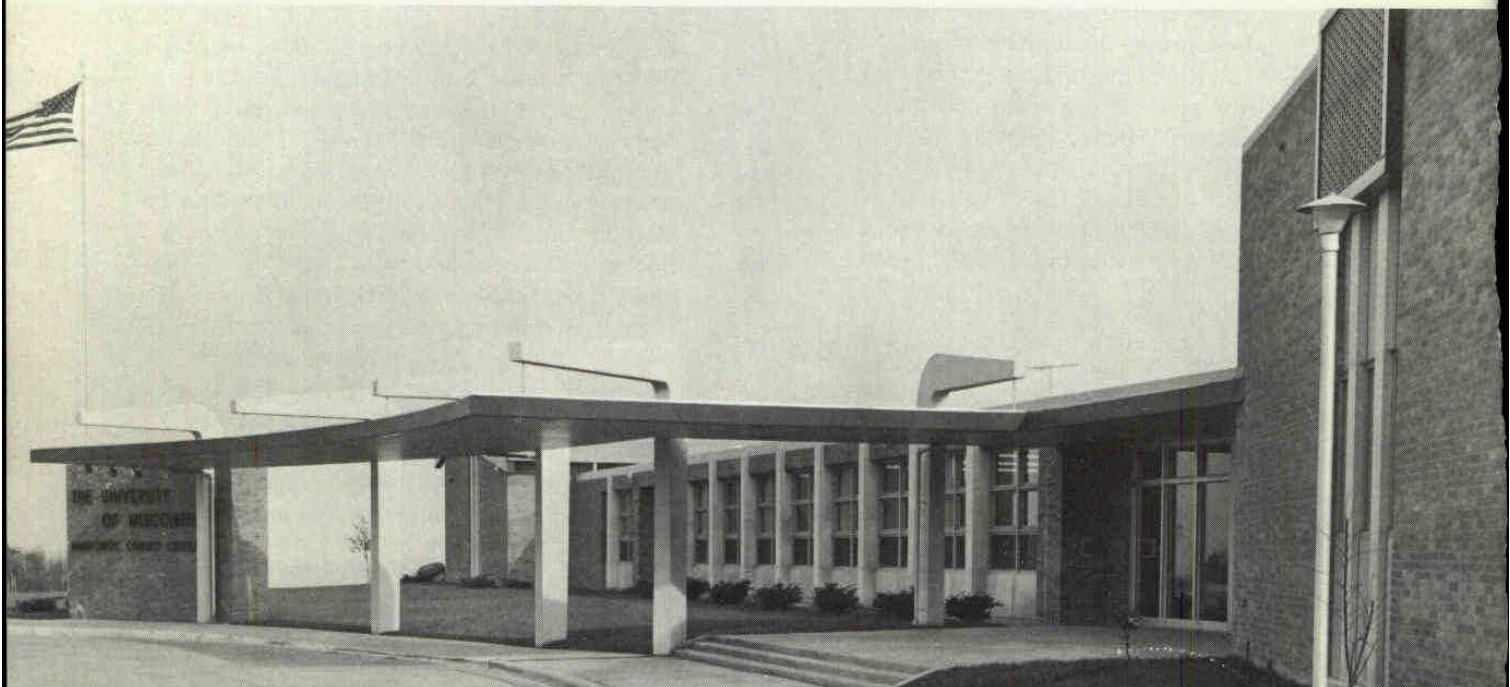
#### MANITOWOC COUNTY CAMPUS

The Manitowoc County Campus of The University of Wisconsin-Green Bay maintains an active "presence" in its marine environs. As an integral part of an academic institution much larger than itself, the campus-on-the-lake holds a unique position of cultural leadership in the port city of Manitowoc, 41 miles southeast of Green Bay.



Fox Valley Campus, above

Manitowoc County Campus, below





Marine research into a variety of problems centering in the Great Lakes region provides the special focus of attention for the campus. From this convenient base, students conduct research into environmental problems designed to improve marine life and related recreational and industrial activities.

Students and faculty combine their interests in initiating progressive city-campus programs. These include student teaching-aid projects in the public schools, YMCA activities, faculty publications, poetry "happenings," jazz concerts, "hatrack" story programs at the children's

library, interfaith encounters, and student-citizen panel discussions on topical issues.

The campus dates its beginnings in 1933, when the first college course was offered. Classes met in the Manitowoc Vocational School until the present lake shore building was opened in 1962.

The diversity of industry in Manitowoc County provides a principal source of strength for city and campus. Prominent among the products manufactured in the Manitowoc-Two Rivers area are aluminumware, ships, cranes, steel furniture,

#### Marinette County Campus





Christmas decorations, diesel engines, and bubble bath preparations.

In seasonal recreational activities, the Manitowoc area offers boating, sailing, swimming, fishing, golfing, riding, skating, skiing, tobogganing, as well as organized outdoor sports in picnic and play areas located in city and county parks.

### MARINETTE COUNTY CAMPUS

The Marinette County Campus is located 60 miles north and east around the curve of Green Bay from the UWGB central campus. Its 28-acre bay-shore site provides a natural biological laboratory. Tall pines tower over the four buildings which at present form the educational and recreational compound.

Shaping the academic life of the newest of UWGB's two-year campuses is its location on the edge of thousands of acres of state owned or leased fishing and hunting grounds. Indented by lakes and streams which are unspoiled, Marinette County is 74 per cent forested, offering unusual opportunities for students of the natural sciences, as well as for those seeking outdoor recreation.

With proximity to natural areas inviting research, the campus has become headquarters for the investigation of conservation resources with special emphasis currently on the aquatic sciences and wildlife. It has also evolved as an arts center as curricula in theater arts, music, and visual arts have developed.

The campus has shown dramatic growth in enrollment and physical facilities since classes were first held on the site in 1965. An arts center housing a 400-seat theater with a thrust stage and art and music studios became the second building to open, in 1969. A unique feature is Theatre-On-The-Bay, a University-community regional theatrical enterprise which has been a focal point of academic and extracurricular activity during the eight-week summer session since 1966. Recently expanded, the program now functions year-round.

A new library, housing 20,000 volumes, a gymnasium, and additional classroom space opened in the fall of 1970 to complete a master plan designed to accommodate 500 students.

Student life on the campus is closely affiliated with the surrounding community, which has adopted the university as its cultural center. Area business and industry provide additional fine arts opportunities, adult courses, student activities, and grants for research into local problems. Students are encouraged to involve themselves in preprofessional business and industrial exploration, and in community programs. They also provide the community with a part-time labor force. About 75 per cent of the students work from 12 to 20 hours per week.

### COMMUNITY INVOLVEMENT

From its beginning The University of Wisconsin-Green Bay has sought to involve members of its many communities in its development. A number of community consultants and advisory committees took part in the preparation of the University's academic plan, which emphasizes problems of the Northern Great Lakes region. Because citizens are extremely important to the University's ability to accomplish its objectives, their active participation in the planning and carrying out of its many activities is encouraged and welcomed.

Currently, some 15 advisory committees, on which more than 200 citizens of Northeastern Wisconsin sit, are in existence. In addition, a number of citizens participate in the educational program as community lecturers, bringing their special interests and knowledge directly to students enrolled in the Liberal Education Seminars at all four campuses.

The typical advisory committee meets two to four times a year with appropriate liaison members of the faculty, staff, and student body. Matters of current concern are discussed and reports are published as needed.

Community participation takes many forms. Some of the advisory committees are purely local in



focus. For example, one committee concerns itself with planning and zoning around the Green Bay University site. Other local advisory committees assist in the development and mission of the campuses at Fox Valley, Manitowoc, and Marinette.

Several committees focus on specific aspects of the UWGB academic plan. Each theme college has its own advisory committee and the School of Professional Studies has two, one for education and the other dealing with business and public administration.

Another group of committees concentrates on University-wide concerns. For example, the General University Committee, more or less a steering group, advises on such matters as the university budget, the master building plan, and student discipline. The Telecommunications Advisory Committee is concerned with the linking of all four campuses and the improvement in the quality of teaching through telecommunications. The Lecture and Fine Arts Advisory Committee addresses itself to such matters as improvement in programming quality, the widening of audience participation, and the coordination of community-wide cultural activities.

Joint participation of faculty, student, and community members characterizes such committees as the Green Bay Community-University Relations Committee, the Chancellor's Special Advisory Committee on a Performing Arts Theater, and the Athletic Board.

UWGB Development Councils have been established in the several campus communities to help obtain private support for University programs that cannot be funded from state appropriations.

A notable aspect of community participation is the active, creative, and moving consensus achieved between the community and the University.

The University springs from the community. As a community organization, it has a responsibility to report back to the community and be a part of

it. Opening up many avenues of community participation permits a level and a dependability of communication not otherwise possible. The belief that the University's goals can most effectively be achieved through active community participation is basic to the UWGB philosophy.

#### **OFFICE OF COMMUNITY OUTREACH AND RESEARCH**

To insure further growth of UWGB's efforts in community relevance and community involvement, UWGB has created the Office of Community Outreach and Research. It provides overall *leadership, coordination, and policy direction* of community outreach and research efforts and is headed by an Assistant Chancellor for Community Outreach and Research.

#### **Community Outreach**

The community outreach efforts fostered by UWGB involve students, faculty, and administrators. Students are encouraged and assisted to become involved as volunteers in community service activities in Northeastern Wisconsin. Students and faculty are encouraged to work with service organizations, business, industry, government, and citizen groups in designing mutually beneficial off-campus projects. Faculty and administrators participate in community efforts on air and water pollution, business development, community improvement, transportation improvement, regional planning and development, cultural and aesthetic enhancement, and health service improvement.

Close working relationships also have been established with individual business or industrial firms and governmental units and organizations. Some have provided direct assistance to UWGB through such means as financial support, donations of equipment, availability of equipment and facilities, release of personnel to assist UWGB, advisory assistance, technical support, and administrative support. Some have provided information on their history for use by students, have lectured to classes, and have conducted tours of facilities for faculty and students.



Still other cooperating firms, agencies, and organizations have received direct assistance from UWGB personnel in such areas as technical information, analyses, and educational efforts. These direct educational services will increase as UWGB undertakes further analyses of off-campus involvement in environmental problems.

As a part of its community outreach efforts, UWGB conducts with community leaders and groups distinctive seminars, workshops and conferences on various environmental problems and opportunities. It stresses opportunities for adults to continue their education through credit and non-credit programs. It schedules late afternoon and evening courses and programs to make educational opportunities more readily available to the working man or woman.

### Research

The encouragement of research is a cardinal point in the University's academic plan.

Research can be broadly defined as the application of human intelligence to problems whose solution is not immediately apparent. In this context, UWGB fosters the problem-solving approach to today's environmental crises and lends its efforts in an interdisciplinary fashion toward their solution.

Included in the research effort are the projects of individual scholars, interdisciplinary team projects, programs for institutional development and innovative educational practices, grants and awards for undergraduate research training, the acquisition of equipment for certain specific research efforts, and the creation of conditions wherein interdisciplinary research can flourish.

The academic philosophy of the University makes full use of the combination of research and teaching so that the results of research, whether in the Northeastern Wisconsin area or elsewhere, are in fact brought directly into the students' programs. The stimulation of undergraduate research participation and the sophomore Liberal Education Seminar off-campus

experience contribute to an early understanding of research objectives in the solution of problems.

At the same time, the involvement of the community in UWGB, in the community outreach dimension, serves to encourage community participation, not just in the results of research, but also in the early planning stages.

An Office of Grants Administration assists in the development of research programs and support at all levels of University interest.

### PARTNERSHIP WITH UNIVERSITY EXTENSION

The University knows that problems of the environment cannot be studied, nor can solutions to these problems be discovered, in isolation from the society in which the problems exist. To bring to bear most effectively its combined programs of teaching, research, and community outreach on problems of the environment, UWGB has formed a close partnership with University Extension, The University of Wisconsin. Through this partnership, UWGB and Extension faculties work together to identify problems, analyze opportunities, and design and conduct, through the Extension organization, educational and community service efforts. The partnership is directed by an assistant chancellor who holds a joint appointment with UWGB and University Extension and gives particular attention to UWGB-Extension activities in Northeastern Wisconsin.

These joint activities are concerned with the economic, social, and cultural development of the communities of the region and with the career advancement, general educational improvement, and cultural enrichment of individuals throughout the region. Problems given high priority in the UWGB academic plan by community members who helped design it are given high priority in the planning for joint programs between UWGB and University Extension.

The entire University shares in the commitment to ameliorate crises of the environment. The success of UWGB depends in large measure on how this challenge is met. The partnership with the community and University Extension helps assure that it is met in an orderly and effective manner.

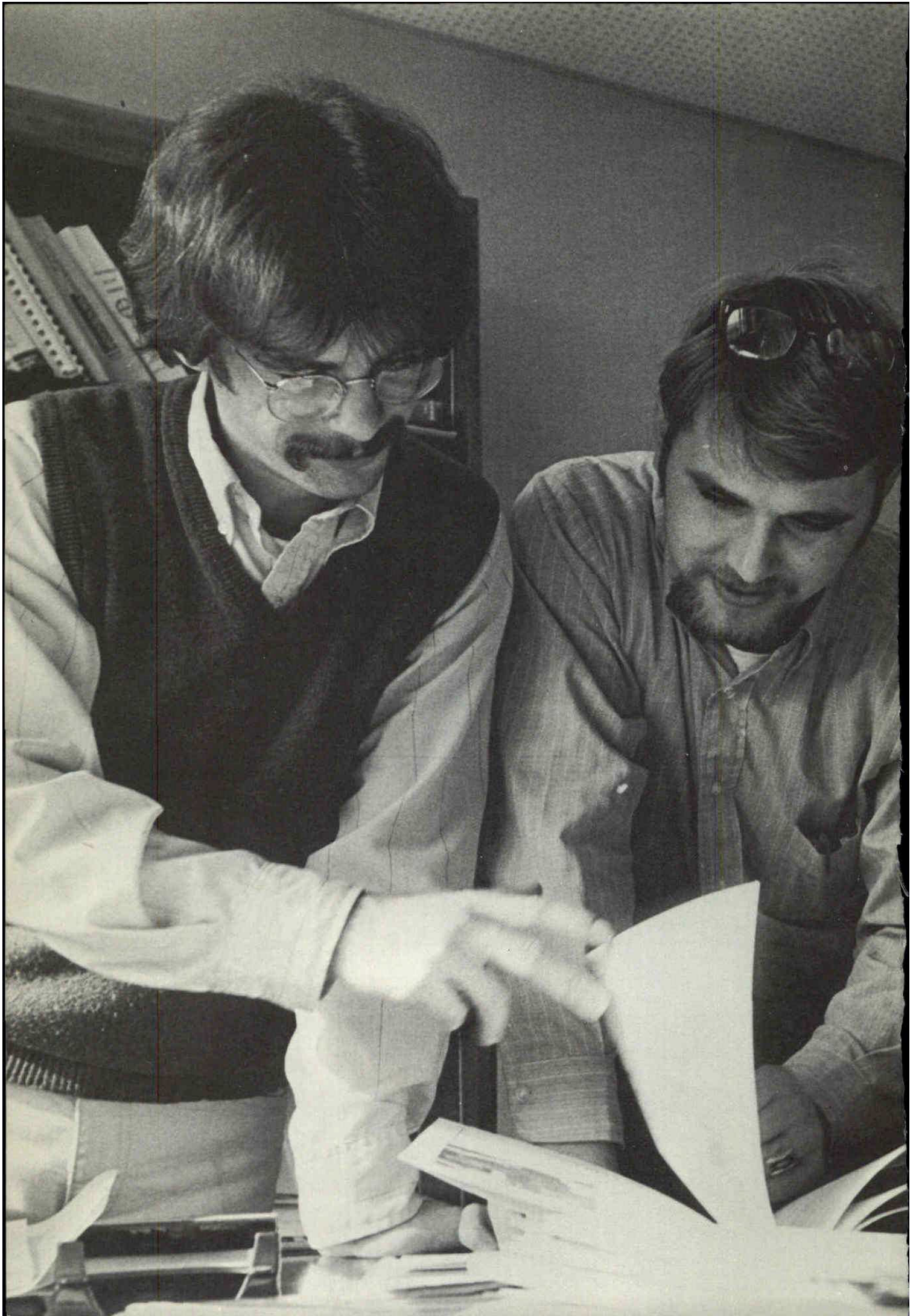


the university  
of wisconsin  
green bay



**The Educational Program**  
**Part 1:**  
**The Academic Plan**







# Part 1: The Academic Plan

## AN INTEGRATED APPROACH TO KNOWLEDGE

The ecological focus of The University of Wisconsin-Green Bay provides an integrated approach to knowledge that pervades every facet of campus life. Not only are classroom activities and ideas made relevant for the student, but he also participates in a variety of activities outside the classroom, both on the campus and in the community, that are designed to make his total educational experience more meaningful.

UWGB has organized its colleges around environmental themes, rather than according to traditional disciplines. They are the College of Environmental Sciences, the College of Human Biology, the College of Community Sciences, and the College of Creative Communication. The names reflect the focus of each college and its particular area of teaching, research, and community outreach activity. The School of Professional Studies complements the theme colleges and is responsible for professional programs that relate to them.

Each student at UWGB selects a particular environmental theme to study in depth. Called concentrations, or majors, these areas of study cross disciplinary and college lines. The student also has the opportunity to study a second, more intensified, field when he selects an option along with a concentration. He is expected to relate work in the option—sociology, for example—to the broader area of the concentration—urban analysis, for example. The student who wishes to gain professional competence to complement his concentration or concentration-option has a third choice available in a variety of professional collaterals and preprofessional programs leading to specialized or graduate work.

The first part of this chapter describes in some detail the colleges, concentrations, options, and professional applications and outlines the basic requirements of each. The second part of the chapter is devoted to programs designed to supplement, enrich, and extend the strictly academic life of the student.

## ALL-UNIVERSITY REQUIREMENTS

An undergraduate education is a liberating experience. In the context of additional knowledge and experience, the liberating and maturing of students will take place as they develop their processes of thinking and review and reinforce their values and sense of commitment. To this end, The University of Wisconsin-Green Bay has established certain all-University requirements.

It should be noted, however, that firmly required courses are few in number and that even within the general requirements the student is afforded considerable flexibility. The student may take most required courses on a pass-fail basis, except the four years of the Liberal Education Seminars and those courses that are part of his concentration, option, and/or collateral. He may also be able to satisfy the requirements by special examination. Prerequisites which indicate the level of proficiency required to carry a course are essentially advisory and will often be waived, allowing the student to register for the course by demonstrating his proficiency and obtaining the consent of the instructor. This procedure affords the student further flexibility in designing his own program of study.

All-University requirements fall into three major categories: liberal education seminars, distribution courses, and tool subjects.

### Liberal Education Seminars

The core of liberal education at UWGB is a four-year series of Liberal Education Seminars, six credit hours each year, through which every student (a) as a freshman receives an introduction to values, ecology, and environment, (b) as a sophomore focuses on a particular set of environmental problems with an off-campus, Northern Great Lakes regional experience, (c) as a junior studies previously selected problems in a region other than Northeastern Wisconsin, and (d) as a senior integrates what he has learned and experienced with a broad exposure to several academic disciplines and explores problems of values, belief, and ecology, with particular



attention being given to the consequences of these problems for future generations.

The **Freshman Seminars** provide an introduction to the two central concerns of the University: values and ecology. They emphasize the crises of belief and the forms of acting on beliefs within a series of ecological crises, providing an overview of man's several environments and selected contemporary ecological problems. Through team teaching and the mixing of students from all parts of the University, a broad experience is assured as the student receives an introduction

to ecology as well as a survey of various environmental themes and value approaches.

Presentations both in lecture formats and seminar-discussion sections are used to assure that there are ample opportunities for students to articulate in oral and written form their reactions to materials presented. Written requirements in these seminars are substantial and evaluation of such written assignments form the basis for a major portion of the course grade.

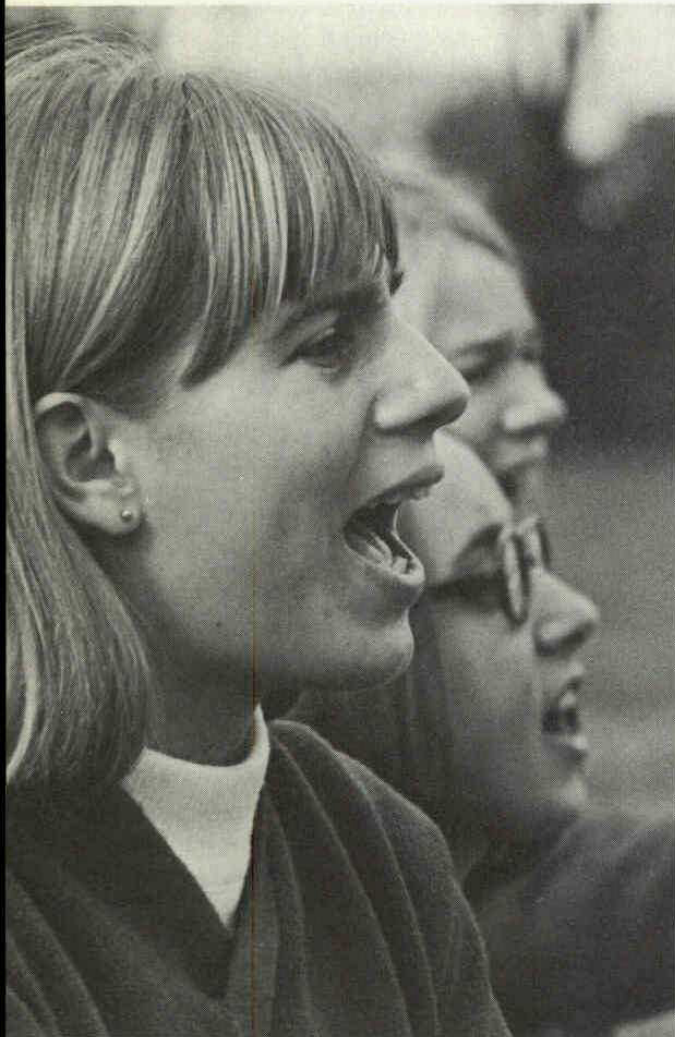
By the time a student is a sophomore, he has normally chosen the theme college in which he wishes to continue his education. Each theme college offers several sections of the **Sophomore Seminar and Off-Campus Experience** with each section focusing on a particular set of environmental problems.

A student can select the section or set of problems of greatest interest to him. The first semester's work prepares him for an off-campus experience or special project, stressing the nature of American society in the Northern Great Lakes region and introducing the particular environmental problem on which the section is concentrating.

The second semester's work can be taken during the January Practica (special studies period), a regular semester, or during the summer. Time is spent in supervised off-campus observation or a special project, using the Northern Great Lakes region as a laboratory. Oral reports are made to the seminar, and different experiences of students in the seminar are compared and analyzed.

Some students will be able to take the second semester's work during the summer in connection with supervised summer employment or other special practica. Credit for the second semester's work in such a case may be greater. Many sophomores may prefer to carry out their project during the January Practica.

As a junior, a student studies an environmental problem in a region other than Northeastern Wisconsin. The **Junior Liberal Education Seminar**





varies widely from problem to problem and from student to student.

During the first semester of the junior seminar, the student studies an area in the United States outside the Northern Great Lakes region, some other Western country or area, or some non-Western country or area.

The second segment of the junior seminar can be completed during the January Practica (special studies period), a regular semester, or the summer. Opportunities are available both for supervised projects in another part of the United States and abroad. There will also be special University-based projects that relate environmental problems to other cultures. All projects require oral and written reports.

For students who participate in VISTA, the Peace Corps, or similar programs, credit may be granted equivalent to that for all or a part of the sophomore and junior seminars. A maximum of 12 credits may be allowed with no more than six credits for each year's experience.

The **Senior Seminar** gives the student an opportunity to integrate and assimilate the knowledge he has acquired through studies in a theme college concentration or concentration-option. Problems of values, belief, and ecology are examined with particular attention being given to the consequences of these problems for future generations. The effects of program planning and implementation for their future, as well as the effects of changing value systems on tomorrow's world are analyzed.

The first semester of the senior seminar focuses upon long-range goals at either the global, regional, or national level in relationship to an appropriate set of indicators of past and present states of affairs. These indicators include social, political, cultural, economic, biological, environmental, and technological.

The second semester concentrates on plannings dealing with the anticipation of relevant social and ecological needs in terms of long-range

futures. Alternative futures are constructed and examined with reference to empirical knowledge, constraints, values, and beliefs that underlie those preferred futures. Consideration is given to the problem of implementation.

All four years of the Liberal Education Seminars must be taken for a letter grade, rather than on a pass-fail basis.

### Distribution

A truly educated man or woman has broad intellectual interests and some background, at least, in environmental problems and disciplines. At The University of Wisconsin-Green Bay, this breadth is encouraged in a number of ways. Each of the theme colleges is broadly interdisciplinary. The liberal education seminars bring together students and professors from all theme colleges in their consideration of man's ecological problems. And students in any theme college may freely elect any courses offered for which they are qualified.

In order to encourage as much breadth as possible in undergraduate education, the University requires a student to select at least five









hours of work in each of the theme colleges. For distribution requirement purposes, option courses are grouped along with concentration courses in four college categories. See the note preceding the course listings in this catalog. Any course for which the student is qualified may be selected, although some of the colleges offer certain courses that are particularly appropriate to the spirit of this requirement. The student can elect to take on a pass-fail basis those courses not in his college to satisfy his distribution requirement. Alternatively, the student can demonstrate presence of such breadth and satisfy the distribution requirements through special examination.

#### Tool Subjects

To pursue knowledge effectively and to perform his societal role adequately, the student must be familiar with different forms of communication and analysis. Tool subjects such as foreign language, data processing, mathematics, and studio experiences in the visual or performing arts meet this need.

To satisfy the tool subject requirement the student must choose first, either a foreign language or a studio experience in the arts, and second, either data processing (statistics), mathematics (calculus), finite mathematics, or an approved combination. At least six credits of work or the equivalent in demonstrated competence are required in each of the two areas.

A student can write off any or all of the tool subject requirements by taking a special examination that demonstrates his competence in the subject area or areas. The student also has the option of taking all tool subject courses on a pass-fail basis if they are not in the area of his major concentration. Programmed instruction in most tool subjects is available. The student wishing to explore this possibility should consult the Instructional Resources Center.

**Mathematics (Calculus).** A student electing to satisfy his tool subject requirement in this area may do so by demonstrating ability in mathe-

tics through one year of college calculus. He may do so by means of a special examination or by enrolling in mathematics courses for credit, under a pass-fail grading system. A placement examination is given to each student choosing the calculus alternative. He may be exempt from all or part of the requirement, depending on his score.

Courses recommended for fulfilling the tool subject requirement in calculus are Mathematics 202, Calculus and Analytic Geometry I, and either Mathematics 203, Calculus and *Analytic Geometry* II, or Mathematics 204, Elementary Probability. Each one-semester course provides four credits.

**Data Processing.** A student who selects data processing to fulfill his tool subject requirement may meet it through special examination or by satisfactorily completing two three-credit courses in elementary data processing and computer science. It is recommended that all students take Mathematics 250, Computer Science I, the first semester. This lecture and laboratory course draws on examples that are appropriate to the needs of students in each of the theme colleges, with each student selecting work related to his theme concentration.

During the second semester the student will be able to select one of the following three-credit courses to complete the data processing requirement: Mathematics 251, Computer Science II; Mathematics 252, Machine Organization; Mathematics 260, Elementary Statistics; Mathematics 353, Advanced Programming; or Community Sciences 205, Social Science Statistics.

**Finite Mathematics.** Students in the natural and social sciences may find it appropriate to fulfill their tool subject requirement with Mathematics 140-141, Finite Mathematics I, II. With appropriate approval, either of these three-credit courses can be combined with one of the calculus or data processing courses to satisfy the requirement.

**Foreign Language.** A student who selects this tool subject requirement must demonstrate com-



petence in a foreign language through the second year at the college level. Normally a year's course in high school is equivalent to one semester of college work. Language competence is determined by a placement examination; the student who demonstrates competence through the 203 level of the college sequence in the language of his choice will be exempt from further language work.

Students take the 102-103 sequence in languages normally offered at UWGB on an automatic pass-fail basis, except by petition.

The language selected is a matter of student choice, in consultation with his adviser. The choice should be related to his intellectual interests, his plans for an other-culture experience as a junior, and his travel plans as an older adult. It need not be one of the languages regularly taught at the University (such as French, Spanish, or German). A student who wishes to strengthen his competence in a language not regularly taught will be assisted by language instructors and by the Instructional Resources Center. Often special summer programs are available at one or more universities to meet such needs. A foreign student may meet the language requirement by certification of competency in English, if it is not his native language.

**Visual and Performing Arts.** Not only do the visual and performing arts involve an effort at meaningful aesthetic communication; they are also useful in the pursuit of many different occupations. The student who decides to fulfill his tool subject requirement with studio experience in the visual and performing arts will find that the skills and capacities he has gained can add a meaningful dimension to his participation in community endeavors.

The student who selects music as his studio experience will be required to demonstrate ability equivalent to six credit hours beyond the first year level of applied music (courses numbered 101 to 140). This ability or the six credit hours can be in solo or individual performance areas or in group participation in ensembles or organiza-

tions such as band, orchestra, and choral groups. The student must audition before the applied music committee for placement in any of these areas.

The student who selects theater as his studio experience will be required to demonstrate ability equivalent to six credit hours beyond the first year level of acting (Theater 131 and 132, Acting). This ability may be demonstrated through audition or by completion of Theater 231 and 232, Acting.

The student who selects visual arts as his studio experience will be required to demonstrate ability equivalent to six credit hours beyond Visual Arts 102 and 103. This ability may be demonstrated by a showing of the student's work or by completion of any two of the following courses: Visual Arts 104, 201, 202, or 203. Any 300-level visual arts course for which the student qualifies also is acceptable.

The student who selects dance as his studio experience may demonstrate his competency by completing six hours of dance beyond Theater 107 and 108, Dance and Movement. This ability may be demonstrated through audition or by completion of Theater 207 and 208, Dance and Movement.

## CHOOSING A MAJOR

In addition to meeting the all-University requirements of Liberal Education Seminars, distribution courses, and tool subjects, a student must meet the requirements of his college or school for majors. By the time he is a first semester sophomore, the student normally should have selected the college in which he proposes to major. Two types of majors are available: the concentration and the concentration-option. The student must choose one of them.

### Choice 1—The Concentration

In keeping with the academic focus of UWGB, major programs are designed to give the student pan-disciplinary knowledge that will equip him to deal with various environmental problems. The



theme colleges administer 11 such programs, called concentrations. The student who selects this type of major is required to complete 30 credits of work at the junior-senior level, including junior LES, that reflect this interdisciplinary focus on an environmental problem. The qualified student may design his own concentration program if none of the existing programs meet his needs.

#### Choice 2—The Concentration-Option

The student who wishes to relate his concentration with work in some depth in a specific discipline, profession, or field of knowledge—called an option—may select a combination major: the concentration-option. He will normally be required to take 36 credits at the junior-senior level, at least 12 credits of which shall be concentration credits; junior LES may be counted toward these credits. The balance of the credits, a maximum of 24, relate the option to the concentration. For example, the student who wishes to study the chemical aspects of water pollution might select a chemistry option to complement his environmental control concentration. Similarly, a student might supplement his urban analysis concentration with an option in sociology or with an option in business administration.

### PROFESSIONAL APPLICATION

The student may, if he wishes, choose to emphasize professional application of his major by selecting either a collateral or a preprofessional program. These programs can be applied to either the concentration or the concentration-option.

#### Collaterals

Both types of majors have direct professional applications (i.e., job relevance to a professional school experience). However, there are several special applications that require some additional particular competence. To meet this need, a student may select a professional collateral (or minor) in the School of Professional Studies

which supplements his major and provides him with a professional-specialist orientation.

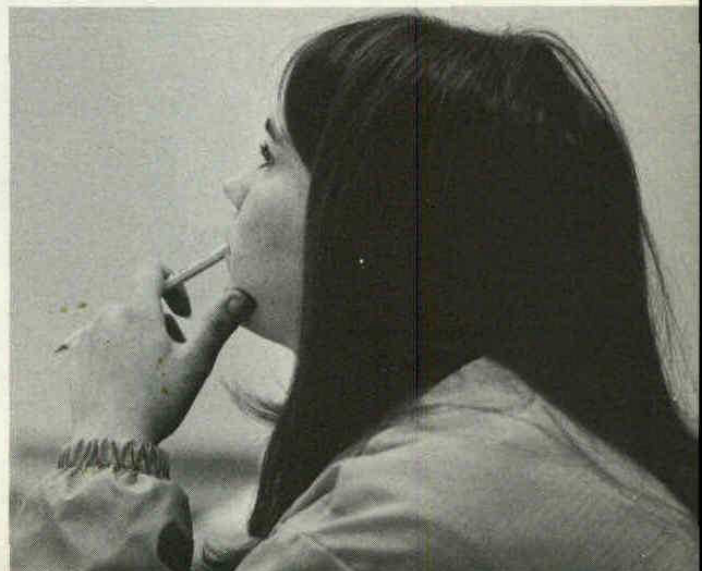
Professional collateral courses are offered in education (leading to teacher certification at the elementary and secondary levels), business administration, public administration, mass communications, leisure sciences, and social services. In most cases 18 hours are required for a professional collateral, in addition to the 30-credit concentration or the 36-credit concentration-option.

#### Preprofessional Programs

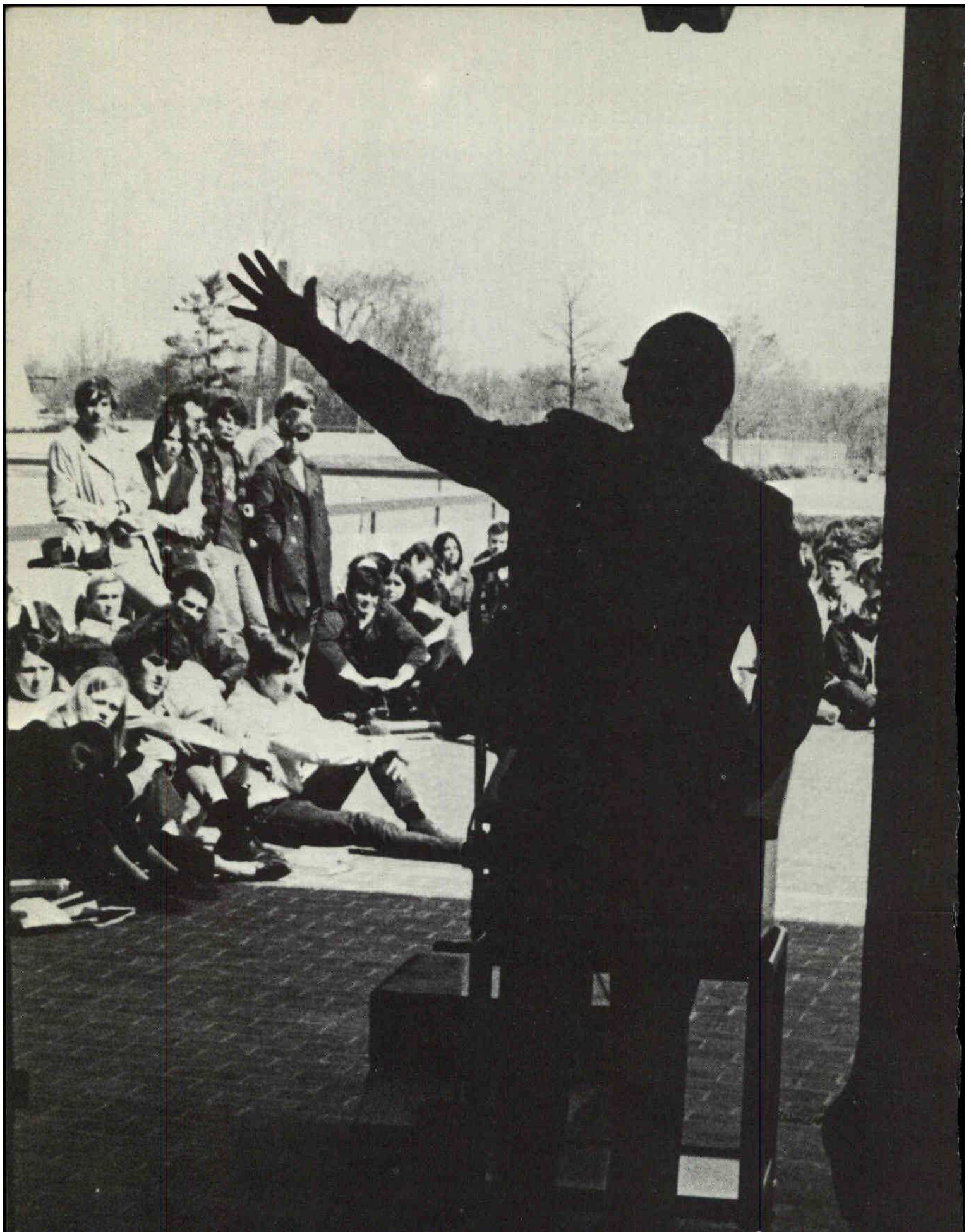
Three kinds of preprofessional opportunities are present. First, UWGB's regular majors leading to a bachelor's degree offer appropriate preparation for most graduate professional schools such as law, medicine, dentistry, social work, music, and others.

Second, for students desiring a four-year bachelor's degree in engineering, nursing, or certain other applied fields, UWGB offers a special two-year preprofessional program.

Third, a student desiring both a liberal and a technical bachelor's degree can select a 3-2 plan leading to both a bachelor of arts (or science) degree at UWGB and a bachelor of nursing or engineering (or another applied field) at another institution. Three years are spent at UWGB, two at the other institution.









# The Theme Colleges

## THE COLLEGE OF COMMUNITY SCIENCES

The College of Community Sciences offers programs focusing upon the role of man in the social environment and the processes by which man modifies his social environment. The college accents those areas of understanding and perception that serve to prepare contemporary students for effective participation in their community at the local, state, national, and international levels.

Programs emphasize the comparative aspects of the community sciences, relating the modes of analysis characteristic of the community sciences to the Northern Great Lakes region and to other parts of the nation and the world.

Critical exposure to the approach of the community sciences is as necessary for those involved in the environmental sciences, human biology, and creative communication, as it is for persons who choose concentrations within this college. Similarly, it is vital that students meeting the requirements of one of the concentrations offered in this college come to some basic understanding of the major themes expressed in the programs of the other colleges.

The student takes a core of courses essential for a comprehension of man's role in the social environment and his modifications of that social environment. The student then pursues a major in one of three community sciences concentrations. The concentrations are:

1. Regional analysis
2. Urban analysis
3. Modernization processes

Upon indicating his intent to enter a concentration, a student is assigned to an appropriate academic adviser. He normally enters the College of Community Sciences at the beginning of the sophomore year and selects his concentration in the junior year.

The student concentrating in regional analysis, urban analysis, or modernization processes

normally will complete 30 credits in the 300- and 400-level courses directly related to the concentration.

The student may also choose to augment his concentration with any disciplinary option.

The student selecting a concentration-option combination normally will complete 36 credits at the 300 and 400 levels, 24 of which relate the option (e.g. sociology) to the concentration (e.g. regional analysis). An adviser can assist the student with the selection of courses for the concentration or the concentration-option.

Further, the student may choose to pursue any one of the professional collaterals offered by the University. Such programs are usually initiated at the beginning of the third year. As appropriate, the student may combine a concentration or a concentration-option with one of the following collaterals: business or public administration, education (elementary and secondary), leisure sciences, mass communications, or social services. The student selecting a combined program of this type is encouraged to adapt his off-campus sophomore and junior Liberal Education Seminar experiences so as to be relevant to both the concentration and the collateral.

Starting with the sophomore year, students may be considered for the College Honors Program. Evidence of potential excellence in an area of concern to the college is required for admission. Students in the program will have unusual opportunities to develop close working relationships with faculty members, have increased flexibility in developing individual programs of study, and be given special encouragement in the pursuit of special projects.

Students majoring in the College of Community Sciences must meet all-University requirements including the four-year liberal education seminars, distribution credits, and tool subjects.

The College of Community Sciences shares with the other colleges in the University a concern



that graduates of UWGB gain those skills necessary for effective functioning in the contemporary world. The college recognizes that many students will be able to attain one or more of the required levels of tool subject capacity before entering the University. Therefore, any student who is able to write off any requirement is urged to consider the great advantages of attaining

necessary capacity in those other areas where he does not have advanced preparation.

In meeting University distribution requirements, the student should recognize that these course experiences can be directly related to work in his concentration and disciplinary option. Members of the faculty are available to assist students in developing programs for themselves that take advantage of such relationships.

The following courses are required of all students majoring in the College of Community Sciences:

*Courses and Credits*

Community Sciences 102, Man and His Social Environment, 3 cr.

The student is required to take one additional course at the 100 level, to be determined in consultation with the appropriate concentration chairman. Suggested courses\* include

Anthropology 102, Environmental Anthropology, 3 cr.

Economics 102, Economics and the Modern World, 3 cr.

Geography 102, Approaches to Geography, 3 cr.

Political Science 103, Introduction to Political Analysis, 3 cr.

Psychology 102, The Behavior and Experiences of Man, 3 cr.

Sociology 102, The City, 3 cr.

It is strongly suggested that students of other colleges seeking to meet distribution requirements, or wishing to understand the approach to community sciences characteristic of the College of Community Sciences, also begin their course work in this theme college by taking Community Sciences 102.

\*Community Sciences 102 is a prerequisite for each of these courses.





## THE COLLEGE OF CREATIVE COMMUNICATION

The educational philosophy of UWGB reflects its environmental approach. Because man is a being of many environments, his education should not confine him to a limited view of himself. Man is not only a social creature and not only an ecological organism, but he is also a seeker after aesthetic, intellectual, and spiritual fulfillment. Man is at the same time both an ape and an angel. More than ever before it behooves him to accept the limitations and challenges of his animal ancestry and his unique self-awareness. UWGB believes that the traditional walls between disciplines, which too often gave students narrow conceptions of themselves, are not only artificial and irrelevant but dangerous as well.

The unfortunate results of the traditional compartmentalized education are all around us. For the sake of religious and political man we have exterminated each other. For the sake of economic and technological man we polluted our water, poisoned our air, raped our land, and are well on our way toward annihilating ourselves through our single-minded and arrogant conquest of our natural surroundings.

To the student seeking to avoid a one-dimensional self-identification, the College of Creative Communication offers the dimension of aesthetics and of values and the understanding of the ways in which they are perceived and transmitted. It offers the humane dimension that assigns meaning and significance to our biological, social, and scientific environment. In short, it offers the concepts of unity, truth, and beauty which are, or should be, the words that suggest the ultimate values of our humane dimension.

A student choosing to major within the College of Creative Communication chooses one of two concentrations, both of which place emphasis on an individual's relation and contribution to the cultural environment:

1. Analysis-synthesis
2. Communication-action

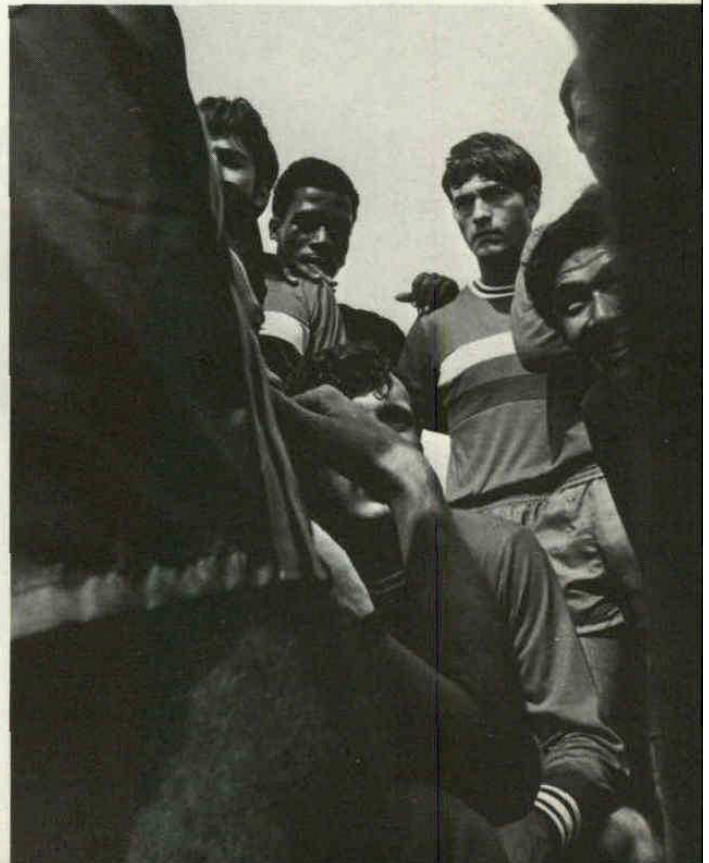
In addition, a student may, if he wishes, choose any option. A concentration requires 30 credits at the 300 and 400 level; a concentration-option requires 36, of which 24 relate the discipline to the concentration. Neither the concentrations nor the options need be mutually exclusive.

A student may select one of the professional collaterals: business or public administration, education (teacher certification at the elementary, or secondary levels), leisure sciences, mass communications, and social services.

Students majoring in CCC must meet the all-University requirements, including the four-year liberal education seminars, distribution credits, and tool subjects.

## THE COLLEGE OF ENVIRONMENTAL SCIENCES

The College of Environmental Sciences offers programs designed to develop the concept of ecosystems and to provide an understanding of the exchange of materials and energy between living organisms and their physical and chemical





environment, the use and management of natural resources, and alterations of ecosystems due to air, water, and soil pollution. These programs seek to prepare students to participate in solving the problems of environmental quality and in managing natural resources.

The student takes a core of courses designed to provide a basic knowledge in science which is essential for his comprehension of today's world. Concurrent with or following the sequence of core courses, the student, depending on his interests, majors in one of two environmental science concentrations:

1. Environmental control
2. Ecosystems analysis

A student having selected one of the above concentrations may, but is not required to, select any option. The option consists of a course sequence in a discipline in which the student explores in some depth a particular facet of an environmental problem. This is the "concentration-option."

Options especially appropriate include chemistry, mathematics, physics, earth science, economics, anthropology, political science, and biology.

A major in the College of Environmental Sciences may choose a professional collateral. As appropriate, the student may combine a concentration or concentration-option with any of the following professional collaterals: business or





public administration, education (elementary or secondary), leisure sciences, mass communications, or social services. The student selecting a combined program of this type is encouraged to adapt his off-campus sophomore and junior experiences to make them relevant to both the concentration and collateral.

Students majoring in the College of Environmental Sciences must meet the all-University requirements including the four-year liberal education seminars, distribution credits, and tool subjects. In addition, the College of Environmental Sciences requires the following basic science courses:

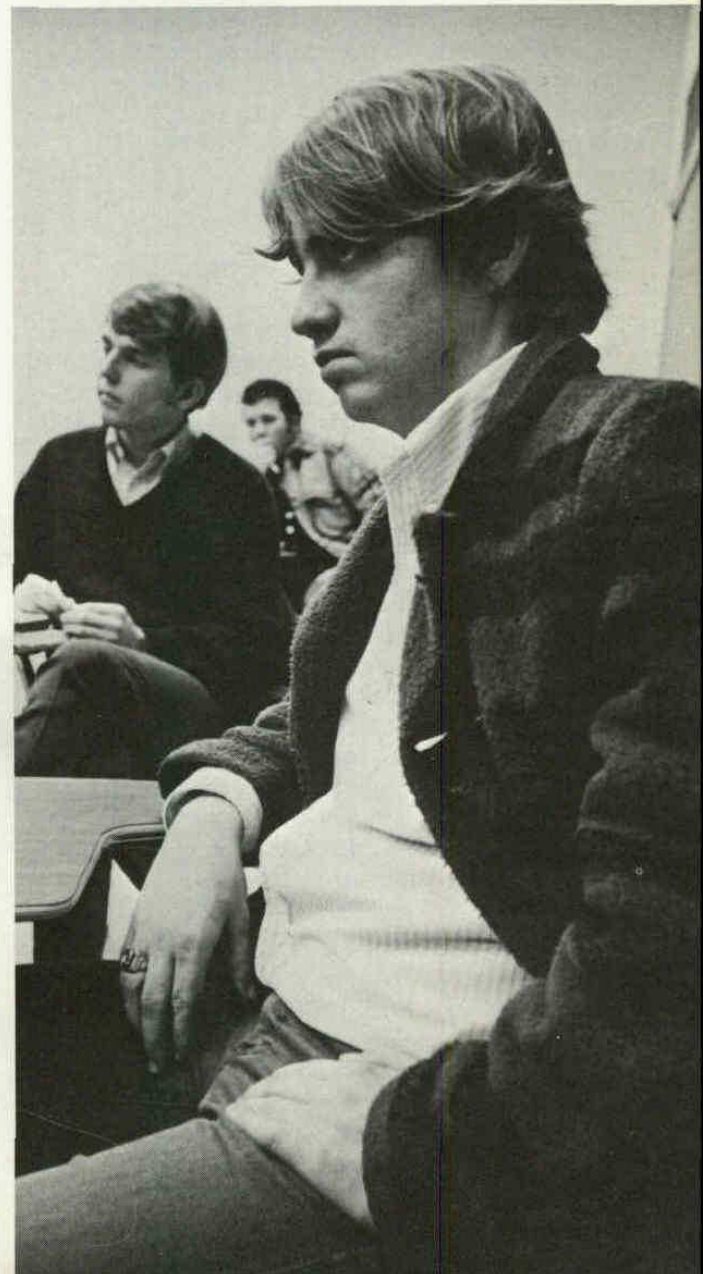
Biology 202, Biology of Cells, 4 cr.  
 Biology 203, Biology of Organisms, 4 cr.  
 Chemistry-Physics 110, 211 and 212, Chemistry-Physics, 5 cr. each (three semesters)\*  
 Earth Science 202, The Earth's Physical Environment, 4 cr.  
 Environmental Sciences 302, Principles of Ecology, 3 cr.  
 Mathematics, 8-12 cr.\*\*

A student desiring to major in CES and take a professional collateral (such as business administration) is advised to combine a

\*Students in the ecosystems analysis concentration who substitute Chemistry-Physics 111 and 112 for 211 and 212 should be aware that the calculus-based track is required for several courses and options in the College of Environmental Sciences. Often the 211 and 212 track is the only level that may be recognized for entry by transfer into engineering or graduate programs. Only the complete three-semester sequence will be accepted on transfer as equivalent to one year of chemistry and one year of physics.

\*\*Mathematics 203, Calculus and Analytic Geometry II, 4 cr., is required for Chemistry-Physics 212. Students in the environmental control concentration must take Chemistry-Physics 212. Students in ecosystems analysis take four courses in mathematics, one of which must be a course in statistics.

concentration with a collateral rather than a concentration-option with a collateral. A concentration requires six hours less of junior-senior work than does the concentration-option. In addition, if the student takes advantage of combining the junior LES practicum with field work, internship, or practice teaching in the collateral, he should have ample opportunity to meet all requirements within the 124 credits required for graduation.





A student interested in science education may petition to substitute computer science or computer science-statistics for calculus. He may also combine a concentration in the College of Community Sciences or the College of Creative Communication with a science option in addition to the educational collateral.

The junior Liberal Education Seminar is considered as part of a student's concentration. Those students selecting a professional collateral may relate the practicum portion of this course to it also, thus reducing certain credit requirements, provided that the work in the professional collateral (field work, internship, practice teaching, etc.) may properly be identified as other culture experience.

### THE COLLEGE OF HUMAN BIOLOGY

The programs of the College of Human Biology are concerned with the central theme of man in relation to his environment, in its many facets. In today's society, man does not exist solely as an individual independent of interrelations with others. Alone, and in populations, man is subjected to many stresses—both biological and behavioral—leading to extensive and serious problems. Stresses include those concerned with overcrowding, malnutrition, and the achievement of healthy and meaningful growth and development under these conditions. Of utmost concern is the ability of man to adapt to these environmental stresses, which although well-documented, are inadequately understood. Until recently it was considered that these major problem areas were not prevalent in this country, but it is now apparent that they are extensive and will become increasingly important in the future.

The role of the College of Human Biology is to prepare students to work in these areas in response to the needs of our society. This preparation requires an understanding of biological and behavioral traits and mechanisms through life stages of immaturity, maturity, and decay as determined in part by heredity and in part by

environmental experience. Individuals trained to work in the biological and behavioral sciences are in demand; this demand is forecast to increase in the future.

Much of the total environment is man-made and man is dependent in large part upon the culture within which he develops. Thus, to consider in breadth the diverse and complex environment of man, the educational programs of the College of Human Biology are conducted in close collaboration with those of the other colleges of UWGB, particularly with the College of Community Sciences.

The alternatives for concentration in the College of Human Biology are:

1. Growth and development
2. Human adaptability
3. Nutritional sciences\*
4. Population dynamics

Within each of these concentration areas, an option may be selected. Options especially appropriate include biology, anthropology, chemistry, earth science, psychology, and sociology. Opportunity to pursue a professional collateral in such fields as business and public administration, education (leading to kindergarten, elementary, and secondary teaching certification), leisure sciences, mass communications and social services is available.

Students enrolled in the College of Human Biology must meet the all-University requirements of distribution, tool subjects, and the four-year liberal education seminar series. To permit flexibility of programs toward needs and desires, the College of Human Biology has no specified requirements applicable to all students. However, students are urged to consult a college adviser as early as possible in their educational program. In the third and fourth years, the student concentrates in one of the areas of growth and

\*This program will be offered when it has been approved by the Coordinating Council for Higher Education.



development, human adaptability, nutritional sciences,\* or population dynamics; the specific concentration program will be designed in consultation with a concentration adviser.

Students may choose to enter the College Honors Program as early as their sophomore year. The criterion for entry is evidence of potential excellence in handling materials and concepts in an area of concern to the college. Benefits to the student of the College Honors Program include a close relationship with faculty, special opportunities for in-depth pursuit of interests, and additional flexibility in individualization of the program of study.

### THE SCHOOL OF PROFESSIONAL STUDIES

The School of Professional Studies offers collateral programs which are both professional and preprofessional in nature, supplementing the concentrations in the theme colleges.

The professional programs are the options in business and public administration, both of which follow the academic plan in being environmentally oriented.

Teacher certification is available through the professional collateral in education. The combination of this collateral with the appropriate concentration or concentration-option provides a program the successful completion of which results in certification to teach at the elementary or secondary level in the public schools of Wisconsin, and, on a reciprocal basis, in some 40 other states.

Several preprofessional programs are offered through the professional collaterals in business and public administration, mass communications, leisure sciences, and social services. In a sense they are analogous to minors, supplementing concentrations or concentration-options, and preparing the student either for graduate pro-

\*This program will be offered when it has been approved by the Coordinating Council for Higher Education.

fessional training or for entry into the appropriate professions on a sub-professional level. Other preprofessional programs are described in the section on Preprofessional Programs, later in this chapter.

### THE UNDECIDED FRESHMAN

Some entering freshmen are certain about the subject in which they want to major and can easily work out a program of study with the academic advisers in their theme colleges.

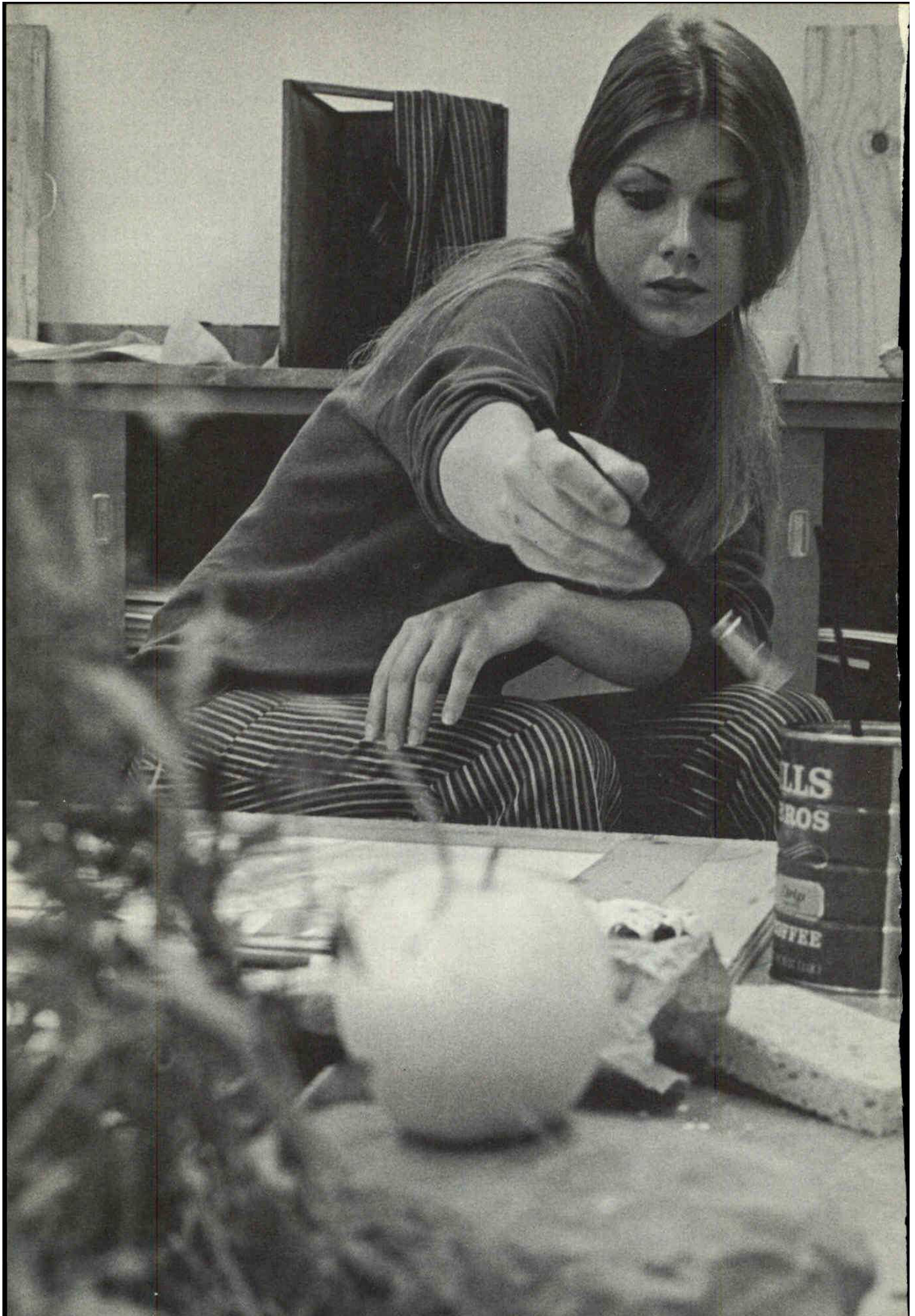
Many other students do not know in what field they wish to major or are somewhat uncertain. UWGB strongly encourages these students to take a flexible set of courses for the first semester. The courses should be selected with the objective of meeting the all-University requirements of the Liberal Education Seminars, distribution, and tool subjects. In this way, even though he is uncertain of his ultimate major, the first semester freshman makes full progress toward graduation.

It is recommended that this student take Liberal Education Seminar 101, Crisis of Belief and Ecology, as one of his courses. He may also desire to begin meeting one or both of his tool subject requirements: a foreign language or studio experience in visual or performing arts, and calculus (normally required of majors in CES) or data processing.

Many courses may be used to help meet the distribution requirements. The uncertain freshman should discuss the possibilities with his adviser.

Students desiring to pursue majors in the College of Environmental Sciences and/or students desiring an elementary teaching certificate should make a determination of their objectives before registering for the second semester of the freshman year. Otherwise, they run the risk of having to take extra credits in order to meet graduation requirements. If they remain uncertain as to their objectives, other students need not select a major (and/or a collateral) until sometime during the sophomore year.







# The Concentrations

## THE CONCENTRATIONS

The UWGB student must select an environmental problem on which to focus. This concentration requires 30 credits at the junior-senior level reflecting an interdisciplinary focus on an environmental problem. Concentration programs are outlined on the following pages in alphabetical order. Abbreviations in the headings denote the theme college that administers each concentration.

### The Concentration in Analysis-Synthesis (CCC)

**Professors:** E. Havens (chairman), I. Korner, C. Nelson, L. Sonenfield, S. Williams.

**Associate Professors:** C. Crandall, T. Daniels, F. Kersten, T. Tasch, L. Witherell.

**Assistant Professors:** P. Abrahams, J. Barger, E. Bottemiller, O. Clark, F. Clements, N. Gaworek, H. Gerend, J. Gerend, G. Greif, W. Herrscher, A. Imber, J. LaMalfa, J. McHale, D. Moews, C. Richey, L. Rudolph, R. Schlueter, J. Shier, W. Simpson, M. Thron, S. Yake.

**Instructors:** J. Ave'Lallemant, J. Davis, K. Fleurant, L. Foulkes, D. Galaty, P. Hollingsworth, D. Hrubesky, R. Johnson, M. Kaarsberg, S. Kovalenko, C. Krog, J. McClurg, B. Mugane, M. Murphy, S. Oredson, E. Pence, D. Sweet, J. Wahl, D. Webb.

**Lecturers:** M. Culross, M. Martins, D. Winger.

The concentration in analysis-synthesis emphasizes the need of every human being to "take a stand" on values. Each individual, consciously or unconsciously, performs an integrative, evaluative, creative function in developing, assimilating, and establishing values, beliefs, and opinions. The value structure he comes up with is uniquely his own and represents his individuality.

The student choosing the concentration in analysis-synthesis must meet general University requirements. In addition, he must select 30 credits of junior or senior level courses related to the concentration. If he selects a concentration-option, he must take 36, a maximum of 24 of which relate the option to the concentration.

Each student is encouraged to develop an individual program and will be assisted in this effort by an assigned faculty adviser.

### The Concentration in Communication-Action (CCC)

**Professors:** M. Kazar, P. Mann.

**Associate Professors:** J. Abraham, R. Bauer, A. Cohrs, J. Frisch, B. Grimes, W. King, A. Matulis (acting chairman), D. Peterson, W. Prevetti.

**Assistant Professors:** N. Blaisdell, T. Chavez, P. Cooley, D. Damkoehler, F. Doverspike, R. Fritz, J. Ivanoff, W. Jaeckel, R. Kersten, L. Locksmith, R. Pum, R. Ray, R. Williams.

**Instructors:** K. Anderson, D. Fennema, E. Frame, P. Kimmell, D. Larmouth, I. Rogers, D. Semmes, B. Von Hoffmann, H. Williams.

**Lecturers:** D. Byrne, S. Hieber, L. Ives.

**Visiting Artist:** O. Kovalenko.

The concentration in communication-action emphasizes the tendency of human beings to create reflections of themselves and others and to communicate with each other through their creations.

The student concentrating in communication-action must meet general all-University requirements. In addition, he must select 30 credits of junior or senior level courses related to the concentration. If he selects a concentration-option, he must take 36 credits, a maximum of 24 of which relate the option to the concentration.

Each student is encouraged to develop an individual program and will be assisted in this effort by an assigned faculty adviser.

### The Concentration in Ecosystems Analysis (CES)

**Professor:** J. Reed (chairman).

**Associate Professors:** F. Fischbach, A. Goldsby, D. Jowett, L. Schwartz, K. White.

**Assistant Professors:** D. Girard, H. Harris, J. Huddleston, W. Johnson, A. Loomer, J. Maki, A. Mehra, M. Morgan, J. Norman, E. Robkin, P. Sager, V. Sharma, N. Stahl, R. Starkey, T.



Thompson, J. Wiersma.

**Instructors:** L. Espenscheid, G. Keepers, B. Singh, R. Simons.

**Lecturer:** M. Regan.

The dynamics of the flows and transactions of energy and materials in the ecosystem and the processes governing the regulation of numbers of organisms must be understood both qualitatively and quantitatively for man to develop a wise strategy for the use and management of natural resources. With increasing frequency and intensity, man intervenes in the dynamics of ecosystems to increase productivity or to regulate the flows and transactions for his own ends. These alterations include the use of fertilizers and biocides to regulate biological productivity, and conscious weather modification to alter the frequency and distribution of precipitation. These modifications cannot be evaluated intelligently without a full understanding of their impact on the processes of the ecosystem. Inadvertent and unintelligent intervention may produce serious and irreversible changes that outweigh the benefits of ecological manipulation.

The objectives of the concentration in ecosystems analysis are: (1) To prepare individuals to make substantial contributions to the understanding of the dynamics of the ecosystem, (2) To foster awareness and interest in problems related to ecosystems, and (3) To prepare individuals to contribute to problem solving, whether as informed citizens, business managers, politicians, educators, or researchers.

Students concentrating in ecosystems analysis may prepare for any of the following occupations: federal and state natural resource agencies concerned with proper use and development of natural resources; industry with particular reference to analysis and solution of environmental problems; federal and state park services as interpretive ecologists; regional resource planning agencies; graduate study in biology, chemistry, ecology, earth science, mathematics, physics, regional planning, and land, water, and wildlife management. Taken with a collateral in education, this concentration prepares students

for careers in teaching in the above mentioned areas.

The concentration in ecosystems analysis requires the following courses:

Biology 202, Biology of Cells, 4 cr.  
Biology 203, Biology of Organisms, 4 cr.  
Chemistry-Physics 110; and 111 and 112, or 211 and 212, Chemistry-Physics, 5 cr. each  
Earth Science 202, The Earth's Physical Environment, 4 cr.  
Environmental Sciences 302, Principles of Ecology, 3 cr.

Students are advised that while either track of Chemistry-Physics is acceptable for a concentration in ecosystems analysis, those students who select Chemistry-Physics 111 and 112 will reduce their freedom of choice in course selection in the junior and senior years. The options in chemistry and physics require the background provided by Chemistry-Physics 211 and 212. Most graduate programs require a year of calculus and some experience in statistics.

The mathematics requirement for ecosystems analysis can be fulfilled by completing any four courses in mathematics except Mathematics 095, 112, 113, 114, and 115. One of these four must be a course in statistics. Students in the concentration with a collateral in elementary education may include Mathematics 115 as one of the four required courses. The following are representative courses:

Mathematics 140 and 141, Finite Mathematics I and II, 4, 4 cr.  
Mathematics 250 and 251, Computer Science I and II, 3, 3 cr.  
Mathematics 202 and 203, 211, Calculus and Analytic Geometry, I, II, and III, 4, 4, 5 cr.  
Mathematics 204, Probability, 4 cr.  
Mathematics 260, Statistics, 3 cr.  
Mathematics 360, Theory of Probability, 3 cr.  
Mathematics 361, Theoretical Statistics, 3 cr.  
Mathematics 362, Methods of Statistical Analysis, 3 cr.  
Mathematics 363, Experimental Design, 3 cr.



The student concentrating in ecosystems analysis enters the College of Environmental Sciences in the freshman or sophomore year and should complete the college requirements by the end of his sophomore year. He must complete 30 credits in the 300- and 400-level courses. It is recommended that he include in these 30 credits: Environmental Sciences 310, Environmental Measurement; Ecosystems Analysis 412, Bioenergetics; and advanced mathematics courses appropriate to his interests.

Courses are to be selected on the basis of the student's interests and career goals. For example, he might choose to develop a program in systems ecology, population ecology, community ecology or physiological ecology. Some of the courses from which a student might choose are outlined below. A student should work out an appropriate program in consultation with his adviser.

It is recommended that selected courses from other theme colleges or the School of Professional Studies or in such subjects as anthropology, economics, regional planning, geography, administration and management, public policy, and political science be used to augment the student's program.

#### *Courses and Credits*

- Biology 303, Genetics, 3 cr.  
 Biology: Botany 320, Field Botany, 3 cr.  
 Biology: Botany 350, Plant Physiology, 4 cr.  
 Biology: Entomology 302, Principles of Entomology, 3 cr.  
 Biology: Microbiology 302, Principles of Microbiology, 4 cr.  
 Biology: Microbiology 303, Advanced Microbiology, 3 cr.  
 Biology: Physiology 302, Comparative Physiology, 3 or 4 cr.  
 Biology: Physiology 402, Mammalian Physiology, 4 cr.  
 Biology: Zoology 302, Vertebrate Zoology, 3 cr.  
 Biology: Zoology 320, Field Zoology, 3 cr.  
 Biology: Zoology 420, Principles of Parasitology, 3 cr.
- Chemistry 321, Physical Chemistry, 3 cr.  
 Chemistry 330, Biochemistry, 3 cr.  
 Chemistry-Physics 320, Thermodynamics and Kinetic Theory, 3 cr.  
 Ecosystems Analysis 303, Electromagnetic Radiation, 4 cr.  
 Ecosystems Analysis 306, Biophysics, 3 cr.  
 Ecosystems Analysis 310, Plant Ecology, 3 cr.  
 Ecosystems Analysis 312, Productivity of the Ecosystem, 3 cr.  
 Ecosystems Analysis 318, Systematics and Taxonomy, 3 cr.  
 Ecosystems Analysis 331, Introduction to Oceanography, 3 cr.  
 Ecosystems Analysis 350, Meteorology, 3 cr.  
 Ecosystems Analysis 351, Microclimatology, 3 cr.  
 Ecosystems Analysis 403, Limnology, 3 cr.  
 Ecosystems Analysis 412, Bioenergetics, 3 cr.  
 Ecosystems Analysis 420, Soil Classification and Geography, 3 cr.  
 Ecosystems Analysis 452, Elements of Biometeorology, 3 cr.  
 Ecosystems Analysis 472, Systems Simulation, 3 cr.  
 Environmental Control 320, The Soil Environment, 3 cr.  
 Environmental Control 424, Environmental Biochemistry, 3 cr.  
 Environmental Control 426, Soil Chemistry, 4 cr.  
 Environmental Control 428, Soil Physics, 3 cr.  
 Environmental Control 434, Water Chemistry, 4 cr.  
 Environmental Control 436, Water Pollution, 4 cr.  
 Environmental Control 450, Air Pollution Meteorology, 3 cr.  
 Environmental Control 451, Community Air Pollution, 3 cr.  
 Environmental Control 453, Air Chemistry, 4 cr.  
 Environmental Control 460, Resource Management Strategy, 3 cr.  
 Environmental Control 462, Landscape Ecology, 3 cr.  
 Environmental Control 468, Applied Environmental Science, 3 cr.  
 Environmental Sciences 303, Conservation of Natural Resources, 3 cr.  
 History 308, History of Modern Science (physical), 3 cr.  
 History 309, History of Modern Science (biological), 3 cr.



Mathematics 308, Differential Equations and Matrix Algebra, 5 cr.  
 Mathematics 311, Advanced Calculus, 3 cr.  
 Mathematics 355, Optimization, 3 cr.  
 Mathematics 360, Theory of Probability, 3 cr.  
 Mathematics 361, Theoretical Statistics, 3 cr.  
 Physics 310, Modern Physics I, 3 cr.  
 Physics 312, Modern Physics II, 3 cr.  
 Physics 315, Mechanics, 3 cr.  
 Population Dynamics 402, Population Biology, 4 cr.

**The Concentration in Environmental Control (CES)**

**Professors:** H. Day (chairman), D. Moore.  
**Associate Professors:** W. Guither, T. McIntosh.  
**Assistant Professors:** A. Bedrosian, R. Cook, L. Corrado, H. Iyengar, R. Lanz, K. Lee, C. Lindem, V. Nair, J. Pezzetta, S. Randall, C. Rhyner, W. Riemen, W. Shufeldt, T. Van Koevering, L. Weis, R. Wenger, T. Abeles.  
**Instructors:** A. Dickison, R. Grosnick, D. Herrick, H. Lewis, J. Moran, N. Petrakopoulos, L. Purchatzke, C. Richards, C. Weber.  
**Lecturers:** E. Layton, R. Leuba, L. Oswald, R. Sogard.  
**Visiting Professor:** G. Spencer.

Among the most pressing problems that face man are those stemming from his use of and impact on natural resources. The problems include environmental pollution from human and industrial wastes; the conservation of resources such as fossil fuels, minerals, and wildlife; and the conflict of interests arising from multiple use of resources.

Environmental pollution and the demands on natural resources threaten the biosphere. Because man depends upon the productivity of the biosphere for his subsistence and upon these resources to sustain his civilization, he must develop an appropriate strategy for the wise use

and management of the biological and physical resources. The objective of the concentration in environmental control is to prepare individuals for responsible decision making in regard to management of natural resources—air, water, land, wildlife—and the control of waste disposal and environmental pollution.

The student concentrating in environmental control enters the College of Environmental Sciences in the freshman or sophomore year and should complete the college core requirements by the end of the sophomore year. He must also complete 30 credits in 300- and 400-level courses, including Environmental Sciences 302, Principles of Ecology, 3 cr.

Also recommended are:  
 Environmental Sciences 310, Environmental Measurement, 3 cr.  
 Environmental Sciences 460, Resource Management Strategy, 3 cr.  
 Environmental Sciences 468, Applied Environmental Sciences, 3 cr.

Credits may be elected from groups of courses according to the area in which the student has chosen to concentrate. A few example combinations are outlined below. A student should in consultation with his adviser work out the program that best fits his career goals.

*Areas, Courses, and Credits*

*Air*  
 Chemistry 313, Analytical Chemistry, 4 cr.  
 Chemistry 315, Nuclear and Radiochemistry, 4 cr.  
 Chemistry-Physics 320, Thermodynamics and Kinetic Theory, 3 cr.  
 Ecosystems Analysis 350, Meteorology, 3 cr.  
 Ecosystems Analysis 351, Microclimatology, 3 cr.  
 Environmental Control 332, Fluid Mechanics, 3 cr.  
 Environmental Control 450, Air Pollution Meteorology, 3 cr.  
 Environmental Control 451, Community Air Pollution, 3 cr.  
 Environmental Control 453, Air Chemistry, 4 cr.  
 Environmental Control 455, Air Pollution Control, 3 cr.

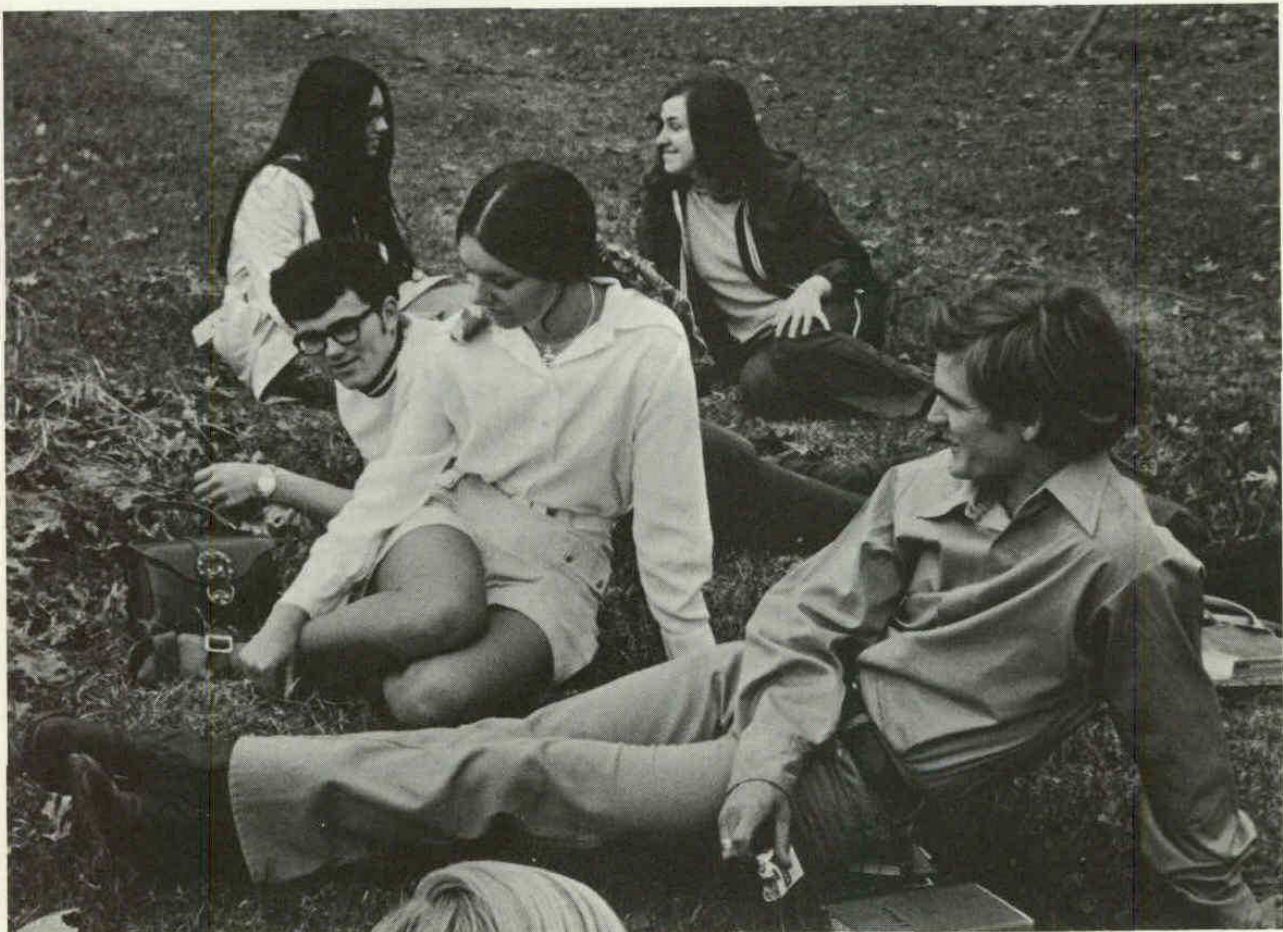


*Water*

- Chemistry 313, Analytical Chemistry, 4 cr.
- Chemistry-Physics 320, Thermodynamics and Kinetic Theory, 3 cr.
- Earth Science 302, Geologic Evolution of the Earth, 4 cr.
- Ecosystems Analysis 331, Introduction to Oceanography, 3 cr.
- Ecosystems Analysis 350, Meteorology, 3 cr.
- Ecosystems Analysis 351, Microclimatology, 3 cr.
- Ecosystems Analysis 403, General Limnology, 3 cr.
- Environmental Control 330, Surface and Ground Water, 3 cr.
- Environmental Control 332, Fluid Mechanics, 3 cr.
- Environmental Control 432, Hydrology, 3 cr.
- Environmental Control 434, Water Chemistry, 4 cr.
- Environmental Control 436, Water Pollution, 4 cr.

*Land*

- Earth Science 302, Geologic Evolution of the Earth, 4 cr.
- Earth Science 350, Field Geology, 3 cr.
- Earth Science 470, The Glacial Environment and Chronology, 3 cr.
- Ecosystems Analysis 420, Soil Ecology and Geography, 3 cr.
- Environmental Control 320, The Soil Environment, 3 cr.
- Environmental Control 330, Surface and Ground Water, 3 cr.
- Environmental Control 424, Environmental Biochemistry, 3 cr.
- Environmental Control 426, Soil Chemistry, 4 cr.
- Environmental Control 428, Soil Physics, 3 cr.
- Environmental Control 462, Landscape Ecology, 3 cr.





*Natural Resources*

- Biology: Zoology 320, Field Zoology, 3 cr.  
Earth Science 340, Minerals, Rocks, and Mineral Resources, 3 cr.  
Earth Science 441, Earth Resources I: Minerals, 4 cr.  
Earth Science 442, Earth Resources II: Rocks, 4 cr.  
Ecosystems Analysis 312, Productivity of the Ecosystem, 3 cr.  
Ecosystems Analysis 452, Elements of Biometeorology, 3 cr.  
Environmental Control 360, Renewable Resources, 3 cr.  
Mathematics 362, Methods of Statistical Analysis, 3 cr.  
Mathematics 363, Experimental Design, 3 cr.  
Mathematics 366, Theory of Games, 3 cr.  
Population Dynamics 402, Population Biology, 3 cr.

Selected courses from other theme colleges or the School of Professional Studies or in such subjects as economics, regional planning, geography, administration and management, public policy, and political science may be used to augment any of the above four areas.

**The Concentration in Growth and Development (CHB)**

**Professor:** R. Hartley (chairman).

**Assistant Professor:** J. Falk.

**Instructors:** S. Cannizzo, L. Joscelyn.

**Lecturer:** M. Ray.

Among the major problems currently facing us is that of optimizing the development of individuals. To do so, we must understand the effect of the transactions between man and his environment, physical and social. The knowledge explosion of recent years makes us aware of effects we did not even suspect a relatively short time ago.

For example, we have become increasingly aware of the problems related to behavioral growth and development. Problems of intellectual development are now demanding attention as well as problems of emotional-social development. To

deal with the problems of mental retardation associated with cultural deprivation, socially ineffective and undesirable behavior, and the chronically disabling effects of neuroses and psychoses requires intensive and specific types of training. In addition, we are more and more cognizant of the importance of knowledge about the wellsprings of human functioning for any occupation dealing with people, e.g. teaching, nursing, work with preschool children, social service, recreation, guidance, etc. The purpose of the concentration in growth and development is to begin preparing young people to deal effectively with other persons, whatever their level of development.

The concentration in growth and development, along with selected preprofessional courses, can prepare students for the following vocations or activities: early childhood education (nursery school or kindergarten), primary or elementary school teaching, child development specialist, parent education, group work with children and adolescents, counseling with older people. It offers excellent preprofessional training for graduate study leading to social work, physical or occupational therapy and rehabilitation, clinical or counseling psychology, student personnel work, marriage counseling, therapeutic work with children, research or college teaching in the area of human development, public health education. The concentration is also an appropriate gateway to the teaching of psychology-sociology or family life education at the secondary school level, adult education, extension work, 4-H work, work with organizations such as the YWCA and YMCA.

*Recommended Preparatory Courses*

To prepare for the junior and senior level courses which make up the concentration, the following lower level courses are recommended:

- Biology 203, Biology of Organisms, 4 cr.  
Nutritional Sciences 232, Nutritional Significance of Food, 3 cr.  
Psychology 102, The Behavior and Experiences of Man, 3 cr.



To fulfill part of the tool subject requirement, one semester of computer science and one semester of statistics are the preferred combination for this concentration.

The student planning to go on to graduate school should consider the advisability of studying a foreign language.

Candidates for certification in early childhood education would do well to attain simple performance skills in music.

*Required and Recommended Upper-Level Concentration Courses*

It is the policy of this college to design a concentration program for each student which will be most relevant to his interests and vocational objectives. Only the following courses are required of *all* students in this concentration:

Growth and Development 331, Infancy and Early Childhood, 3 cr.

Growth and Development 332, Middle Childhood and Adolescence, 3 cr.

(Qualified students who have decided to enter the concentration would be well advised to complete Growth and Development 331 during the sophomore year.)

The remainder of the required minimum of 30 credits of upper level (300 and 400) courses will be selected, with the guidance of a qualified faculty member within the concentration, to offer that pattern of competencies which best suits the educational objectives of the student.

For example, students planning to enter early childhood education as a vocation would include in their program the following courses, in addition to those required:

Growth and Development 333, Observation and Interpretation of Children's Behavior, 3 cr.  
Growth and Development 334, Play and Creative Activities in Childhood, 3 cr.

Growth and Development 430, Guidance and Methods for Preschool and Kindergarten Groups, 3 cr.

Growth and Development 431, Cognitive Development and Facilitation in Childhood and Adolescence, 3 cr.

Growth and Development 434, Practicum in Working with Preschool and Kindergarten Groups, 5 cr.

Growth and Development 435, Developmental Problems and Deviations, 3 cr.

Additional credits could be derived from the junior Liberal Education Seminar and (if acceptable to the student's adviser and the chairman of the concentration) from among other upper level courses which would fit the student's interests and strengthen relevant competencies.

Students desiring to enter elementary school teaching would take many of the courses listed above, excepting those specifically designed for preschool and kindergarten training. They might also include Growth and Development 432, Cultural Impacts on Human Development, and Growth and Development 436, Developmental Guidance with Children and Adolescents.

Those wishing to prepare for community work such as social service or parent education or group work of some kind would include in their programs Growth and Development 433, Adulthood and Later Maturity, Growth and Development 336, Sex Role Development in Contemporary Society, Growth and Development 437, Developmental Guidance with Adults and the Aged.

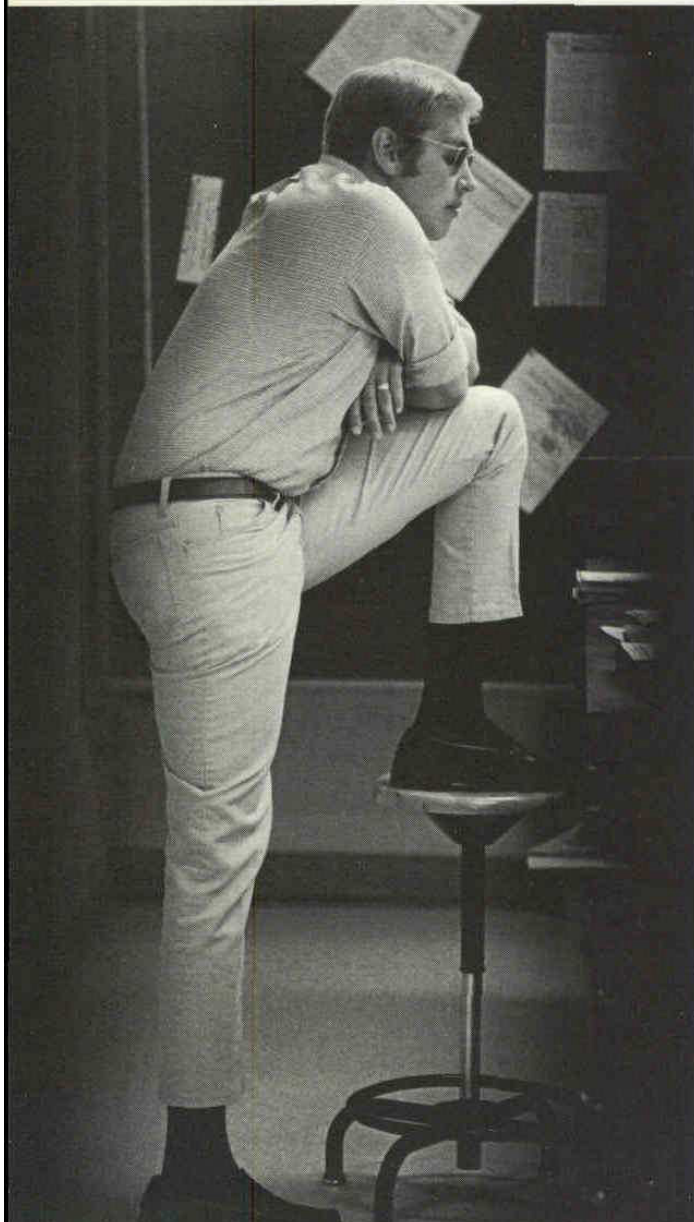
Students planning to enter graduate school for further work in psychology or in growth and development would take Growth and Development 331, 332, 431, 432, 433, and 435, in combination with courses in experimental and other aspects of psychology and possibly other social sciences.

Special programs combining courses from the growth and development concentration and courses from other concentrations within the Col-



lege of Human Biology, or courses from options with allied interests (such as those in the social sciences), can also be arranged for students needing such combinations to enter postgraduate professional programs, or to qualify for specific vocational placement.

Students giving evidence of a high level of competency in dealing with the materials and concepts of the growth and development area can apply to enter the College Honors Program, and receive special guidance for pursuing their training in depth.



### The Concentration in Human Adaptability (CHB)

**Professor:** W. Kaufman (chairman).

**Assistant Professors:** C. Sontag, R. Stevens, R. McRitchie.

**Lecturer:** E. Langlois.

The concentration in human adaptability is concerned with the adaptability and variability of the individual human being, or group of human beings, which arise in response to a stress or pressure. When this response has become stable man is said to have adapted to the specific stress. Knowledge of man's individual and group capabilities to adapt to stress can be systematized and it is this systematization that is the basis for the areas of study pursued in the concentration in human adaptability. The areas of study are of three major categories. The first is concerned with the responses of the living system itself which arise mainly from pressures of the physical and biological environment, *physiology*. The second is concerned with the responses of the living system manifested in the responses of the personality to emotional pressures, *psychology*. The third major area of response to stress is that of man's culture and these responses are studied in *anthropology*.

The student of human adaptability will pursue studies in physiology, psychology, anthropology, and other fields which may contribute to his progress and interests. He may find careers at all levels of government or industry, in laboratories as a research technician or junior administrator, in agencies for welfare or social work, in the sales of scientific instruments or books, or he may prepare for graduate study in medicine, dentistry, the biological sciences, or the health-related sciences and paramedical fields.

The student choosing the concentration in human adaptability is encouraged to join formally the College of Human Biology as soon as he makes a firm decision so that he may take advantage of the personal assistance of an adviser. His selection of courses will vary widely depending on his *individual* talents and interests. The student selecting human adaptability as a



concentration is encouraged to prepare himself for biological study with courses in mathematics, physics and chemistry. However, students who may be interested in the emotional and cultural adaptability of man should not be discouraged for lack of such courses.

Upper division courses which are suitable for inclusion in a program of study in human adaptability may be selected from the following list:

Anthropology 307, Heredity, Environment and Human Population, 3 cr.  
 Anthropology 320, Economic Anthropology, 3 cr.  
 Anthropology 340, Anthropological Perspectives on Population Problems, 3 cr.  
 Anthropology 402, Comparative Social Structures, 3 cr.  
 Biology 303, Genetics, 3 cr.  
 Chemistry 313, Analytical Chemistry, 4 cr.  
 Chemistry 321, Physical Chemistry, 4 cr.  
 Chemistry 330, Biochemistry, 4 cr.  
 Ecosystems Analysis 306, Biophysics, 3 cr.  
 Ecosystems Analysis 350, Meteorology, 3 cr.  
 Ecosystems Analysis 412, Bioenergetics, 3 cr.  
 Ecosystems Analysis 452, Elements of Biometeorology, 3 cr.  
 Environmental Control 332, Fluid Mechanics, 3 cr.  
 Environmental Sciences 302, Principles of Ecology, 3 cr.  
 Growth and Development 331, Infancy and Early Childhood, 3 cr.  
 Growth and Development 332, Middle Childhood and Adolescence, 3 cr.  
 Growth and Development 336, Sex Role Development in Contemporary Societies, 3 cr.  
 Growth and Development 432, Cultural Impacts on Human Development, 3 cr.  
 Growth and Development 433, Adulthood and Later Maturity, 3 cr.  
 Human Adaptability 302, Comparative Physiology, 3-4 cr.  
 Human Adaptability 325, Biological Instrumentation, 3 cr.  
 Human Adaptability 330, Human Growth, Development, and Senescence, 3 cr.  
 Human Adaptability 402, Human Physiology, 4 cr.  
 Human Adaptability 420, Exercise Physiology, 4 cr.

Human Adaptability 430, Environmental Physiology, 4 cr.  
 Nutritional Sciences 302, Nutrition and Culture, 3 cr.  
 Nutritional Sciences 421, Community Nutrition I, 3 cr.  
 Nutritional Sciences 422, Community Nutrition II, 3 cr.  
 Physics 305, Electronic Aids to Measurement, 4 cr.  
 Physics 315, Mechanics, 3 cr.  
 Population Dynamics 310, Introduction to Human Genetics, 3 cr.  
 Population Dynamics 320, Introduction to Population Dynamics, 3 cr.  
 Population Dynamics 342, Human Evolution, 3 cr.  
 Population Dynamics 402, Population Biology, 3 cr.  
 Population Dynamics 410, Principles of Human Ecology, 3 cr.  
 Population Dynamics 421, Problems in Population Regulation, 3 cr.  
 Psychology 335, Psychology of Attitudes and Public Opinion, 3 cr.  
 Psychology 337, Social Behavior Dynamics, 3 cr.  
 Psychology 438, Group Dynamics, 3 cr.  
 Sociology 311, Collective Behavior, 3 cr.  
 Sociology 312, Social Change, 3 cr.  
 Sociology 402, World Populations, 3 cr.  
 Sociology 406, Comparative Social Systems, 3 cr.

#### **The Concentration in Modernization Processes (CCS)**

**Professor:** J. Clifton.

**Associate Professor:** R. Khare (acting chairman).

**Assistant Professors:** M. Greenberg, E. Haney, K. Kangayappan, J. Kolka, R. Langlois, L. Nesberg, C. Pollis, R. Ryali.

**Instructors:** J. Green, H. Kolshus, L. Smith, H. Wallach.

**Lecturer:** J. Macrae.

Modernization is viewed as a series of ongoing processes of social change operating on various sectors of human existence and producing predictable and unpredictable consequences.



These processes are affected by the interaction of multiple factors such as culture, technology, ecology, social organization, and population, and can be observed through various inductive and deductive means. They are conceived to operate on a world-wide basis proceeding with different speeds and following different paths.

Modernization processes are found to resolve as well as to create crises such as social inequality, alienation, and protest movements. These environmental and cultural problems occur on local, national, and international levels. The emphasis is directed to the theoretical and practical aspects of modernization in a complementary manner.

The concentration looks at forms of modernization, employing the following organization and instructional emphasis:

*Community, National, and International Development Studies*

A study of forms, processes, and consequences of planning and execution of developmental programs at community, national, and international levels in terms of peoples and their social, cultural, ecological, ideological, and historical backgrounds.

This focus includes the study of both quantitative and qualitative measures. Development may be based on several independent, intermediate, and dependent variables. The changes may be systematic or nonsystematic, short or long range, planned and unplanned.

*Ideology, Values, and Communication*

A study of the evolution and interaction of ideologies and values. The perspective is the exchange and transaction within and among traditional and modern groups and societies. This includes a comprehension of the various levels and modes of communication as well as the relativity of location and historical circumstance on modernization processes.

*Man, Technology, and Ecology*

A study of man's encounter with the natural

environment through the development and application of technology.

*Man's Alternative Futures*

An inquiry into methods and issues involved in the study and creation of long-range future social environments.

The concentration is oriented towards consequences and problems of modernization as well as their prospective solutions. In accordance with the conceptual and organizational framework of the concentration, the following aspects of modernization are considered germane:

*Poverty and Other Forms of Social Inequality*

An interregional and cross-cultural focus on the nature, causes, and magnitudes of economic, social, cultural, ethnic, and racial deprivations in various peoples and cultures of the world. This includes an examination of how modernization processes are promoted and prevented under conditions of social inequalities, and how the processes themselves affect such conditions. The study of poverty as a form of social inequality receives special emphasis.

*Alienation and Protest Movements*

Discontinuities in expectation and communication at intra-personal and inter-personal levels.

*Ethos and Ethics in Modernization Processes*

An inquiry into the ethical implications of man's quest for knowledge and the moral inferences related to the application of this knowledge.

*Technology and Eco-crises*

The ecological and cultural consequences of technology, viewed as an aspect of modernization.

*Ideological Conflicts and Modernization Strategies*

Patterns and processes of politico-economic variables (totalitarian-democratic, constitutional-parliamentary, capitalistic-socialistic, etc.).

*Social Conflicts*

Intergroup dissension at local, national, and



international levels as exemplified by war, revolution, rebellion, and factionalism.

The student entering the concentration in modernization processes will increase his ultimate capacity to function within various kinds of business and governmental agencies. He will find the concentration a useful preparation for professional schools such as law, public administration, business administration, or social work. He will also find it excellent preparation for work with various private and public agencies engaged in community development both here and abroad. The student can begin his preparation while still an undergraduate by adding a disciplinary option and/or professional collateral to the concentration.

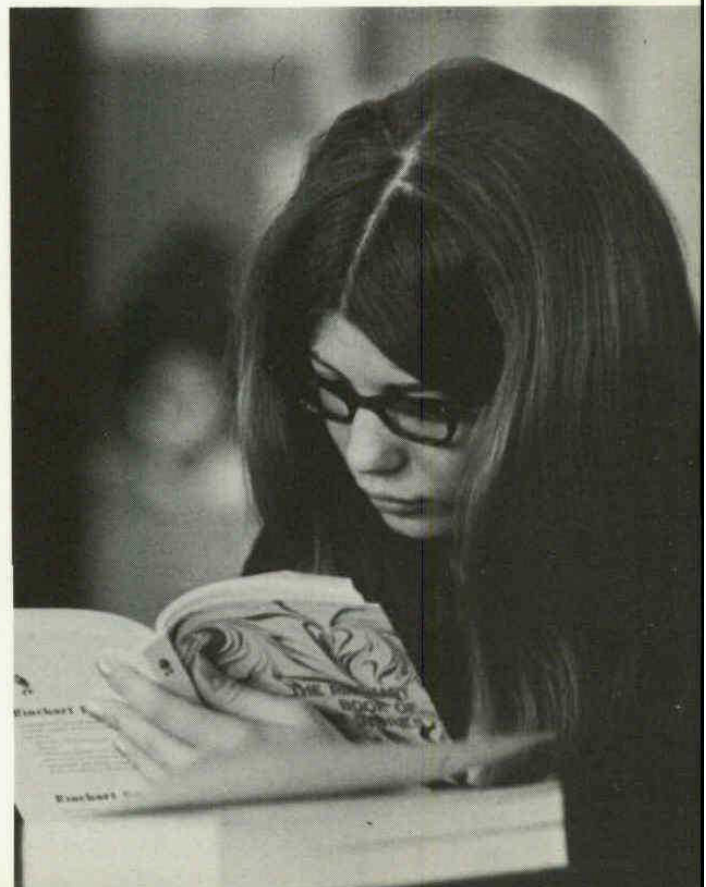
Every student who selects the concentration in modernization processes is strongly advised to take the following core courses to fulfill his minimum concentration requirements of 12 credits, whether operating under the concentration scheme of 30 upper-division credits or under the concentration-option alternative of 36 credits.

- Modernization Processes 360, Concepts and Processes of Modernization
- Modernization Processes 370, Strategies of Modernization
- Modernization Processes 460, Ethos, Ecos, and Ethics of Modernization
- Modernization Processes 470, Senior Seminar in Modernization Processes

All concentration students should be able to accomplish individualization of their programs with the help of their concentration advisers. They will be advised of appropriate concentration-oriented option offerings to meet the upper-division credit requirements, as well as to help them toward their specific goals. The following list, which is only a sample, suggests some relevant courses in options.

- Anthropology 303, Cultural Ecology, 3 cr.
- Anthropology 330, Technological Change and Cultural Patterns, 3 cr.

- Anthropology 402, Comparative Social Structures, 3 cr.
- Economics 404, Economics of Developing Areas, 3 cr.
- Economics 406, Comparative Economic Systems and Institutions, 3 cr.
- Geography 378, Geography of Tension Areas, 3 cr.
- Political Science 304, Comparative Political Systems, 3 cr.
- Political Science 363, Politics of Developing Systems, 3 cr.
- Political Science 402, Political Values and Ideologies, 3 cr.
- Psychology 335, Psychology of Attitudes and Public Opinion, 3 cr.
- Psychology 337, Social Behavior Dynamics, 3 cr.
- Sociology 302, Social Stratification, 3 cr.
- Sociology 303, Theories of Societal Development and Change, 3 cr.
- Sociology 406, Comparative Social Systems, 3 cr.





**The Concentration in Nutritional Sciences\* (CHB)**

**Associate Professors:** D. Deese (acting chairman), A. Doberenz.

**Assistant Professors:** E. McIntosh, V. Zehren.

**Instructor:** D. Randall.

In order that man may cope successfully with a changing environment, an adequate supply of food is a basic necessity. The food supply should be adequate not only in quantity, but in quality and aesthetic value. Educational programs are needed in all communities to ensure that the right kinds of available foods are consumed in the right amounts to secure adequate nutrition for each individual.

This concentration offers two major emphases: community nutrition and nutritional science in research and industry.

*Community Nutrition*

The very existence of widespread malnutrition in the United States, coupled with numerous pleas from federal agencies, international organizations and foundations, attest to the need for well-trained nutrition workers of a new kind, dedicated to community action. This program is intended to provide appropriate training by combining natural and social science courses with the development of skills in communication. This emphasis is appropriate also for preparation of teachers when combined with a collateral in education.

*Nutritional Science in Research and Industry*

Methods for maximum utilization of the world's food resources must be explored, including improved methods of distribution, preservation, greater palatability, and nutritional value, particularly of low-cost foods. This emphasis prepares students to work as technicians or scientists in areas of food or nutrition research in university, government, and industrial laboratories. When combined with appropriate courses in communi-

cations and social sciences, a program may be developed to prepare students for industrial careers in consumer relations, food evaluation, and product promotion. This emphasis can serve to fulfill requirements for entrance to graduate school and to provide a valuable background for professional schools such as medicine, dentistry and pharmacy.

It is recommended that the student who selects the nutritional sciences concentration take computer science and a performing art as tool subjects, although intended candidates for graduate school may be advised to undertake calculus and a foreign language. The student must complete 30 credits in 300- and 400-level courses acceptable for concentration credit. Students in both emphases should include

- Biology 202, Biology of Cells, 4 cr.
- Biology 203, Biology of Organisms, 4 cr.
- Biology 303, Genetics, 3 cr.
- Biology: Microbiology 302, Principles of Microbiology, 4 cr.
- Chemistry 228, Bio-Organic Chemistry, 3 cr., **and**
- Chemistry 229, Bio-Organic Chemistry Laboratory, 1 cr., **or**
- Chemistry 303, Organic Chemistry II, 4 cr.
- Nutritional Sciences 232, Nutritional Significance of Food, 3 cr.
- Nutritional Sciences 302, Nutrition and Culture, 3 cr.
- Nutritional Sciences 328, Principles of Nutritional Biochemistry, 3 cr.
- Nutritional Sciences 329, Nutritional Biochemistry Laboratory, 2 cr.

Students in Community Nutrition are strongly advised to include

- Nutritional Sciences 421, Community Nutrition I, 2 cr.
- Nutritional Sciences 422, Community Nutrition II, 2 cr.

Students emphasizing Nutritional Science in Research and Industry are advised to take

- Biology: Botany 240, Plants and Civilization, 2 cr.

\*This concentration will be offered when it is approved by the Coordinating Council for Higher Education.



Chemistry-Physics 112, Chemistry-Physics (212 for graduate school candidates), 5 cr.  
 Nutritional Sciences 303, Food Science, 4 cr.  
 Nutritional Sciences 414, Nutrient Analysis, 4 cr.  
 Nutritional Sciences 485-486, Advanced Human Nutrition, 3, 3 cr.

For distribution requirements, students in this concentration should select relevant courses in sociology, economics, psychology, political science, or anthropology in the social sciences and history and communication arts and sciences in the humanities. Appropriate courses include

Anthropology 102, Environmental Anthropology, 3 cr.  
 Anthropology 203, Understanding Changing Cultures, 3 cr.  
 Communication-Action 266, Theory and Practice of Group Discussion, 3 cr.  
 Economics 102, Economics and the Modern World, 3 cr.  
 Economics 202, Macro Economic Analysis, 3 cr.  
 History 202, Rise of the International Economy, 1400-Present, 3 cr.  
 History 206, History of the United States from 1865-Present, 3 cr.  
 Political Science 202, State Government and Public Policy, 3 cr.  
 Political Science 203, Politics of Developing Systems, 3 cr.  
 Political Science 213, Urban Politics, 3 cr.  
 Psychology 102, The Behavior and Experiences of Man, 3 cr.  
 Psychology 202, Introduction to Social Psychology, 3 cr.  
 Sociology 102, The City, 3 cr.  
 Sociology 202, Introduction to Sociological Analysis, 3 cr.  
 Sociology 203, Minorities, 3 cr.  
 Sociology 302, Social Stratification, 3 cr.

#### **The Concentration in Population Dynamics (CHB)**

**Professor:** H. Guilford.

**Assistant Professors:** C. Ihrke, T. Mowbray, N. Huber.

**Instructor:** J. Watson.

**Lecturers:** N. Taylor (chairman), D. Sager.

Perhaps the greatest problem facing mankind today is the rapidly increasing population, popularly referred to as the "population explosion." Although the problems of population in Asian countries and elsewhere in the world are obvious, there is less awareness of these problems in areas of the United States, and, if unchecked, these problems might extend throughout this country. The rapid population growth contributes to, or causes, many problems, including pollution, crowding, mental and physical stress, and malnutrition. There is a need to understand the bases of the population growth, its relation to these problems, and to develop generally effective solutions. Teamwork by individuals trained in biology and in the behavioral sciences is essential. The purpose of this concentration is to prepare individuals who can work toward the understanding and solution of these problems.

Students in this concentration may prepare for any of the following occupations: international, federal, state, and community agencies and foundations concerned with population growth, its regulation, and its problems; industry (with particular reference to predicting consumer needs and demands and the labor market); graduate study in the areas of demography, public health, population biology, reproductive physiology, population regulation, and related problems. Taken with a collateral in education, this concentration prepares students for a career in teaching. Similarly, with appropriate selection of courses, this concentration can fulfill the requirements for entrance to professional schools such as medicine and dentistry.

Normally, individualization of programs toward specific career goals takes place in the junior and senior years by careful selection of courses to meet the 30 credits of the concentration. Concentration credit can be elected from such courses as the following



*Courses and Credits*

- Anthropology 303, Cultural Ecology, 3 cr.
- Anthropology 307, Heredity, Environment and Human Population, 3 cr.
- Anthropology 340, Anthropological Perspectives on Population Problems, 3 cr.
- Biology 303, Genetics, 3 cr.
- Environmental Sciences 302, Principles of Ecology, 3 cr.
- Human Adaptability 402, Human Physiology, 4 cr.
- Nutritional Sciences 302, Nutrition and Culture, 3 cr.
- Population Dynamics 310, Introduction to Human Genetics, 3 cr.
- Population Dynamics 320, Introduction to Population Dynamics, 3 cr.
- Population Dynamics 342, Human Evolution, 3 cr.
- Population Dynamics 402, Population Biology, 3 cr.
- Population Dynamics 410, Principles of Human Ecology, 3 cr.
- Population Dynamics 421, Problems of Population Regulation, 3 cr.
- Population Dynamics 450, Current Topics in Population Dynamics, 2 cr.
- Population Dynamics 460, Principles of Demography, 3 cr.
- Psychology 337, *Social Behavior Dynamics*, 3 cr.
- Sociology 403, Demographic Characteristics of the Upper Great Lakes Region, 3 cr.

Additional 300- and 400-level courses may be selected for concentration credit from a variety of available courses in consultation with a concentration adviser.

**The Concentration in Regional Analysis (CCS)**

**Professor:** G. Petrie.

**Associate Professors:** D. Gandre (acting chairman), J. Murray.

**Assistant Professors:** K. Ebisch, L. Gorder, W. Kuepper, C. Mason, I. Shariff.

**Instructors:** J. Berry, E. James, W. Laatsch.

**Lecturers:** J. Hering, J. Rorabacher, W. Smith, A. Zander.

Regional analysis focuses the study of the community sciences on the spatial relationships between man and his environment, including his fellow man. The effective application of individual capacities and use of material resources depends upon man's understanding of their regional distribution and interactions. The analysis of a problem is based upon the economic, geographic, political, and social characteristics of the region studied.

The student enrolled in regional analysis develops his ability to work in business organizations or in planning and other governmental agencies. The program offered in this concentration prepares him for more advanced professional studies in business administration, public administration, social work, and law, as well as in regional planning. The student can supplement his concentration by adding a disciplinary option and/or professional collateral to the concentration.

A student in this concentration must earn at least 30 credits at the 300-400 level in courses within or related to the concentration in regional analysis. If the student chooses to take the *concentration* together with an option, only 12 credits of 300-400 level work within the concentration are required. In either case the student must take Regional Analysis 320, Introduction to Regional Analysis, preferably during his junior year. Additional courses to meet the 30 credit or 12 credit requirement will be suggested by the academic adviser. Examples of such regionally oriented courses from options in the social sciences include

- Anthropology 302, Peoples and Cultures of the Northern Great Lakes Region, 3 cr.
- Economics 401, Regional Economic Analysis, 3 cr.
- Geography 362, Geography of the Great Lakes Region of Africa, 3 cr.

In addition, courses in other options that relate to the concentration in regional analysis may be taken. Examples would include



Earth Science 470, The Glacial Environment and Chronology, 3 cr.

History 312, History of the Great Lakes Region, 1600-Present, 3 cr.

### The Concentration in Urban Analysis (CCS)

**Associate Professor:** N. Pollis.

**Assistant Professors:** F. Armstrong (acting chairman), R. Jiobu.

**Instructors:** J. Aaronson, J. Gould, P. Johnsen, R. Klimek, E. Knowles, V. Kopitzke, L. Lackey, W. Wagner, C. Yarbrough.

Both in the United States and abroad, contemporary ecological problems have reached crisis proportions. As a result, the academic plan of this University focuses on the student's application of his learning experiences toward the amelioration of some pressing problem in his environment. Of these problems, few are more compelling than what has become known popularly as "the problem of the cities." Community life in the 20th Century has come to involve largely urban relationships; urban analysis, therefore, becomes a major key to effective participation in contemporary life.

This concentration is concerned first and foremost with the concept of community—man's relationship with his fellow man. At this time, there is no more pressing problem for one seeking community than that posed by the imperatives of urban living. To achieve the goal of social well-being, it will be necessary first to solve the problems of the cities. Those persons working in this concentration apply their talents and insights, therefore, in this order: first, to man's continuing search for social well-being through his attempts to achieve community; second, to the urgent problems of contemporary urban living; and third, to the development of an urbanology—a science of cities.

The concentration in urban analysis is not organized as a preprofessional program for training persons as city planners or social workers, although it is excellent preparation for persons interested in those fields, as well as law,

journalism, teaching, public service, and the like. But it is felt that whatever profession the student may choose, he almost certainly will also be a member of an urban community. The insights and understanding he generates during his work in urban analysis, when combined with the sense of commitment and personal involvement which this institution seeks to foster, will produce an invaluable resource for the community in which the student lives in future years.

The urban analysis concentration centers on a 12-credit sequence of core courses—one per semester for each of the student's upper division years—which are required of every student in the concentration. While the student is required to take one such course in each of his final four semesters, he might well have the option of choosing among several courses to be offered in any given semester.

The core courses in the urban analysis concentration are as follows.

Urban Analysis 340, Introduction to Urban Analysis, 3 cr.

Urban Analysis 350, The City as Habitat, 3 cr.

Urban Analysis 440, Social Dynamics of Urban Life, 3 cr.

Urban Analysis 450, Senior Seminar, 3 cr.

The student taking an option in relation to the concentration uses the 12 credits of core courses as the portion of his work in the concentration but outside the option he has chosen. Such option work—24 credits at the upper division level which are related to the concentration—are selected from among available courses with the approval of his concentration adviser.

The student not pursuing the option takes, in addition to his 12 credits of core courses, 18 credits of work selected from among the approved option courses related to urban analysis with the approval of his concentration adviser.

The concentration seeks to tailor each student's program to fit his particular educational objectives and rejects the idea that all students will



have identical programs. The following list, then, represents no more than examples of courses which might fit in many possible programs within the concentration. The concentration should in no way be considered to be limited to such courses.

Anthropology 304, Family, Kin, and Community, 3 cr.

Economics 306, Public Finance and Fiscal Policy, 3 cr.

Geography 345, Historical Geography of Urban Places, 3 cr.

Geography 341, Urban Geography, 3 cr.

Geography 342, The City, 3 cr.

Political Science 302, Community Political Behavior, 3 cr.

Political Science 350, Political Conflict and Urban Policy, 3 cr.

Political Science 450, Political Change, 3 cr.  
Psychology 337, Social Behavior Dynamics, 3 cr.  
Sociology 304, 305, Processes of Deviant Behavior, 3, 3 cr.

Sociology 309, The City, 3 cr.

Sociology 405, Rural-Urban Interaction, 3 cr.

Urban Analysis 496-499, Directed Readings in Urban Analysis, 3 cr.

Note: The student should be advised that Economics 202 and 203, Political Science 213, and Psychology 202 are recommended prerequisites for some upper division work in those fields and he should plan to take such courses by the end of his sophomore year, if possible. In any case, the student interested in pursuing an urban analysis concentration should see a concentration adviser as soon as possible so that he can make informed choices in constituting his schedule.





# The Options

## THE OPTIONS

The student may, in addition to his concentration, select an option. A student who selects a concentration-option combination normally is required to take 36 credits at the 300 and 400 levels, 24 of which relate the option to the concentration.

This section describes the option programs and outlines the basic requirements for each. The options are listed alphabetically.

### Option in Anthropology

**Professor:** J. Clifton. **Associate Professor:** R. Khare. **Assistant Professors:** C. Mason, R. Ryali. **Instructors:** J. Green, R. Klimek.

Anthropology involves the systematic study of man's place in the natural world and includes his evolutionary history and development, the organization of basic social life, his cultural patterns, and symbolic systems. Anthropology shows a particular concern for comparisons between differing societies and, in particular, those universals of culture that exist in the midst of wide variations in the economic, political, and social ways of life. Courses in anthropology concentrate within the two fields of cultural anthropology and physical anthropology.

The student who chooses the anthropology option will find that the skills and capacities gained through such a program can be applied in a wide variety of vocations and professions; government service at the local, state, and national levels; work with private and public agencies both here and abroad; and education.

With the approval of his faculty adviser and the academic dean, a student may select 24 credits of 300- and 400-level anthropology courses, relating them to one of the concentrations. This constitutes an anthropology option. The following listing arranges the principal courses in terms of two fields within the discipline of anthropology. See also the courses listed under the several concentrations and the complete list of

anthropology courses presented in Chapter 4.

Anthropology 210, Introduction to Cultural Analysis, is a recommended preparatory course for such upper-division offerings in Anthropology as 302, 303, 304, 310, 320, 330, 340, 402, and 496-499.

### *Areas, Courses, and Credits*

#### *Cultural Anthropology*

Anthropology 302, Peoples and Cultures of the Northern Great Lakes Region, 3 cr.

Anthropology 303, Cultural Ecology, 3 cr.

Anthropology 304, Family, Kin, and Community, 3 cr.

Anthropology 310, Culture and Personality, 3 cr.

Anthropology 402, Comparative Social Structures, 3 cr.

Anthropology 496-499, Contemporary Problems in Anthropology, 1-4 cr.

#### *Physical Anthropology*

Anthropology 307, Heredity, Environment, and Human Population, 3 cr.

Anthropology 403, Race and Genetic Variation of Man, 3 cr.

Anthropology 496-499, Contemporary Problems in Anthropology, 1-4 cr.

Another aspect of anthropology, linguistics, is largely appropriate for the graduate level. For those planning graduate work in linguistics, introductory undergraduate courses are offered in the option in literature and language.

### Option in Biology

**Professors:** H. Guilford, R. Hartley, W. Kaufman.

**Associate Professors:** A. Doberenz, A. Goldsby,

K. White. **Assistant Professors:** R. Cook, H.

Harris, C. Ihrke, W. Johnson, J. Maki, E. McIntosh,

M. Morgan, T. Mowbray, V. Nair, P. Sager, C.

Sontag, T. Thompson, V. Zehren. **Instructor:**

J. Watson. **Lecturers:** E. Langlois, M. Ray,

N. Taylor.

The option in biology concerns itself with the student whose interests focus on the biosphere.



The study of microorganisms, of plant and animal structure, function and behavior, and resources is essential to the biological understanding of man and *his environment*. A variety of appropriate biology courses can be combined with concentrations in a concentration-option. The concentration-option can focus on the human aspects or the environmental aspects of biology. In this sense option courses play a significant role in the educational programs of the College of Human Biology and the College of Environmental Sciences.

The student selecting an option in biology together with his concentration must take Biology 202, Biology of Cells, and Biology 203, Biology of Organisms. In addition, he takes 24 credits of biology courses at the 300-400 levels which relate to the concentration. For example, a student may combine a biology option with the population dynamics concentration if he is interested in the biological aspects of populations and in their regulation. Those interested in biological adaptation to environmental stresses or in the biological aspects of growth and development, food, or ecology, can combine their biology options with the concentrations in human adaptability, growth and development, nutritional sciences, or ecosystems analysis, respectively. A student, with the assistance of his faculty adviser, might combine applicable biology courses to concentrations other than those above in order to formulate a program. Education majors may combine appropriate concentration-option courses and education courses in a program which leads to certification as a biology teacher at the secondary school level.

Courses listed below may be used as option courses\*

Biology 303, Principles of Genetics, 3 cr.  
 Botany 320, Field Botany, 3 cr.  
 Botany 350, Plant Physiology, 4 cr.  
 Botany 410, *Dendrology*, 3 cr.

\*Descriptions of courses in botany, entomology, microbiology, and zoology are listed under biology in Chapter 4.

Entomology 302, Principles of Entomology, 3 cr.  
 Entomology 310, Taxonomy of Insects, 3 cr.  
 Microbiology 302, Principles of Microbiology, 4 cr.  
 Microbiology 303, Advanced Microbiology, 3 cr.  
 Microbiology 306, Mycology, 3 cr.  
 Microbiology 310, Microbial Physiology, 3 cr.  
 Microbiology 320, Microbial Genetics, 3 cr.  
 Microbiology 403, Pathogenic Microorganisms, 3 cr.  
 Microbiology 408, Forest and Plant Pathology, 3 cr.  
 Zoology 302, Vertebrate Zoology, 3 cr.  
 Zoology 303, Comparative Anatomy of Vertebrates, 4 cr.  
 Zoology 305, Animal Behavior, 3 cr.  
 Zoology 310, Embryology, 4 cr.  
 Zoology 311, Histology, 3 cr.  
 Zoology 320, Field Zoology, 3 cr.  
 Zoology 420, Principles of Parasitology, 3 cr.  
 Ecosystems Analysis 310, Plant Ecology, 3 cr.  
 Ecosystems Analysis 312, Productivity of the Ecosystem, 3 cr.  
 Ecosystems Analysis 314, Plant Taxonomy, 3 cr.  
 Ecosystems Analysis 316, Principles of Plant Distribution, 3 cr.  
 Ecosystems Analysis 318, Systematics and Taxonomy, 3 cr.  
 Ecosystems Analysis 403, General Limnology, 3 cr.  
 Ecosystems Analysis 452, *Elements of Biometeorology*, 3 cr.  
 Environmental Control 462, Landscape Ecology, 3 cr.  
 Environmental Sciences 302, Principles of Ecology, 3 cr.  
 Human Adaptability 302, Comparative Physiology, 3 cr.  
 Human Adaptability 402, Human Physiology, 3 cr.  
 Human Adaptability 420, Exercise Physiology, 4 cr.  
 Human Adaptability 430, Environmental Physiology, 4 cr.  
 Population Dynamics 342, Human Evolution, 3 cr.  
 Population Dynamics 402, Population Biology, 3 cr.  
 Population Dynamics 410, Principles of Human Ecology, 3 cr.



### Option in Business Administration

**Professors:** G. Petrie, R. Posey. **Assistant Professors:** K. Zehms, D. Ward. **Instructor:** J. Lobdell. **Lecturers:** F. Waedt, A. Zander. **Visiting Associate Professor:** H. Jadwani.

The student who wishes a professional focus in business administration may elect the option in business administration, earning the degree of Bachelor of Science (Administration). It is recommended that the student take the following two-course sequence as a sophomore or junior in preparation for his upper division work in business administration.

Organization and Operations 202, Business and Its Environment  
 Organization and Operations 203, Government and Business

The student in this option next chooses six credits each in any of four of the following administration fields: distribution, finance, labor relations, organization and operations, and quantitative methods. It is recommended, but not required, that he elect six additional credits in whichever of the four fields is his principal interest. Courses particularly relevant to this option are:

#### *Courses and Credits\**

Distribution 302, Principles of Distribution, 3 cr.  
 Distribution 310, Transportation and Purchasing, 3 cr.  
 Distribution 402, Retailing and Wholesaling, 3 cr.  
 Distribution 403, Principles of Advertising, 3 cr.  
 Distribution 404, Marketing Research, 3 cr.  
 Distribution 407, International Distribution and Marketing, 3 cr.  
 Distribution 410, Applied Motivational Research, 3 cr.  
 Finance 302, Money and Banking, 3 cr.  
 Finance 303, Corporation Finance, 3 cr.  
 Finance 305, Principles of Risk Management, 3 cr.

\*Course descriptions are listed under Administration in Chapter 4.

Finance 402, Problems of Investment, 3 cr.  
 Finance 403, Financial Planning and Control, 3 cr.  
 Finance 405, International Finance, 3 cr.  
 Labor Relations 302, Personnel Administration in Business, 3 cr.  
 Labor Relations 310, Labor Unions in America, 3 cr.  
 Labor Relations 312, Collective Bargaining, 3 cr.  
 Labor Relations 402, Problems in Labor Relations, 3 cr.  
 Labor Relations 403, Labor Legislation and Administration, 3 cr.  
 Labor Relations 412, Cases in Collective Bargaining, 3 cr.  
 Labor Relations 420, International Labor Relations, 3 cr.  
 Organization and Operations 302, Principles of Organization and Operation, 3 cr.  
 Organization and Operations 304, Industrial Management, 3 cr.  
 Organization and Operations 310, Small Business Management in the Northern Great Lakes Region, 3 cr.  
 Organization and Operations 402, Planning, Control, and Routinization, 3 cr.  
 Quantitative Methods 204, Introductory Accounting, 3 cr.  
 Quantitative Methods 205, Intermediate Accounting, 3 cr.  
 Quantitative Methods 206, Accounting for Administrators, 3 cr.  
 Quantitative Methods 230, Quantitative Methods in Administration, 3 cr.  
 Quantitative Methods 302, Cost Accounting, 3 cr.  
 Quantitative Methods 303, 304, Financial Accounting, Theory, and Practice I, II, 3, 3 cr.  
 Quantitative Methods 315, 316, Business Law I, II, 3, 3 cr.  
 Quantitative Methods 403, 404, Auditing Standards and Procedures I, II, 3, 3 cr.  
 Quantitative Methods 410, Income Tax Theory and Practice, 3 cr.

The student in business administration is often well advised to select at least 24 credits in economics as a second option. Courses should be planned with the student's adviser so that he may build a program relevant to his field of



business specialization. Courses in related areas may be included where appropriate.

A required capstone course sequence in the business administration option is Organization and Operations 491-492, Problems of Business Management I, II, which should be taken in the student's senior year.

The student who intends to prepare for the Certified Public Accountant examination is urged to take all the courses in the area of Quantitative Methods except 230.

#### Option in Chemistry

**Associate Professors:** D. Deese, W. Gulther.  
**Assistant Professors:** J. Norman, S. Randall, W. Rlemen, R. Starkey, T. Van Koeving, J. Wlersma, T. Abeles, C. Weber. **Instructors:** H. Lewis, L. Purchatzke, D. Randall, C. Richards.

Chemistry is fundamental to the study of the biophysical environment, the dynamics of ecosystems, and the *metabolic processes* of living organisms. It is a key discipline for understanding the processes that have led to environmental pollution and for developing remedies for restoring and maintaining the quality of the environment.

The student electing an option in chemistry must take the following courses.

Chemistry-Physics 110, 211, 212, Chemistry-Physics  
Chemistry 302, 303, 304, 305, Organic Chemistry I, II, Lab I, II  
Chemistry 313, Analytical Chemistry

In addition, the student with the assistance of his faculty adviser must select a minimum of 12 credits from the following or closely related courses which relate the option to the concentration.

#### Courses and Credits

Chemistry 315, Nuclear and Radiochemistry, 4 cr.  
Chemistry 321, Physical Chemistry, 3 cr.

Chemistry 410, Inorganic Chemistry, 4 cr.  
Chemistry 413, Instrumental Analysis, 4 cr.  
Chemistry-Physics 320, Thermodynamics and Kinetic Theory, 3 cr.  
Ecosystems Analysis 303, Electromagnetic Radiation, 4 cr.  
Ecosystems Analysis 306, Biophysics, 3 cr.  
Environmental Control 424, Environmental Biochemistry, 3 cr.  
Environmental Control 426, Soil Chemistry, 4 cr.  
Environmental Control 434, Water Chemistry, 4 cr.  
Environmental Control 436, Water Pollution, 4 cr.  
Environmental Control 453, Air Chemistry, 4 cr.

The student desiring an option in chemistry in its applications to human biology may elect courses such as the following:

Biology: Microbiology 303, Advanced Microbiology, 3 cr.  
Chemistry 330, Biochemistry, 4 cr.  
Chemistry 422, Protein Chemistry, 3 cr.  
Nutritional Sciences 485, 486, Advanced Human Nutrition, 3 cr. each

#### Option in Communication Sciences

The communication sciences option is closely interwoven with the concentrations in the College of Creative Communication: communication-action, especially in its expression and influence aspect, and analysis-synthesis. In fact, communication sciences courses are grouped in these two categories. Students may elect 24 credits at the junior and senior level from such courses and supporting courses within or outside the College of Creative Communication to fulfill the requirements of the option in communication sciences.

#### Option in Earth Science

**Professor:** F. Byrne. **Associate Professor:** T. McIntosh. **Assistant Professors:** A. Bedrosian, J. Huddleston, J. Pezzetta, L. Weis. **Instructor:** J. Moran.

The option in earth science offers the student a basic program that will develop for him a detailed understanding of his physical environ-



ment. By directed expansion into other disciplines, the option provides the student with the fundamentals required for graduate studies leading to professional qualification in theoretical geology, engineering geology, hydrogeology, economic geology, marine geology-oceanography, and paleobiology.

The earth science option also provides basic courses for students interested in pursuing career goals in soil science ecology, conservation, agriculture, teaching earth science in secondary schools, urban analysis, and regional analysis.

In addition to the courses listed below, there are a number of courses related to the earth sciences, especially in chemistry, physics, and geography. Faculty advisers will develop with the student the educational program most useful to him in this and related options, as well as advise him of career opportunities.

*Areas, Courses, and Credits*

*General*

Earth Science 202, The Earth's Physical Environment, 4 cr.





Earth Science 302, The Geologic Evolution of the Earth, 4 cr.

Earth Science 350, Field Geology, 4 cr.

Ecosystems Analysis 141, Elementary Astronomy, 3 cr.

Environmental Sciences 303, Conservation of Natural Resources, 3 cr.

*Soils*

Ecosystems Analysis 420, Soil Classification and Geography, 3 cr.

Environmental Control 320, The Soil Environment, 3 or 4 cr.

*Water*

Ecosystems Analysis 331, Introduction to Oceanography, 3 cr.

Environmental Control 330, Surface and Ground Water, 3 cr.

Environmental Control 432, Hydrology, 3 cr.

Environmental Control 436, Water Pollution, 4 cr.

*Minerals and Rocks*

Earth Science 340, Minerals, Rocks, and Mineral Resources, 3 cr.

Earth Science 441, Earth Resources I: Minerals, 4 cr.

Earth Science 442, Earth Resources II: Rocks, 4 cr.

*Structure and Evolution*

Earth Science 310, Paleobiology, 4 cr.

Earth Science 360, Structure of the Earth's Crust, 4 cr.

Earth Science 470, The Glacial Environment and Chronology, 3 cr.

**Option in Economics**

**Associate Professor:** J. Murray. **Assistant Professors:** E. Haney, K. Kangayappan, I. Sharlff.

**Instructors:** J. Berry, H. Kolshus, V. Koplitzke.

Economics involves the systematic study of the use of resources and the processes involved in production, distribution, and consumption of goods and services in the American and other economic systems. Undergraduate work in

economics involves analysis of how the economy has developed, how it is organized, and how it functions. It involves analysis of the components of the economy such as households, businesses, and governments, as well as the pricing, development, and use of resources, and regional and community development.

Undergraduate education in economics is oriented toward the analysis of contemporary problems and the determination of alternative economic approaches toward resolving those problems. It prepares students for active roles in business and industry, in governmental agencies, in various educational units and in a host of community organizations. It is also a very appropriate undergraduate preparation for entry into law schools. With the approval of his faculty adviser and the dean, a student may select 24 credits of 300- and 400-level economics courses, relating them to one of the concentrations. This constitutes an economics option.

All students are advised to take either or both Economics 202, Macro Economic Analysis, and Economics 203, Micro Economic Analysis, sometime during their first two years before attempting upper division courses in economics. Either or both of these two courses are recommended for students who wish to complete their distribution requirement by taking economics courses. Students who are pursuing one of the concentrations in CCS, or options in business or public administration in the School of Professional Studies, will be interested in a wide range of courses in economics. The following courses are suggested as those which would be most applicable to each of the respective undergraduate programs. In addition to these courses, independent study can be arranged to suit the particular needs of students in any concentration.

*Areas and Courses*

*Regional Analysis*

Economics 304, Contemporary Labor Markets, 3 cr.

Economics 305, Natural Resources Economic Policy, 3 cr.



- Economics 306, Public Finance and Fiscal Policy, 3 cr.
- Economics 309, Introduction to Quantitative Economics, 3 cr.
- Economics 401, Regional Economic Analysis, 3 cr.
- Economics 402, Resource Economic Analysis, 3 cr.
- Economics 403, International Trade, 3 cr.
- Economics 404, Economics of Developing Areas, 3 cr.
- Economics 406, Comparative Economic Systems, 3 cr.

*Modernization Processes*

- Economics 305, Natural Resources Economic Policy, 3 cr.
- Economics 307, Sources of Contemporary Economics Concepts, 3 cr.
- Economics 308, Business Cycles, 3 cr.
- Economics 309, Introduction to Quantitative Economics, 3 cr.
- Economics 402, Resource Economics Analysis, 3 cr.
- Economics 404, Economics of Developing Areas, 3 cr.
- Economics 406, Comparative Economic Systems, 3 cr.

*Urban Analysis*

- Economics 304, Contemporary Labor Markets, 3 cr.
- Economics 306, Public Finance and Fiscal Policy, 3 cr.
- Economics 308, Business Cycles, 3 cr.

*Business and Public Administration*

- Economics 230, Money and Banking, 3 cr.
- Economics 303, Money, Income, and Prices, 3 cr.
- Economics 304, Contemporary Labor Markets, 3 cr.
- Economics 306, Public Finance and Fiscal Policy, 3 cr.
- Economics 308, Business Cycles, 3 cr.
- Economics 403, International Trade, 3 cr.
- Economics 405, International Finance, 3 cr.

**Option in Geography**

**Associate Professor:** D. Gandre. **Assistant Professors:** K. Eblsch, L. Gorder, W. Kuepper. **Instructors:** W. Laatsch, W. Wagner. **Lecturers:** J. Herning, J. Rorabacher.

Geography is concerned with the systematic study of the location, variations, and inter-relations of the natural and cultural features of the earth. Such study can be applied to the identification and solution of contemporary problems, inasmuch as the problems of man's life in communities are strongly influenced by the particular features of geographic location. Students choosing a geography option are able to study spatial variations in terms of particular topics, or to consider a number of physical and human phenomena within a particular region or regions.

Many careers are open to those who choose the geography option: business; government service at the local, state, and national levels; work with private and public agencies; and education.

With the approval of his faculty adviser and the dean, a student may select 24 credits of 300- and 400-level geography courses, relating them to one of the concentrations. This constitutes a geography option. The following listing arranges the principal courses in terms of areas of interest within the discipline of geography. See also the courses listed under the several concentrations and the complete list of geography courses.

*Areas, Courses, and Credits*

*Human Geography*

- Geography 202, Introduction to Cultural Geography, 3 cr.
- Geography 215, Economic Geography, 3 cr.
- Geography 316, Geography of Transportation and Industrial Location, 3 cr.
- Geography 341, Urban Geography, 3 cr.
- Geography 342, The City, 3 cr.
- Geography 345, Historical Geography of Urban Places, 3 cr.



*Physical Geography*

Geography 223, *Man and the Ocean of Air*, 4 cr.  
 Geography 320, *Landform Geography: Topics and Regions*, 3 cr.  
 Geography 325, *Regional Climatology*, 3 cr.  
 Selected courses in Earth Science

*Regional Geography*

Geography 361, *Geography of Africa*, 3 cr.  
 Geography 362, *Geography of the Great Lakes Region of Africa*, 3 cr.  
 Geography 371, *Geography of the United States and Canada*, 3 cr.  
 Geography 372, *Geography of the Great Lakes Regions of North America*, 3 cr.  
 Geography 376, *Geography of Developing Areas*, 3 cr.  
 Geography 377, *Geography of Northern Lands*, 3 cr.  
 Geography 378, *Geography of Tension Areas*, 3 cr.

*Research Techniques and Methodology*

Geography 350, *Maps and Air Photos*, 3 cr.  
 Geography 351, *Elements of Map Making*, 3 cr.  
 Geography 353, *Air Photo Interpretation and Use*, 3 cr.  
 Geography 355, *Introduction to Quantitative Methods of Spatial Analysis*, 3 cr.  
 Geography 296, 297, 298, 299, *Readings and Research*, 1-4 cr.  
 Geography 496, 497, 498, 499, *Contemporary Problems in Geography*, 1-4 cr.

**Option in History**

**Professor:** S. Williams. **Assistant Professors:** P. Abrahams, N. Gaworek, J. Ivanoff, J. McHale.  
**Instructors:** D. Galaty, R. Johnson, C. Krog, B. Mugane.

The history option involves a consideration of important historical dimensions of human experience and expression. Courses in this option focus on the areas of cultural, economic, political, scientific and social history.

Students choosing the history option will find the field a particularly useful preparation for

professional school in such fields as law, business, social work, education, and library science.

With approval of his faculty adviser and the dean, a student may combine any 24 credits of 300- and 400-level history courses and related courses in other fields into a history option.

**Option in Literature and Language**

**Professors:** E. Havens, C. Nelson. **Associate Professors:** C. Crandall, T. Daniels, A. Matulls, L. Witherell. **Assistant Professors:** F. Clements, P. Cooley, H. Gerend, J. Gerend, W. Herrscher, R. Kersten, L. Locksmith, D. Moews, C. Richey, L. Rudolph, R. Schlueter, M. Thron. **Instructors:** J. Ave'Lallemant, J. Davis, K. Fleurant, P. Hollingsworth, D. Hrubesky, M. Kaarsberg, P. Kimmel, D. Larmouth, M. Murphy, S. Oredson, E. Pence, B. Von Hoffmann, J. Wahl, D. Webb.  
**Lecturers:** S. Hieber, M. Martins.

Literature and language involves a consideration of important aspects of culture, stressing unique features as well as general trends. There is considerable overlapping between *literature and language* both in concept and within the courses offered in these fields. On a broader plane, there is considerable connection between literature and the fields of philosophy, history, and the behavioral sciences.

Literature and language are areas of major importance for teacher certification. In addition, the skills and capacities gained through a program in one or more of these areas can be applied in a variety of vocations and professions in business, government service, and journalism. They are also appropriate gateways to certain areas of graduate work.

A student may select 24 credits at the 300 and 400 levels from any of the appropriate categories or specialize in one or two. A student desiring teacher certification in English would combine English-American literature and creative use of



English. A student desiring teacher certification in a foreign language would combine literature in that language and creative use of that language. In any event, a student must relate his option to one of the concentrations. In doing so he is encouraged to seek the assistance of an option adviser.

The literature and language curriculum is built on the "umbrella course" concept. That means simply that the faculty, in consultation with the students, determines the specific content of the courses in any given semester. For example, a course titled English 334, Literary Isms, may be English Romanticism one semester, and the next semester may be English Victorianism. The same applies to 300- and 400-level courses in the literature of other languages. An abbreviated description of the course will appear in the *Timetable* and also on the student's transcript; a student is allowed, therefore, to take a course with the same number more than once, as long as the content of the particular courses differs.

#### Option in Mathematics

**Professor:** D. Moore. **Associate Professor:** D. Jowett. **Assistant Professors:** J. Barger, D. Girard, H. Iyengar, K. Lee, A. Loomer, E. Robkin, N. Stahl, R. Wenger. **Instructors:** L. Espenscheid, R. Grosnick, D. Herrick, G. Keepers, B. Singh, R. Simons. **Lecturers:** L. Oswald, M. Regan. **Visiting Professor:** G. Spencer.

The mathematics option (24 credits at the 300- and 400-levels) is most readily available to the student who has elected to specialize in ecological modeling within the ecosystems analysis concentration. He may already have programmed 18 credits in mathematics offerings at the 300-400 level. Thus only six additional credits in mathematics applicable to systems ecology are necessary to qualify for the concentration-option.

Students in other concentrations may also wish to elect the mathematics option to prepare for graduate study. For example, the environmental control concentration can be strengthened by courses in advanced calculus, differential

equations (both ordinary and partial), and computer science, as well as more specialized offerings such as Heaviside calculus. Alternatively, various concentrations can be combined with the mathematics option to enable the student to gain additional mastery of concepts and techniques in probability, statistics, analysis, and computer science. Finally, because mathematics is an important form of communication, this option can be meaningfully combined with the concentrations in the College of Creative Communication.

The student electing an option in mathematics must take Mathematics 202, 203, and 211, Calculus and Analytic Geometry I, II, and III, and also should include Mathematics 250, Computer Science I. The 24 credits of 300- and 400-level courses that relate the option to the concentration should include the following.

#### *Courses and Credits*

Mathematics 308, Differential Equations and Matrix Algebra, 5 cr.  
Mathematics 311, Advanced Calculus, 3 cr.  
Mathematics 321, Linear Algebra I, 3 cr.  
Mathematics 322, Linear Algebra II, 3 cr.

Additional courses are listed elsewhere in the catalog and should be selected with the assistance of the student's adviser.

For the student in the College of Community Sciences electing the mathematics option, the following are also recommended:

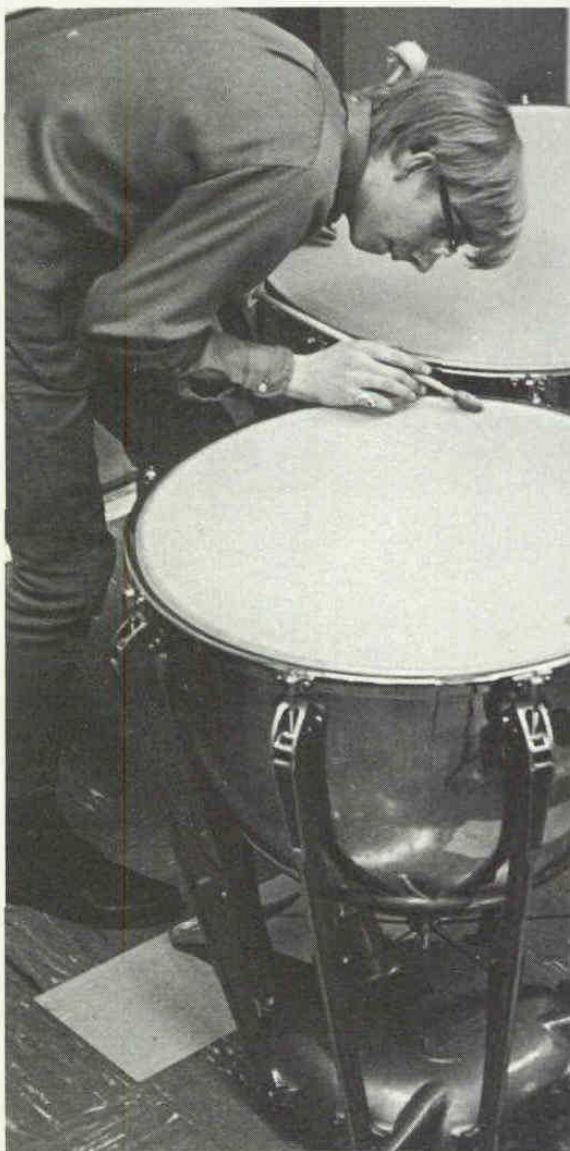
Mathematics 360, Theory of Probability, 3 cr.  
Mathematics 361, Theoretical Statistics, 3 cr.

The student electing the mathematics option may select Environmental Control 315, Mechanics, and count this course toward the requirement for the mathematics option.



### Option in Performing Arts

**Professors:** P. Mann, I. Sonenfield. **Associate Professors:** J. Abraham, R. Bauer, A. Cohrs, J. Frisch. **Assistant Professors:** N. Blaisdell, T. Chavez, F. Doverspike, W. Jaeckel. **Instructors:** D. Fennema, L. Foulkes, E. Frame, S. Kovalenko, I. Rogers, D. Semmes, H. Williams. **Lecturer:** L. Ives. **Visiting Artist:** O. Kovalenko.



The performing arts involve an effort at meaningful aesthetic communication between performers and their audiences and dedication to the improvement of man's cultural environment. Courses in the performing arts emphasize dance, music, and theater.

Students choosing the performing arts option will find that the skills and capacities they gain will prove useful in the pursuit of many different occupations, including elementary and secondary teaching. This option also will add a meaningful dimension to their participation in community endeavors.

*Courses in the performing arts are arranged in the areas of music and theater, with dance courses listed under theater. Students are encouraged to relate one of these art forms to the others, and they must relate the whole to one of the concentrations. A maximum of 24 credits is required for an option in the performing arts.*

**Dance.** At the present time, dance courses are not offered in sufficient number to enable a student to specialize in this area of the performing arts. The courses that are being offered are, however, highly recommended for the student interested in specializing in theater. They can also be useful to the student with special interest in music.

**Music.** The study of music provides basic technical and theoretical courses for students interested in pursuing career goals in teacher certification at the primary and secondary levels, performance, or entrance into graduate study programs. Music faculty advisers will develop with the student individual study programs which will be most useful to him in pursuit of his individual career goal.

The student contemplating an option in music, or a multiple selection of academic course work within the option, is given a placement examination in basic musicianship covering musical notation; fundamental skills of constructing and aurally identifying easy scales, intervals, and



chords; and keyboard proficiency. Students who do not demonstrate necessary prerequisite skills will be advised to take Music 101, Basic Musicianship, before enrolling in the music theory sequence of courses.

It is recommended that the student give special attention to courses at the 100 and 200 level (such as music theory, history, and applied music areas) which serve as prerequisites for entrance into the many 300 and 400 level courses. In formulating his program the student is encouraged to seek the assistance of an option adviser.

**Theater.** The essence of theater exists before an audience in the person of the actor. In the truest sense, dramatic works are meaningless until performed. To do this significantly, there stands at the center of the stage the actor. Consequently, the education of the actor is of paramount importance to the life of the theater, for without him there is no living theater art.

The program in theater arts begins, then, with the training of the actor, with the objective of developing his latent talents to the fullest. This enables him to fulfill his unique individuality and to develop a view of and relationship to theater as a humanistic, socially contributive art—an art based on cooperation rather than competition, as is the traditional “show-biz” view. The program of study encourages the student to make the most of his talents and individuality while, at the same time, he relates to the group and takes pride in the accomplishments of his colleagues. This cooperation is the essence of theater.

It is deeply important for the theater artist or the teacher of theater to be firmly rooted in the reality of his time and to know as thoroughly as possible his own culture. This is not to suggest that an American student must know only American history and literature, or only American art, music, and theater. Surely he also should be well acquainted with world literature, music, history, art, and theater. But in the deepest sense he must know his own culture, not for any

chauvanistic reason, but because this is, or could be, the root of his creative strength, serving to provide him with a more profound insight into other cultures and peoples. His national heritage is made up not only of the conditions of his personal life—his family and friends—but also of the larger environment that includes his street, his community, his country, and the contributions of his forefathers.





The more keenly and compassionately one comprehends one's national character and the more profoundly one can penetrate into the lives of the peoples of the international community, the more inextricably involved one becomes with all of mankind.

While the student is mastering his craft, he is taught to work as a member of a group, relating his work more and more closely to others to find the connectives that will bring him into harmony with his community. In this way, he may, as a teacher, serve as a catalyst and as a contributor in the various communities where he may work.

The student learns to see his talent as possessing a socially contributive purpose beyond the currently acceptable individualistic, almost anarchistic, status quo goals. Philosophical alternatives are posed which lead and encourage the student to utilize his talents in the theater arts and in the teaching of these arts to extend and deepen what is, by today's commercial standards, considered acceptable. One of the major objectives of the teaching is to help the student learn to gain satisfaction and fulfillment by utilizing his creativity as a contribution to his country and to his fellow man.

The struggle for individual excellence must not be incompatible with concepts of brotherhood or of the essential American ideals, as is so often the case in today's commercial theater. It should be viewed within the context of the ideals inherent in the essential American historic documents—ideals of Jefferson, Lincoln, Paine, Thoreau—as translated into the distinctly American art of Walt Whitman, Eugene O'Neill, Langston Hughes, Mark Twain, Aaron Copland, Duke Ellington, Martha Graham.

The student-actor learns to think of himself as a responsible citizen whose function it is, through theater, to entertain, enlighten, educate, and elevate the audience. His training prepares him for a professional graduate theater program in which he may fully equip himself to meet the challenges of contemporary and classic theater and

to function in and contribute to the theater of today. As an actor, a director, and, as he acquires sufficient knowledge, as a teacher, he will be competently equipped to influence the direction in which the theater arts develop. In this way, the theater arts program will help to raise the level of teacher training, thus making the certification of teachers more meaningful. It will also help to raise the level of community theater participation.

The director of the theater arts program holds periodic conferences with each student, as well as with the various teachers, to discuss student progress. Instructors hold at least two individual conferences with each of their students each semester. These conferences contribute to a vital student-teacher relationship. Further, they assist the director in evaluating and guiding the student's overall development.

#### Option in Philosophy

**Associate Professor:** F. Kersten. **Assistant Professors:** E. Bottemiller, O. Clark, G. Greif, J. Shier, S. Yake. **Instructor:** D. Sweet.

The study of philosophy makes the student aware of the intellectual structure from which he perceives his world and in terms of which he may seek to live in or change his world. Philosophy begins with an appreciation of the Socratic dictum, "The unexamined life is not worth living," and moves through the critical analysis of the ideas of man to a reflective consideration in depth of contemporary challenges to man's values, beliefs, being, and systems of thought.

Courses in the philosophy option include interdisciplinary emphasis on ethics, aesthetics, metaphysics, philosophy of language and literature, philosophy of sciences, contemporary philosophical movements, philosophy of religion, and social and political philosophy. The courses are oriented around the immediate challenges of problems and issues, often within historical settings.



The student choosing the philosophy option will find it useful in the pursuit of many different occupations and a productive dimension of his active participation in university studies and community endeavors. This option is excellent preparation for graduate study in philosophy, law, fine arts, the physical and social sciences, and education.

The student selecting a philosophy option should also take the History of Philosophy sequence, Philosophy 213, 313, 314, and must take Senior Studies in Philosophy. Also recommended is Contemporary Problems in Philosophy. Each student will be required to emphasize the aspects of philosophy in which he is especially interested.

With the approval of his faculty adviser and the dean, a student may combine any 24 credits of 300 and 400 level philosophy and coordinate courses into a philosophy option.

#### Option in Physics

**Professor:** G. O'Hearn. **Associate Professor:** F. Fischbach. **Assistant Professors:** J. Busch, L. Corrado, A. Mehra, C. Rhyner, V. Sharma, W. Shufeldt. **Instructors:** A. Dickison, N. Petrakopoulos.

Physics, a science of measurement, experimentation, and systematization of the results of experiments, has played a fundamental role in much basic and applied scientific development. It is central to the related disciplines of engineering, chemistry, and applied mathematics and forms an essential complement to the earth sciences and biology. The student electing an option in physics must take

Chemistry-Physics 110, 211, 212, Chemistry-Physics, 5, 5, 5 cr.  
Mathematics 202, 203, Calculus and Analytic Geometry I, II, 4, 4 cr.

He may also choose 18 credits from the following electives.

#### Courses and Credits

Chemistry-Physics 320, Thermodynamics and Kinetic Theory, 3 cr.  
Ecosystems Analysis 303, Electromagnetic Radiation, 4 cr.  
Ecosystems Analysis 306, Biophysics, 3 cr.  
Ecosystems Analysis 350, Meteorology, 3 cr.  
Environmental Control 315, Mechanics, 3 cr.  
Environmental Control 332, Fluid Mechanics, 3 cr.  
Environmental Control 428, Soil Physics, 3 cr.  
Environmental Control 432, Hydrology, 3 cr.  
Environmental Control 450, Air Pollution Meteorology, 3 cr.  
Environmental Control 451, Community Air Pollution, 3 cr.  
Environmental Control 455, Air Pollution Control, 3 cr.  
Physics 304, Electricity and Magnetism, 4 cr.  
Physics 305, Electronic Aids to Measurement, 4 cr.  
Physics 310, Modern Physics I (Atomic), 3 cr.  
Physics 311, Advanced Laboratory Physics, 2 cr.  
Physics 312, Modern Physics II (Nuclear), 3 cr.  
Physics 313, Advanced Laboratory Physics, 2 cr.

Courses such as these will play a fundamental role in educating the student to deal professionally with the problems of environmental pollution and control.

#### Option in Political Science

**Assistant Professors:** F. Armstrong, M. Greenberg, J. Kolka, R. Langlois. **Instructors:** J. Aaronson, C. Yarbrough, H. Wallach. **Lecturers:** J. Macrae, A. Zander.

Political science involves the systematic study of political structures, processes, functions, and policies within particular political systems or within the framework of international relations. Undergraduate work in political science involves institutional, behavioral, and philosophical analysis and may focus on particular systems or stress comparative studies. Like the other community sciences, political science is oriented to problems and their solutions and seeks to prepare the student either for an active role in ad-



ministration and government, or for the equally significant role of a well-informed participant in the political process. Courses in political science cover such diverse areas as American *political behavior, comparative politics, international politics, political analysis, and public administration.*

Career opportunities in wide variety are open to students who choose the political science option. These include city management; foreign service; teaching; specialized overseas assignments; work with private and public agencies; and employment with the public services at the city, state, national, and international levels.

With the approval of his faculty adviser and the dean, a student may select 24 credits of 300- and 400-level political science courses, relating them to any of the concentrations in the theme colleges of UWGB. This constitutes a political science option. *The following listing arranges but is not exhaustive of the principal courses in terms of the three concentrations in the College of Community Sciences.*

*Modernization Processes*

- Political Science 302, Community Political Behavior, 3 cr.
- Political Science 304, Comparative Political Systems, 3 cr.
- Political Science 305, Political Systems of the Commonwealth, 3 cr.
- Political Science 306, International Political Systems and Processes, 3 cr.
- Political Science 321, Politics of Bureaucratic Responsibility, 3 cr.
- Political Science 363, Politics of Developing Systems, 3 cr.
- Political Science 402, Political Values and Ideologies, 3 cr.
- Political Science 404, American Foreign Economic and Military Policies, 3 cr.
- Political Science 450, Political Change, 3 cr.
- Political Science 496-499, Contemporary Problems in Political Science, 1-4 cr.

*Regional Analysis*

- Political Science 303, Elections and Voting Behavior, 3 cr.
- Political Science 304, Comparative Political Systems, 3 cr.
- Political Science 305, Political Systems of the Commonwealth, 3 cr.
- Political Science 306, International Political Systems and Processes, 3 cr.
- Political Science 307, Concepts in Political Theory, 3 cr.
- Political Science 320, Practice of Public Administration, 3 cr.
- Political Science 403, Foundations and Problems of International Politics, 3 cr.
- Political Science 405, American Executive Behavior, 3 cr.
- Political Science 426, American Legislative Processes, 3 cr.
- Political Science 496-499, Contemporary Problems in Political Science, 1-4 cr.

*Urban Analysis*

- Political Science 302, Community Political Behavior, 3 cr.
- Political Science 303, Elections and Voting Behavior, 3 cr.
- Political Science 320, Practice of Public Administration, 3 cr.
- Political Science 321, Politics of Bureaucratic Responsibility, 3 cr.
- Political Science 350, Political Conflict and Urban Policy, 3 cr.
- Political Science 402, Political Values and Ideologies, 3 cr.
- Political Science 405, American Executive Behavior, 3 cr.
- Political Science 426, American Legislative Behavior, 3 cr.
- Political Science 450, Political Change, 3 cr.
- Political Science 472, Parties and Pressure Groups, 3 cr.
- Political Science 496-499, Contemporary Problems in Political Science, 1-4 cr.



### Option in Psychology

**Professor:** I. Korner. **Associate Professor:** N. Pollis. **Assistant Professor:** L. Nesberg. **Instructors:** S. Cannizzo, P. Johnsen, E. Knowles, E. James. **Lecturer:** W. Smith.

Psychology involves the scientific and systematic study of human behavior, as well as the behavior of animals. Psychology relates such behavior to both physiological and environmental conditions. As a community science, psychology places a strong emphasis on human relations and the adjustment of the individual to society, focusing on the understanding, predicting, and influencing of social behavior. Patterns of behavior in animals are examined for the light they can shed on human behavior. Courses in psychology concentrate within the three fields of industrial psychology, psychological theory, and social psychology.

Many different career opportunities are open to students who choose the psychology option. Business organizations, private and public agencies, and educational institutions seek persons with strong preparation in the discipline of psychology.

With the approval of his faculty adviser and the dean, a student may select 24 credits of 300- and 400-level psychology courses, relating them to one of the concentrations. This constitutes a psychology option. The following listing arranges the principal courses in terms of three fields within the discipline of psychology. For developmental psychology, see the courses listed under Growth and Development in Chapter 4.

#### *Areas, Courses, and Credits*

##### *Industrial Psychology*

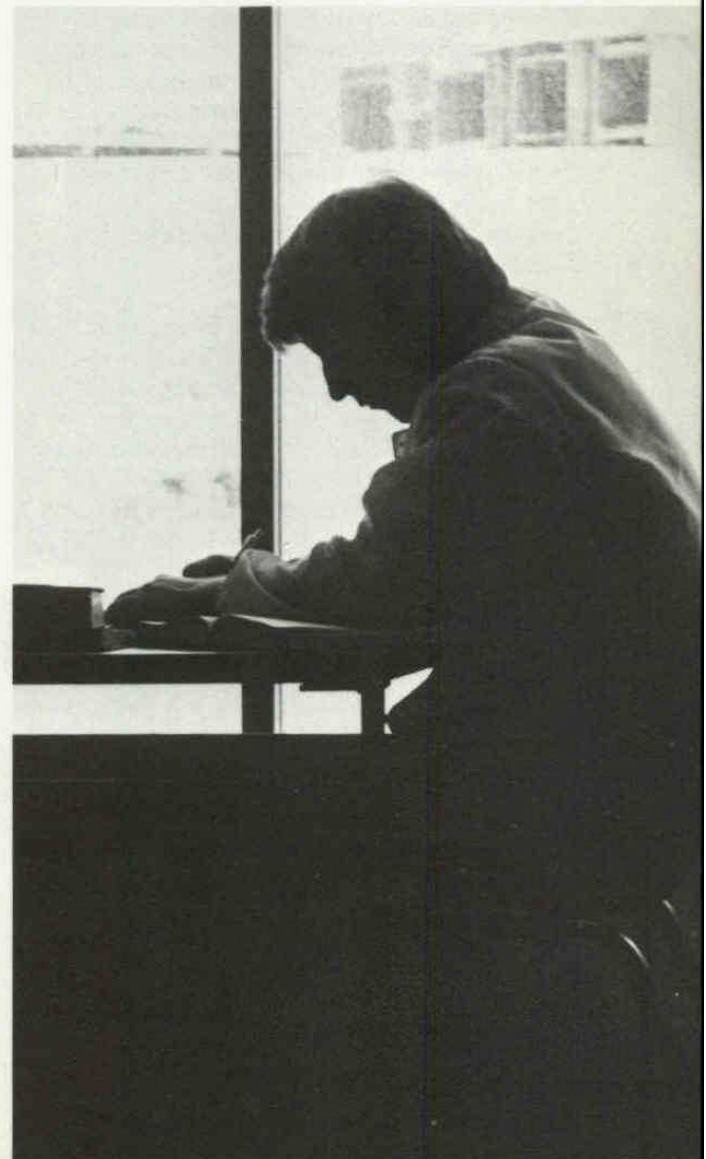
Psychology 314, Industrial Psychology, 3 cr.  
 Psychology 320, Personnel Psychology, 3 cr.  
 Psychology 415, Organization Psychology, 3 cr.  
 Psychology 416, Psychology of Intergroup Relations, 3 cr.  
 Psychology 496-499, Contemporary Problems In Psychology, 1-4 cr.

##### *Psychological Theory*

Psychology 306, Psychology of Perception, 3 cr.  
 Psychology 309, Psychology of Motivation, 3 cr.  
 Psychology 338, Psychology of Learning, 3 cr.  
 Psychology 417, Thinking and Problem Solving, 3 cr.  
 Psychology 496-499, Contemporary Problems In Psychology, 1-4 cr.

##### *Social Psychology*

Psychology 335, Psychology of Attitudes and Public Opinion, 3 cr.  
 Psychology 337, Social Behavior Dynamics, 3 cr.  
 Psychology 416, Psychology of Intergroup Relations, 3 cr.





Psychology 438, Group Dynamics, 3 cr.  
 Psychology 496-499, Contemporary Problems In  
 Psychology, 1-4 cr.

**Option in Public Administration**

**Professors:** G. Petrie, R. Posey. **Assistant Professors:** K. Zehms, D. Ward. **Instructor:** J. Lobdell. **Lecturers:** F. Waedt, A. Zander. **Visiting Associate Professor:** H. Jadwani.

The student who selects the option in public administration is introduced to the problems and techniques involved in working in groups and attaining group goals. His professional focus leads him to the degree of Bachelor of Science (Administration). It is recommended that the student take the following two-course sequence as a sophomore or junior in preparation for his upper division work in administration.

Organization and Operations 202, Business and Its Environment  
 Organization and Operations 203, Government and Business

He must also select six credits each in any four of the following fields: distribution, finance, labor relations, organization and operations, and quantitative methods. It is recommended, but not required, that he elect six additional credits in whichever of the four fields is his principal interest. Courses that are particularly appropriate for the option in public administration are:

*Courses and Credits\**

Distribution 302, Principles of Distribution, 3 cr.  
 Distribution 305, Theory and Practice in Public Relations, 3 cr.  
 Distribution 310, Transportation and Purchasing, 3 cr.  
 Distribution 410, Applied Motivational Research, 3 cr.  
 Finance 306, Public Finance and Fiscal Policy, 3 cr.

\*Course descriptions are listed under Administration in Chapter 4.

Finance 402, Problems of Investment, 3 cr.  
 Finance 403, Financial Planning and Control, 3 cr.  
 Labor Relations 303, Personnel Administration in Government, 3 cr.  
 Labor Relations 310, Labor Unions in America, 3 cr.  
 Labor Relations 312, Collective Bargaining, 3 cr.  
 Labor Relations 402, Problems in Labor Relations, 3 cr.  
 Labor Relations 403, Labor Legislation and Administration, 3 cr.  
 Labor Relations 412, Cases in Collective Bargaining, 3 cr.  
 Labor Relations 420, International Labor Relations, 3 cr.  
 Organization and Operations 302, Principles of Organization and Operation, 3 cr.  
 Organization and Operations 320, Practice of Public Administration, 3 cr.  
 Organization and Operations 402, Planning, Control, and Routinization, 3 cr.  
 Quantitative Methods 204, Introductory Accounting, 3 cr.  
 Quantitative Methods 205, Intermediate Accounting, 3 cr.  
 Quantitative Methods 206, Accounting for Administrators, 3 cr.  
 Quantitative Methods 230, Quantitative Methods in Administration, 3 cr.  
 Quantitative Methods 302, Cost Accounting, 3 cr.  
 Quantitative Methods 303, 304, Financial Accounting, Theory, and Practice I, II, 3, 3 cr.  
 Quantitative Methods 310, Governmental and Institutional Accounting, 3 cr.  
 Quantitative Methods 403, 404, Auditing Standards and Procedures I, II, 3, 3 cr.

The student in public administration is often well advised to select at least 24 credits from the economics and political science options. In some cases, it may be more desirable for the student to forego this option and fulfill completely one of the three concentrations in the College of Community Sciences: modernization processes, regional analysis, or urban analysis. The public administration student who intends to become a hospital administrator might well consider a field



In human biology. The student who plans a career in the administration of social services might pick the option in sociology. While it is obvious that the program is flexible, it is important that the student's plans be relevant to his interests, and in building such a program, he should work closely with his faculty adviser.

#### Option in Sociology

**Assistant Professors:** R. Jlobu, C. Polls.

**Instructors:** J. Gould, L. Lackey, L. Smith.

Sociology is concerned with the systematic study of social patterns of human relationships, their origins and consequences. Within the framework of the community sciences, sociology is oriented toward the study of societal relations, the institutional and functional framework of social organizations, and the components of personality determined by group membership. The emphasis in sociology is on the working relationships between basic concepts, theory, and research. Courses in sociology concentrate within the fields of demography, deviant behavior, social theory and social organization.

Many careers are open to those who choose the sociology option, including law, industrial relations, the ministry, education, and journalism.

With the approval of his faculty adviser and the dean, a student may select 24 credits of 300- and 400-level sociology courses, relating them to one of the concentrations. This constitutes a sociology option. The following listing arranges courses appropriate for the option in sociology. See also courses listed under the several concentrations and the complete list of sociology courses.

*Anthropology 310, Culture and Personality, 3 cr.*, or an upper division social psychology course approved by the option chairman is required.

The student selects three to seven courses dealing with social organization from the following, according to his interests and in consultation with his concentration chairman.

*Anthropology 303, Cultural Ecology, 3 cr.*

*Anthropology 304, Family, Kin, and Community, 3 cr.*

*Anthropology 402, Comparative Social Structures, 3 cr.*

*Sociology 302, Social Stratification, 3 cr.*

*Sociology 307, Concepts of Social Analysis, 3 cr.*

*Sociology 406, Comparative Social Systems, 3 cr.*

*Sociology 407, Complex Organizations, 3 cr.*

From the remaining offerings in sociology, the student selects up to four courses, according to his interests and in consultation with his concentration chairman.

#### Option in Visual Arts

**Professor:** M. Kazar. **Associate Professors:**

B. Grimes, W. King, W. Prevetti, T. Tasch.

**Assistant Professors:** D. Damkoehler, R. Fritz, A.

Imber, J. LaMalfa, R. Pum, W. Simpson, R.

Williams. **Instructor:** J. McClurg.

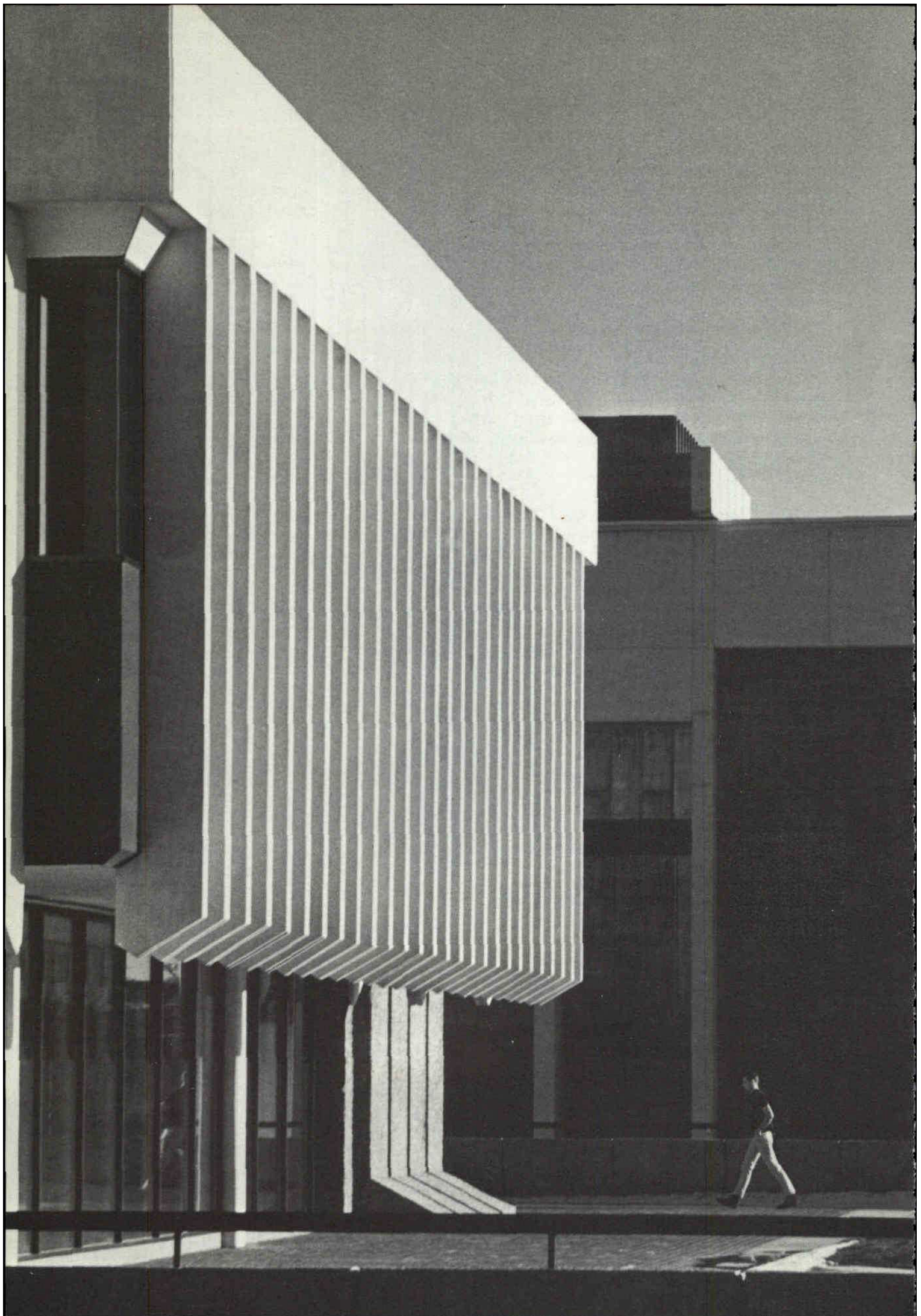
Man is an image and form maker. From the images on the cave walls of paleolithic man, a record of the visual arts has continued to our own time, and although the motivation for these images appears to change from era to era, there is ample evidence to affirm the need of men to transfer their experiences into visual symbols.

The visual arts involve an effort at meaningful aesthetic communication between the creator and the spectator. Courses in the visual arts include emphasis upon two-dimensional and three-dimensional forms.

Students choosing the visual arts option will find that the skills and capacities they gain will prove to be useful in the pursuit of many different occupations. This option will also add a meaningful dimension to their participation in community endeavors.

A student selecting a visual arts option chooses 24 credits at the junior and senior level, in consultation with his adviser.







# Professional Applications

## PROFESSIONAL APPLICATIONS

A student at The University of Wisconsin—Green Bay who chooses to emphasize professional application of his concentration or concentration-option may do so in one of two ways: a collateral or a preprofessional program.

## COLLATERALS (OR PROFESSIONAL MINORS)

While each of the concentrations and options described in this catalog has direct professional applications to job relevance or to a professional school experience, there are several special applications that require some additional particular competence. To meet this need, a student may select a professional collateral (or minor) in the School of Professional Studies which supplements his liberal arts major and provides him with a professional-specialist orientation.

Professional collateral courses are offered in business and public administration, education (leading to teacher certification at the preschool, elementary, and secondary levels), leisure sciences, mass communications, and social services. Eighteen hours are required for a professional collateral except in elementary education where, by state law, 27 credits are required. The student interested in pursuing a collateral should consult his concentration or concentration-option adviser about these cooperative programs with the School of Professional Studies.

### The Collateral in Business Administration

A student may take a professional collateral (minor) in business administration by selecting 18 appropriate credits from the work offered in administration. The 18 credits should conform to the basic guidelines described in the option in business administration, page 53.

### The Collateral in Education— Teacher Certification

**Professor:** G. O'Hearn (chairman).  
**Associate Professor:** N. Sanders.  
**Assistant Professors:** R. Bruland, J. Busch, D. Byran, L. Douglas, F. Evans.

To obtain a license to teach in the schools of the state of Wisconsin, one must have a bachelor's degree and have completed a program of instruction approved by the State Department of Public Instruction. The University of Wisconsin—Green Bay offers programs approved by the State Department of Public Instruction leading to:

1. Elementary school certification, primary and intermediate grades.
2. Early childhood education, nursery and kindergarten certification. See growth and development concentration.
3. Specialist certificates in art K-12 or music.
4. Secondary school certification in areas including:  
Biology  
Chemistry  
Communication Sciences  
Earth Science  
Environmental Sciences—broad field  
Literature and Language: English-American  
Literature and Language: French, German,  
Spanish  
Geography  
History  
Mathematics, Computer Science  
Music  
Physics  
Science—environmental broad field  
Social Studies—broad field  
Visual Arts

*The Handbook on Teacher Certification* contains a complete description of each of these programs.



A student who completes one of these programs and who fulfills the general degree requirements of The University of Wisconsin-Green Bay will be licensed for a three-year term. A permanent license follows after three years of successful teaching experience.

**Admission to the Teacher Certification Program.**

Teacher certification is carried on cooperatively by each theme college and the School of Professional Studies. The student pursues work on his chosen environmental problem within a theme college while also completing the collateral work in professional education in the School of Professional Studies. When the student decides to enter the teacher certification program, he should complete registration for teacher licensing programs, and should indicate this dual classification at semester registration.

Admission to the teacher certification program is based on academic record, letters of recommendation, and other evidence of probable classroom success. At the time of admission to the teacher certification program, the student completes advisory program forms which outline certification requirements as specified in the *Handbook on Teacher Certification*. A student seeking teaching certification selects a concentration or concentration-option and is assigned an adviser accordingly. In addition, he is guided by the Division of Education in selecting courses to meet the certification requirements.

**Secondary School License.** For a secondary school license, the student must complete an approved program for that which the State Department of Public Instruction terms a *teaching* major, or a major and a minor, or two majors, or a broad field major. The teaching major in a discipline includes freshman and sophomore work, taken in conjunction with an appropriate concentration. In all cases the student will pursue advanced work with an environmental focus in a concentration. The student may consult with a faculty adviser in the Division of Education to obtain a detailed description of specific teaching programs as described in the *UWGB Handbook on Teacher Certification*.

**Professional Education Requirements.** In addition to the general requirements listed above, the following professional education requirements, totalling 18 credits, must be completed.

1. Preprofessional experience. During the sophomore or junior year each student is expected to take an active part in an on-going instructional program in the public schools. This can be carried on during the semester or as a January Practicum.
2. Educational psychology of teaching and learning, such as one of the following courses: Psychology 338, Psychology of Learning, 3 cr. Growth and Development 332, Middle Childhood and Adolescence, 3 cr.
3. At least one methods course in the appropriate teaching area, selected from the following list: Education 310, Secondary School Teaching Methods in English, 3 cr. Education 311, Secondary School Teaching Methods in Foreign Language, 3 cr. Education 312, Secondary School Teaching Methods in Social Studies, 3 cr. Education 313, Secondary School Teaching Methods in Mathematics, 3 cr. Education 314, Secondary School Teaching Methods in the Sciences, 3 cr. Education 316, Secondary School Teaching Methods in Art, 2 cr. Education 317, Secondary School Teaching Methods in Music, 2 cr.

For the student who desires to be licensed in both a major and a minor or two unrelated majors, a methods course will be required in each area.

4. Additional credits in electives relevant to education, such as courses in sociology, history, or philosophy that deal with various aspects of education, or any of the following: Education 404, Creative Learning In the Schools, 3 cr. Education 405, Individualizing Instruction, 3 cr. Education 406, Evaluation Systems, 3 cr. Education 407, Instructional Management, 3 cr.



Education 408, Instructional Planning, 3 cr.  
Education 496-499, Special Readings in Professional Education, 1-4 cr.

5. Eight credits in student teaching or internship at the secondary level in the major teaching area or major and minor teaching areas.

**Statutory Requirements.** Wisconsin Statutes 118.19 (6) require that "in granting certificates for the teaching of courses in economics, social studies, and agriculture, adequate instruction in cooperative marketing and consumers' cooperatives shall be required. In granting certificates for the teaching of courses in science and social studies, adequate instruction in the conservation of natural resources shall be required."

Cooperative marketing and consumers' cooperatives are included in Economics 203, Micro Economic Analysis.

The conservation of natural resources is included in Environmental Sciences 303, Conservation of Natural Resources, or Environmental Sciences 302, Principles of Ecology, or Economics 305, Natural Resources Economic Policy.

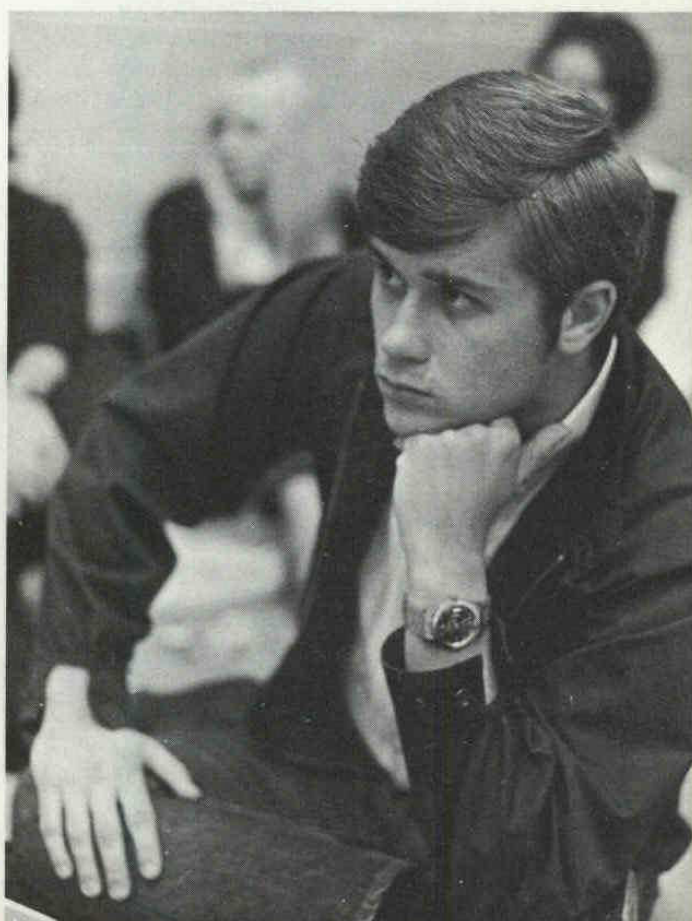
**Elementary School License.** For an elementary school license the student may select any concentration. To be eligible for certification, the student must acquire subject matter proficiency in social studies, art, science, mathematics, and music, as well as proficiency in English. The *Handbook on Teacher Certification* contains a description of these requirements. The student should consult with the Division of Education for information and requirements specific to programs in pre-school, kindergarten, and elementary education, in addition to working with the regular adviser assigned by his concentration. Because of its interdisciplinary nature, a concentration is very appropriate for students seeking elementary school licensing. The concentration-option combination may be appropriate for students seeking upper elementary certification.

The following program of courses, providing a minimum of 27 credits, is designed to meet the professional education requirements of the Wisconsin state code for elementary certification.

1. Eight credits of student teaching or internship at the elementary school level.

2. Preprofessional experience. During the sophomore or junior year each student is expected to take an active part in an ongoing instructional program in the public schools. This can be carried on during the semester or as a January Practicum.

3. Educational psychology of teaching and learning such as one of the following courses: Psychology 338, Psychology of Learning, 3 cr. Growth and Development 331, Infancy and Early Childhood, 3 cr.





4. All of the following courses:  
Education 302, Elementary School Teaching Methods in Social Studies, 3 cr.  
Education 303, Elementary School Teaching Methods in Art, 2 cr.  
Education 304, Elementary School Teaching Methods in Music, 2 cr.  
Education 305, Elementary School Teaching Methods in Mathematics and Science, 4 cr.  
Education 306, Elementary School Teaching Methods in Physical Education, 2 cr.  
Education 307, The Teaching of Reading, 3 cr.

**Student Teaching.** Student teaching or internship is customarily taken in the student's senior year. An application form for student teaching must be turned in to the Supervisor of Student Teaching before the end of the student's junior year. Application for internships are due February 1 preceding the senior year.

Student teaching is perhaps the most crucial element in the entire teacher preparation program and should not be undertaken as a part-time activity. The student must plan his academic program so as to allow at least one-half a semester for the student teaching. The internship requires a full semester uninterrupted by class work.

Admission to student teaching requires evidence of probable success in classroom teaching such as in preprofessional work, in microteaching, in observation and analysis of teaching behavior, plus completion of essential course work; senior standing, and the written consent of the instructor. Placement for student teaching may be limited by the availability of supervisory personnel and school positions.

#### **The Collateral in Leisure Sciences**

**Assistant Professors:** R. Diltton, T. Goodale.

This curriculum provides education for the leisure service professions including management, supervisory, and leadership positions in public park and recreation systems, private agencies,

commercial recreation enterprises, resource planning agencies and firms, therapeutic recreation in medical and para-medical settings, and special services in the armed forces. Courses required to fulfill the collateral are:

#### *Courses and Credits*

- Leisure Sciences 302, Philosophy and Sociology of Leisure, 3 cr.  
Leisure Sciences 303, Physiology and Psychology of Recreation, 3 cr.  
Leisure Sciences 320, Field Practicum, 2 cr.

In consultation with his faculty adviser, the student also chooses six credits from the following:

- Leisure Sciences 310, Formulating and Administering Recreation Programs, 3 cr.  
Leisure Sciences 403, Recreation Supply and Demand Analysis, 3 cr.  
Leisure Sciences 404, Public Park and Recreation Systems, 3 cr.  
Leisure Sciences 410, Recreation Resource Planning in the Upper Great Lakes Region, 3 cr.

Where appropriate to a student's concentration or concentration-option, it is suggested that at least two courses from the following be included.

- Administration: Organization and Operations 310, Small Business Management in the Northern Great Lakes Region, 3 cr.  
Administration: Organization and Operations 320, Practice of Public Administration, 3 cr.  
Administration: Distribution 410, Applied Motivational Research, 3 cr.  
Political Science 204, Comparative Bureaucratic Behavior, 3 cr.  
Psychology 202, Introduction to Social Psychology, 3 cr.

#### **The Collateral in Mass Communications**

**Assistant Professor:** D. O'Brien.

**Instructor:** K. Anderson.

**Lecturers:** W. Hurrle, S. Lambrecht, D. Otto, R. Woessner.

This field of study is concerned with the application of communications skills and insights into



the mass communications media: newspapers, magazines, radio, and television. In consultation with his adviser, the student chooses 12 credits from among the courses in mass communications, and six credits selected from the following:

*Courses and Credits*

- Administration: Distribution 305, Theory and Practice in Public Relations, 3 cr.
- Administration: Distribution 403, Principles of Advertising, 3 cr.
- Administration: Distribution 410, Applied Motivational Research, 3 cr.
- Administration: Organization and Operations 490, Problems of Business Management, 3 cr.
- Psychology 202, Introduction to Social Psychology, 3 cr.
- Psychology 309, Psychology of Motivation, 3 cr.
- Psychology 335, Psychology of Attitudes and Public Opinion, 3 cr.

**The Collateral in Public Administration**

A student may take a professional collateral (minor) in public administration by selecting 18 appropriate credits from the work in administration. The 18 credits should conform to the basic guidelines in the option in public administration, page 66.

**The Collateral in Social Services**

**Professor:** I. Korner.  
**Lecturer:** R. White.

Fulfilling this collateral prepares the student for beginning professional social service in public and private agencies where the Master of Social Work degree is not required or not appropriate. The student, in consultation with his faculty adviser, chooses from among the following courses:

*Courses and Credits*

Three of the following five:

- Social Services 202, Introduction to Social Service, 3 cr.

- Social Services 203, Social Welfare Programs of the National, State, and Local Government, 3 cr.

- Social Services 310, Child Welfare, 3 cr.
- Social Services 405, Probation and Parole, 3 cr.
- Social Services 410, Social Programs of the Aged and Infirm, 3 cr.

Two of the following four:

- Administration: Organization and Operations 320, Practice of Public Administration, 3 cr.
- Sociology 203, Problems of American Minority Groups, 3 cr.
- Sociology 302, Social Stratification, 3 cr.
- Social Services 302, Methods of Public Welfare Investigation, 3 cr.

The following course is required to complete the collateral:

- Social Services 402, Field Experience in a Social Service Agency, 3 cr.

**PREPROFESSIONAL PROGRAMS**

Three kinds of preprofessional opportunities exist. First, regular majors and minors leading to a bachelor's degree offer appropriate preparation for most graduate professional schools such as law, medicine, dentistry, social work and music. Second, for students desiring a four-year bachelor's degree in engineering, nursing, or certain other applied fields, UWGB offers a special two-year preprofessional program. Third, students desiring both a liberal and a technical bachelor's degree can select a 3-2 plan leading to both a bachelor of arts (or science) degree at UWGB and a bachelor of nursing or engineering (or another applied field) at another institution. Three years are spent at UWGB, two at the other institution. The student interested in pursuing a preprofessional program should consult his concentration or concentration-option adviser or advisers in the Student Affairs office.

**Agricultural Science**

The University of Wisconsin-Green Bay provides the prospective student in agricultural science



with an opportunity to obtain a basic and uniquely appropriate background for entry into the agricultural profession. The student who desires a degree in agriculture would ordinarily take two years of his program at UWGB, transferring at the beginning of the junior year to a school or college of agriculture. In the freshman and sophomore years, such a student is advised to register for courses in biology, nutritional science, earth science, ecology, and chemistry-physics.

A strong high school background in science is recommended. In addition, the student should obtain a copy of the catalog of the agricultural college he intends to enter, and be guided by its recommendations for his freshman and sophomore studies.

**Architecture**

Instruction in architecture is tending more and more to be offered only at the graduate level.

Preparation for entering architectural school should be guided mainly by the requirements and recommendations for entry set forth in the catalog of the architectural school of the student's choice. Nevertheless it may be pointed out that architecture combines the study of sciences, mathematics, and art. Thus the student who obtains his bachelor's degree from UWGB before entering a school of architecture should work out with his adviser a program that will meet the admission requirements of the architectural school, and that will include work in chemistry, mathematics, physics, and the visual arts. A proper combination of concentrations and options is easily worked out with the student's adviser.

**City Planning and Community Development**

Graduate professional instruction in city planning and community development is available at many universities in the United States. The student is advised to obtain a catalog describing





graduate work in the field in the institution of his choice, and be guided primarily by its requirements and recommendations. The degree requirements of UWGB are flexible enough that the student, in consultation with his adviser, may construct a program of concentration, option, and professional collateral that will be suitable preparation for graduate study. Actually, individuals enter city planning from a wide range of educational backgrounds. Because the range of subject matter and desirable skills in this profession is so broad, no individual can be expected to master them all, particularly in his undergraduate program. Nevertheless the student is advised to consider carefully the concentration in urban analysis in the College of Community Sciences, options in economics and political science, and the professional collateral in public administration.

### Engineering

The University of Wisconsin—Green Bay provides the prospective engineering student with an opportunity to obtain a fundamental background for entry into the engineering profession. With the various combinations of theme college concentrations and options available, the student may obtain background preparation, for example, in administration, natural sciences, communications, economics, or environmental sciences. An integrated basic training is provided in related areas of mathematics, chemistry-physics, and engineering.

The student may follow either of two programs if he plans to transfer to a college of engineering:

1. Under the 2-2 plan he spends two years at UWGB and two years at an engineering school. Upon graduation he receives a bachelor of science degree from the college of engineering.
2. Under the 3-2 plan he spends three years at UWGB and two years at the college of engineering. Upon graduation he receives bachelor of science degrees from both UWGB and the engineering school. Courses accredited by the College of Engineering at The University of Wisconsin—Madison and The University of Wis-

consin—Milwaukee are available at UWGB in appropriate option areas.

A student should select the engineering school he plans to attend as early as possible. Then, in consultation with his adviser, he should adjust his program to meet the transfer requirements for the engineering field of his choice. A strong high school background in mathematics and physics is essential. The following courses are recommended for pre-engineering and should be completed by the end of the sophomore year.

Liberal Education Seminar 101, 102, 215, 216  
 Chemistry-Physics 110, 211, 212, Chemistry-Physics  
 Mathematics 202, 203, 211, Calculus and Analytic Geometry I, II, and III  
 Mathematics 308, Differential Equations and Matrix Algebra  
 Mathematics 250, Computer Science I

Need for the following courses depends upon the choice of engineering school and field of engineering:

Engineering 102, Elements of Descriptive Geometry  
 Engineering 113, General Engineering Graphics  
 Engineering 302, Engineering Statics I  
 Engineering 303, Engineering Dynamics II  
 Modern foreign language

Students studying under the 3-2 plan must take Liberal Education Seminar 315, 316 and meet all the other University requirements for graduation. Among the courses that might be elected by pre-engineering students, the following are suggested.

Chemistry 313, Analytical Chemistry  
 Chemistry 315, Nuclear and Radiochemistry  
 Chemistry 321, Physical Chemistry  
 Chemistry-Physics 320, Thermodynamics and Kinetic Theory  
 Environmental Control 311, Mechanics of Materials



Environmental Control 318, Engineering Systems and Automatic Control  
 Environmental Control 320, The Soil Environment  
 Environmental Control 330, Surface and Ground Water  
 Environmental Control 432, Hydrology  
 Environmental Sciences 302, Principles of Ecology  
 Mathematics: 300-level courses appropriate to the field of engineering  
 Physics 304, Electricity and Magnetism  
 Physics 305, Electronic Aids to Measurement  
 Physics 315, Mechanics  
 Environmental Control 332, Fluid Mechanics

### Health Professions

**Medicine.** Although colleges of medicine differ in their specific entrance requirements, all of them emphasize the importance of exceptional ability, high aptitude in science, and outstanding achievement in premedical college education. A student who plans to apply for admission to a particular college of medicine should familiarize himself with the requirements of that college and make certain that the courses for which he registers will meet those requirements.

The minimum requirement for admission to colleges of medicine is 90 credits of college work in institutions approved by professional accrediting associations. However, almost all the leading medical schools require completion of a bachelor's degree.

All medical colleges specify minimum requirements in certain subjects. The following table of minimal requirements is representative, although not applicable in every case.

#### *Courses and Credits*

Inorganic chemistry, 12 cr.  
 Organic chemistry, 8 cr.  
 Physics, 8 cr.  
 Zoology (biology), 12 cr.  
 English, 6 cr.  
 Modern foreign language, 16 cr.

Physical chemistry and mathematics through calculus provide a useful background and allow a better understanding of the basic concepts of human biology. Therefore, these subjects are recommended to those students who can fit them into their college experience.

In addition to evidence of academic competence, other qualifications for admission will be considered. Special attention will be given to letters from college professors, premedical committees, and impressions gained from a personal interview. It is important to point out that completion of a bachelor's degree is desirable and almost essential in order to meet the competition presented by the better-qualified applicants. Students who major in the humanities are given equal consideration with those who major in the sciences providing they show better than average ability to cope with scientific material.

Applicants are almost always required to take the Medical College Admissions Test. The test must be taken not later than the October preceding the desired year of admission. Students should consult the UWGB premedical and pre dental committee regarding the formulation of their programs.

Premedical course requirements for The University of Wisconsin Medical School are the following.

1. Chemistry (minimum of 4 semesters)
  - a. General, including qualitative analysis: year course
  - b. Organic, including aliphatic and aromatic compounds with laboratory work: semester course
  - c. Quantitative: semester course. Any other chemistry course with laboratory work may be substituted for quantitative analysis, provided that the student's chemistry program includes adequate experience in quantitative concepts and techniques. A total of two years of chemistry will still be required.
2. Physics: year course



### 3. Zoology

- a. General: semester course
- b. Advanced: semester course (vertebrate embryology is the most desirable advanced course. If it is not available, a course in cytology, cellular physiology, genetics, or comparative anatomy may be substituted.)

### 4. College mathematics: semester course

College level courses taken in high school or preparatory school may be accepted as satisfying requirements, if the college transcript clearly indicates that the college allows credit for such courses toward fulfillment of requirements for the bachelor's degree.

The value of a four-year college program rather than a three-year program is recognized and the admissions committee will give preference to applicants planning to graduate from college. However, an undergraduate wishing to enter the Medical School after the third year should see The University of Wisconsin-Madison catalog, part 1, or consult the premedical committee.

**Dentistry.** The minimum requirement for admission to colleges of dentistry is 60 credits of college work in institutions approved by professional accrediting associations. Almost all the leading dental colleges, however, require completion of a minimum of 90 credits. All dental colleges specify minimum requirements in certain subjects. The following table is representative.

#### *Courses and Credits*

Liberal Education Seminar or English, 6 cr.

Biology, 8 cr.

Chemistry-physics, 15 cr.

Advanced courses in chemistry, 6 cr.

In many cases, the student is advised to take more than the minimum amount of work in the subjects represented in the prerequisite sciences.

From the available evidence it would appear that the emphasis in the choice of electives should be on those subjects which will afford the student the broadest possible background. Subjects recommended for consideration of elective

*courses include drawing, economics, English literature and language, government, history, mathematics, philosophy, psychology, sociology, statistics, zoology, and additional courses in physics and in chemistry.*

In any case, the student should examine the catalog of the dental school to which he plans to seek admission, and with his adviser, formulate his program of courses accordingly.

**Nursing.** For the student who desires to prepare for a professional career in nursing or nursing science, a choice may be made among three different programs. The first, conducted in collaboration with the Bellin Memorial Hospital School of Nursing, leads to the R.N. diploma. The other two, conducted in collaboration with the Schools of Nursing at the Madison and Milwaukee campuses of The University of Wisconsin, lead to the B.S. degree in nursing and certification for the R.N.

**1. The Diploma Program at Bellin Memorial Hospital School of Nursing.** In cooperation with UWGB, the Bellin Memorial Hospital School of Nursing in Green Bay offers a program leading to a diploma in nursing and prepares the student for certification as a registered nurse. Interested students must apply both to the hospital and to UWGB.

The first two years are spent primarily at the UWGB campus, followed by one year at the Bellin Memorial Hospital School of Nursing. The following courses or their equivalents are required.

#### *Courses and Credits*

Liberal Education Seminar, 6 cr.

General chemistry, 5 cr.

Biology, 18 cr.

Sociology, 3 cr.

Psychology, 3 cr.

To participate in this program, the student must be admitted to the Bellin School of Nursing and to the University. Separate application blanks are required by the hospital nursing school and the University. For further information, write to the



Director of the Bellin Memorial Hospital School of Nursing, 733 South Webster Avenue, Green Bay, Wisconsin 54301.

**2. The Baccalaureate Programs at UWMSn and UWM (2-2 Plan).** The School of Nursing of The University of Wisconsin-Madison and the School of Nursing of The University of Wisconsin-Milwaukee offer programs in nursing. Both programs lead to the Bachelor of Science degree in nursing and prepare the high school graduate

with no previous experience in nursing for registration as a professional nurse. Each program is four years and two summer sessions in length. One or two years may be taken at UWGB; the remainder is offered at the schools of nursing on the Madison and Milwaukee campuses. Following this option the student is considered to be in the 2-2 plan. Under this plan the B.S. degree earned is that awarded by the School of Nursing.

Required courses at Madison are listed in the School of Nursing bulletin; those required at Milwaukee appear in the University of Wisconsin-Milwaukee catalog. Each student must apply to the school of nursing which he wishes to attend for admission to the last two years of the nursing program. This should be done at the beginning of the sophomore year. Admission to the last two years will be based on qualifications for nursing, educational facilities of the school and other relevant factors.

Registered nurses who wish to obtain a bachelor's degree will be admitted to the programs described above. Advanced standing for previous work in a diploma or associate degree program may be earned through examination and satisfactory performance in an introductory required nursing course. The appropriate school of nursing should be consulted early for program planning.

**3. The Baccalaureate Programs at UWGB, UWMSn, and UWM (3-2 plan).** The student may undertake preprofessional education in nursing or nursing science at UWGB in the 3-2 plan. Under this plan, he spends three years at UWGB and two years at the school of nursing at the Madison or Milwaukee campuses of The University of Wisconsin. Upon graduation the student receives the B.S. degree from both UWGB and the school of nursing at Madison or Milwaukee. This 3-2 plan is recommended for students who intend to have a career in the teaching of nursing and nursing science. Advisers in the College of Human Biology can help the student develop a program that fulfills the University requirements for the 3-2 plan and covers the





subject areas recommended for the B.S. degree in nursing.

**Pharmacy.** The University of Wisconsin pharmacy program offers the bachelor's degree after completion of five years of work—two years of pre-pharmacy which may be completed at UWGB, and three years in the School of Pharmacy on the Madison campus. Basic requirements of the pre-pharmacy program are 60 semester hours including:

*Courses and Credits*

Liberal Education Seminar, 6 cr.

Chemistry-physics, 15 cr.

Organic chemistry with laboratory, 8 cr.

Biology, 8 cr.

College algebra and trigonometry, 4-5 cr. **or**

Calculus and analytic geometry, 4 cr.

Economics, 3 cr.

**Medical Technology.** A student may complete the first two years of the medical technology program at UWGB. The remaining two years of the special four-year program leading to the B.S. degree may be completed at either the Milwaukee or Madison campus. The medical technology program requires a broad background in the physical and biological sciences. Clinical subjects are taught in the senior year. The student must accumulate 90 credits with a grade point average of 2.3 for admission to the senior year at Madison and 2.0 at Milwaukee. The medical technology program is fully accredited by the Council on Medical Education and Hospitals of the American Medical Association. Upon graduation, the student is eligible to apply for board certification as a medical technologist (ASCP).

During the first two years the student should complete two semesters of a foreign language, or have completed two years of a foreign language in high school; three semesters of chemistry-physics; two semesters of organic chemistry; one semester each of quantitative and physiological chemistry; one semester of human physiology, zoology, microbiology, microtechnique, and parasitology; two semesters of the Liberal Education Seminar or English; two semesters of Eng-

lish literature and language; one semester of intermediate composition; and one semester of college algebra.

**Veterinary Medicine.** A student interested in seeking admission to a professional school of veterinary medicine should secure catalogs from the schools to which he might apply. The University of Wisconsin does not grant a degree in veterinary medicine.

The student interested in veterinary medicine should consult his adviser as early as possible to work out a course program that will satisfy the admission requirements of the school of veterinary medicine of his choice. While admission requirements vary, the following requirements are typical.

A minimum of two years of prescribed pre-professional college work is required, in which the student must have attained a stipulated grade-point average, which ordinarily is higher than the 2.0 level. Further, an applicant for admission to a professional college of veterinary medicine presents a total of no less than 60 semester hour credits from an approved college





or university. Thus, the future applicant should check with the college of veterinary medicine of his choice, to be sure that preprofessional work at UWGB is approved. Typically, credits include the following:

*Courses and Credits*

Liberal Education Seminar or English, 8 cr.  
Chemistry-physics, 15 cr.  
Organic chemistry, 8 cr.  
Biological science, 8 cr.  
Algebra and trigonometry, 6 cr.  
American government, 2 cr.

Because of limited facilities, admission to a college of veterinary medicine is on a competitive and selective basis. A pre-admission conference with members of the veterinary faculty or admissions committee is usually required. High school records, scholastic attainment in preprofessional course studies, aptitude, character, and personality are given special consideration in the selection of candidates. Other qualifications being equal, residents of the state in which the veterinary school is located are given preference.

A student in veterinary medicine who wishes to receive both the degrees of Doctor of Veterinary Medicine and Bachelor of Science must take at least three years of work in the curriculum at UWGB. His program must have the approval of the dean of the colleges and preliminary approval

of the veterinary medical school of his choice. The professional curriculum extends over a period of four years and leads to a degree of Doctor of Veterinary Medicine.

**Veterinary Science.** Graduate courses in the Department of Veterinary Science at The University of Wisconsin-Madison are designed to give advanced training to graduate veterinarians and other qualified persons interested in research on animal diseases.

Programs leading to the Master of Science and Doctor of Philosophy degrees are offered directly by the department, or jointly with related departments. Special work may be taken in bacteriology, immunology, parasitology, pathology, physiology, and virology as applied in the veterinary field. Students majoring in veterinary science may choose a minor in any of the related sciences.

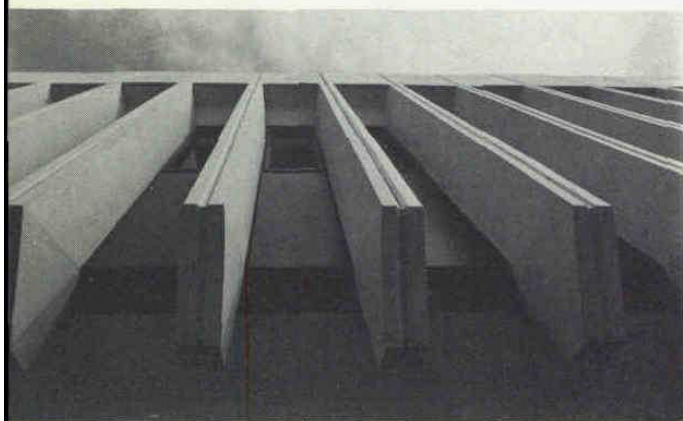
**Home Economics**

The student interested in obtaining a bachelor's degree in home economics may attend UWGB during his freshman and sophomore years, transferring to The University of Wisconsin-Madison School of Home Economics at the beginning of his junior year. This transfer is not automatic; the student must be admitted by the School of Home Economics. A Wisconsin student must present a grade-point average of at least 2.0. A nonresident student must present a 2.5 grade-point average. A student transferring from UWGB must meet all the requirements of the School of Home Economics. Substantial equivalents will be accepted for required courses, but no requirements will be waived.

The preprofessional student in home economics should obtain a copy of the catalog of the School of Home Economics in Madison, and plan the program of his first two years with his faculty adviser. The following freshman and sophomore courses are required:

*Courses and Credits*

Liberal Education Seminar or English, 6 cr.  
Literature, 6 cr.





Additional humanities, 6 cr.  
 Introductory economics, 3 cr.  
 Introductory psychology, 3 cr.  
 Introductory sociology, 3 cr.  
 General chemistry or equivalent, 5 cr.  
 Human physiology, 4 cr.  
 Physical education (one semester), 0 cr.  
 Course work in human nutrition is also advised.

The School of Home Economics offers, through the Graduate School in Madison, programs leading to the master's and doctor's degrees.

#### Law

Graduation from an approved college, such as UWGB, is a prerequisite for admission to virtually every law school in the United States. In limited cases, however, exceptional students who have completed at least the first three years of work leading to a bachelor's degree at UWGB, and whose academic record and aptitude for law study are especially promising, may be admitted. This exception will be amplified below.

In the words of the Law School of The University of Wisconsin-Madison, "it is impossible to recommend a precise course of study or list of courses for all persons intending to study law. In fact, since law touches every facet of human life, the law school looks for diversity in educational background. . . ."

The Association of American Law Schools has the following observations concerning desirable areas of pre-law study. One area is the communication of ideas: the lawyer must be able to communicate effectively in oral and written expression. Logic is a part of a lawyer's necessary equipment, and its mastery should be pursued.

Courses in the social sciences are recommended, for there exists an enormous range of legal issues requiring information from the social sciences for their intelligent resolution. History is recommended, for history relevant to law is the very foundation stone of Western society. Courses in the physical sciences provide a rigor of training and precision which will help the

student engage in the rigorous and precise thinking he will need in the practice of law.

The study of philosophy provides training in handling abstractions, and a specific field of philosophy, *ethics*, is in a sense what law is all about. Accounting is a practical study, the rudiments of which lawyers must know, for accounting is the basic language in business.

Finally, law schools recommend that attention should be paid to three principles: the principle of excellence of instruction, which means studying under the best teachers; the principle of pleasure, which means studying those subjects the student will like when he has worked hard at them; and third, the principle of depth, particularly if this involves a major writing project.

The pre-law student is urged to purchase a copy of a handbook entitled "Law Study and Practice in the United States," which may be ordered from the publisher, West Publishing Company, St. Paul, Minnesota 55102. After studying the handbook, the student should plan his program at UWGB in conjunction with his faculty adviser.

Undergraduate students with grade-point averages well over 3.0 and scores on the Law School Admission Test in the upper tenth percentile may be admitted to a combination program, in which the student transfers to the college of law from UWGB at the end of the first three years of work. The exceptional students who have embarked upon this program will obtain a bachelor's degree from UWGB when they satisfactorily complete the requirements for the degree of Doctor of Law (J.D.).

#### Social Work

Accredited schools of social work offer a two-year program of graduate study leading to the degree of Master of Social Work (M.S.W.). Admission to the graduate program is based on scholarship and personal qualifications for the profession. At the undergraduate level, eight semester courses in the social sciences are recommended, including such areas as anthropology, business, economics, psychology,



geography, history, philosophy, political science, sociology, and the professional collateral in social services.

### **Theology**

All accredited theological seminaries and divinity schools require the bachelor's degree or its equivalent for admission. The American Association of Theological Schools, the accrediting agency, strongly recommends the liberal arts course as the best background for admission, and suggests the following undergraduate programs.

#### *Courses and Credits*

Liberal Education Seminar or English, 6 cr.

Literature, composition, and speech, 12 cr.

Philosophy, 9 cr.

Religion, 9 cr.

History, 9 cr.

Natural science, 6 cr.

Social sciences, 18 cr.

In addition, reading knowledge of a foreign language is advised.

The pre-theology student will find, in working out his course program with his adviser, that satisfying the general degree requirements at UWGB will almost automatically fulfill admissions requirements for graduate schools in theology, with the exception of the course work in religion.

### **Water Resources and Hydrology**

The environmental control and ecosystems analysis concentrations in the College of Environmental Sciences provide the basic background required for entry into graduate hydrology programs. The student, with the advice and approval of his adviser, can build a program with a meaningful combination of courses which will focus on the student's special interests. Such a pregraduate hydrology program can relate to geology, engineering, soils, meteorology, economics, or administration.

### **COLLEGE AND UNIVERSITY TEACHING**

The teaching profession in institutions of higher learning differs markedly in its educational requirements from the teaching profession at the elementary and secondary level. To enter the

ranks of the academic profession, emphasis is placed entirely upon mastery of the subject matter field the prospective professor wishes to teach. There are no professional courses in teaching methods or in practice teaching. Instead, it is expected that the student will obtain a bachelor's degree in the field in which he wishes to teach. Subsequently he enters a graduate school and pursues a program of graduate study leading to the master's or doctoral degree. While at one time the master's degree was enough, the trend is strongly toward securing what is called a terminal degree, which means the highest degree in the field a graduate can attain. In most fields, it is the Ph.D. degree, but in some fields, such as fine arts, another degree is considered to be terminal.

For admission to a graduate school, the applicant's credentials are ordinarily examined by a committee of professors in the discipline the applicant wishes to pursue. In deciding whether or not to admit the applicant, the committee looks primarily to the grade-point average the student has attained. Excellent grades are especially important in the discipline of choice. Other things being equal, the student should have taken a considerable amount of work in that discipline. At UWGB, this means that he should have chosen an option or collateral in that discipline or field. A student with an exceptionally high grade-point average may be admitted, even though he does not have adequate preparation in the discipline, in which case he will probably be required to take undergraduate courses for credit in preparation for his graduate work.

The student interested in pursuing an academic career should write to the Educational Testing Service, Princeton, New Jersey 08540, to obtain a copy of the handbook describing the nature and components of the Graduate Record Examination. Almost all graduate schools in the United States require applicants to take the Graduate Record Examination. For information on the dates and times when the GRE examinations will be given in northeastern Wisconsin, contact the Director of Placement, UWGB.

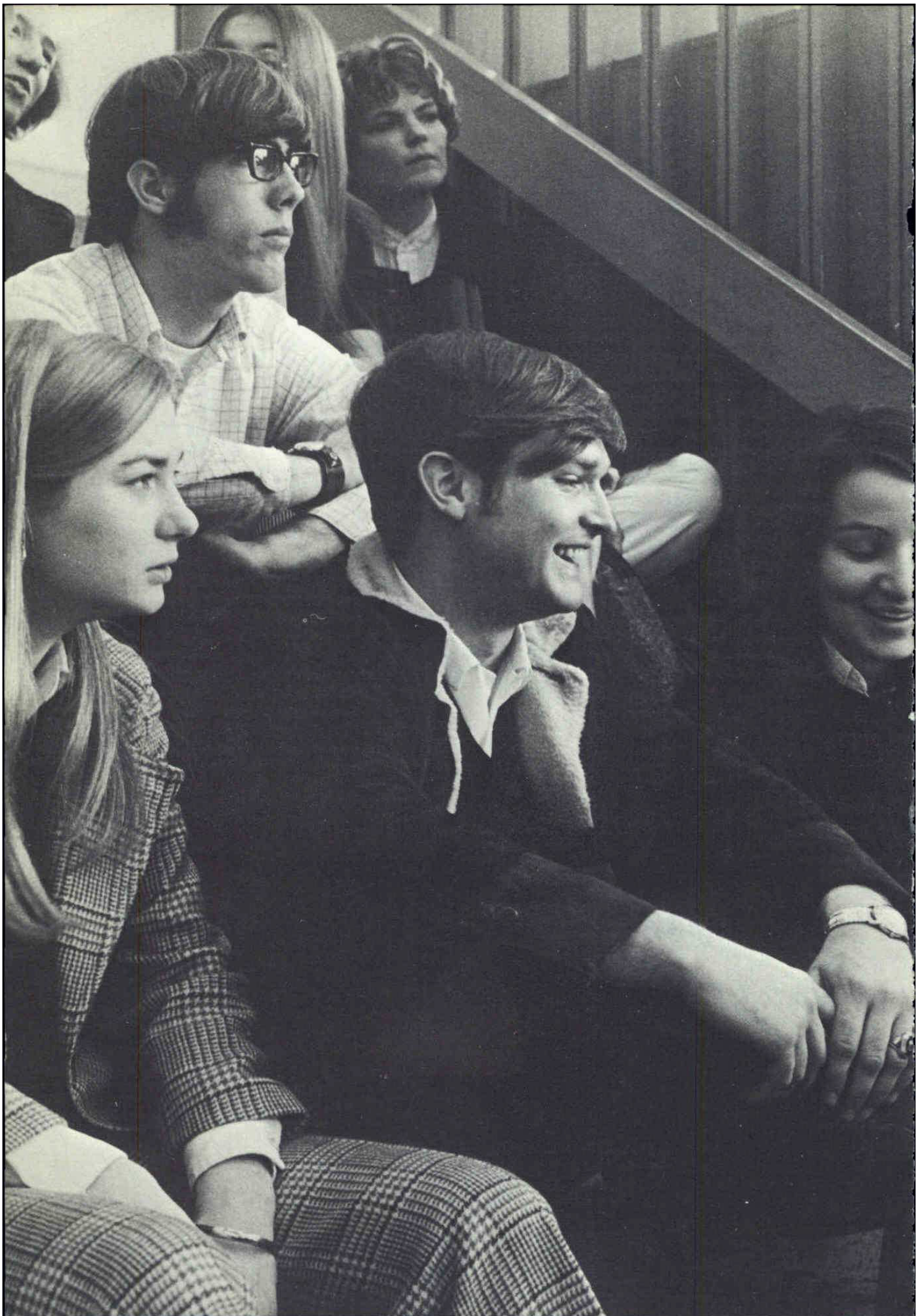


the university  
of wisconsin  
green bay



**The Educational Program  
Part 2:  
Curricular and Co-Curricular Enrichment**







## Part 2: Curricular and Co-Curricular Enrichment

### A TOTAL EDUCATIONAL EXPERIENCE

The educational program at UWGB is a total experience for the student, combining the world of books and instruction with the world outside the classroom in a way that makes him feel his wholeness. The philosophy behind this approach is that what the student is learning and what he is doing have a unity and integrity that validate their relevancy.

Curricular and co-curricular programs, as well as special resources and facilities, combine to enrich and extend the academic plan of UWGB so that the student's involvement is complete and his education is rich and varied.

These programs and resources are designed to meet the needs of a wide and diverse range of students, in addition to providing each individual with the services, activities, and resources he needs to enrich his academic program. Not only do the programs themselves provide flexibility in meeting a wide variety of needs, but the student is allowed maximum flexibility in the selection and use of the resources that most benefit and enhance his particular intellectual, social, and physical needs.

#### Individualization of Learning

The student at UWGB is given great flexibility in the selection of his program. Firmly required courses are minimal in number and many of the requirements are specifications of competence that can be met by special examination. The student who feels he is qualified can pass and receive credit for any course by taking an appropriate examination without enrolling for the course. Most courses taken outside the concentration-option in which a student is majoring can be taken on a pass-fail basis.

The 296-299 and 496-499 series of courses permit individual work for all students. These courses must always be taken for a regular grade (not pass-fail). Normally, a student cannot take more than one 496-499 course per semester. The instructor's advance permission is always needed.

A maximum of ten credits can be accumulated in 296-299 and 496-499 courses. Students must have a 2.5 average or higher to take 296-299 courses. An average of 2.0 or higher is required for 496-499 courses.

All curricula are intended as suggestions only, not as inflexible guides. A student who wishes to propose a major concentration and/or option of his own design may do so. It is subject to the advice and approval of the academic adviser and the academic dean. The student should consider all courses offered by the University as a pool from which he can select those relevant to his objectives. Majors are *normally* interdisciplinary, cutting across college, concentration, and option lines.

For these reasons, courses described in this catalog are not normally cross-listed. Furthermore, the cross-listing of a few courses should not lead the student to conclude that other courses cannot be suitably worked into any particular major.

Prerequisites listed with course descriptions are to be considered as essentially advisory and not as firm requirements. They indicate the level of proficiency required in order to carry on a course. The student who believes he has the level of proficiency necessary without taking the suggested prerequisite can enter the course with the consent of the instructor.

### GRADUATION REQUIREMENTS AND PROCEDURES

The University of Wisconsin-Green Bay offers five undergraduate degrees:

Bachelor of Arts or Science, Environmental Sciences

Bachelor of Arts or Science, Human Biology

Bachelor of Arts or Science, Community Sciences

Bachelor of Arts or Science, Creative Communication

Bachelor of Arts or Science, Administration



For graduation, 124 semester hours and a 2.0 cumulative grade point average are required. A semester's minimum load for a full-time student is 12 credits; the maximum load is 18 credits. Qualified students who wish to take more than 18 credits in any one semester may submit a petition. A normal or average student load is 15 or 16 credits.

### Grading System

Grade point averages are determined on a 4.0 basis. Students with a 2.0 average (C average) or better are in good standing. Those falling below a 2.0 average are placed on probation. The "pass" grade of courses having a pass-fail grading system does not count, unless the course is failed, in grade point averages, nor do grades received from institutions outside The University of Wisconsin system.

### Residence Requirements

In order to graduate from The University of Wisconsin-Green Bay, at least one year of residence (31 credits) in the junior or senior years is required at the Green Bay campus. However, a student must take at least half the advanced work in his concentration or concentration-option in residence. And he must take at least two years (four semesters) of the Liberal Education Seminar. Provided they are UWGB administered, all courses count toward residence whether taken at night, during the summer, during the January Practica, or regularly during the two semesters.

The residence requirement does not imply that a student must live in Green Bay or must carry a full-time schedule of courses. He may commute and he may carry only a part-time load and still meet the residence requirement.

A student who has completed the junior year and who meets the residence requirement, but who cannot complete his senior year in residence, for reasons of the military draft, marriage, or whatever cause, can graduate from UWGB. He must contact his adviser and, with his approval and that of his theme college or school,

work out appropriate courses to be taken at another university as a substitute for residence at UWGB as a senior.

A student transferring to UWGB as an advanced freshman (42 credits or less) must meet all the requirements of the University and his theme college, if there are any. Any student transferring to UWGB with more than 42 credits, but less than senior standing is required to complete the junior and senior Liberal Education Seminars only. Those students transferring to UWGB with senior standing meet the LES requirements by taking the six credits of the Senior Seminar plus six credits of the sophomore Liberal Education Seminar or six credits of the junior LES. A student transferring as a sophomore or a junior will normally be given credit for meeting the distribution and tool subject requirements if he has taken courses that, although not equivalent, meet the spirit of the requirements.

### Change of Campus

A student may move freely from one UWGB campus to another. The only procedure necessary is to file a Change of Campus Notification form with the Office of the Registrar. This form is available at the Office of the Registrar on the Green Bay campus and at the Student Affairs Offices on the Fox Valley, Manitowoc, and Marinette campuses.

### Academic Plan Form

During the first semester of the junior year each student must file a form, the Academic Plan, stating how he has met or plans to fulfill all-University degree requirements (Liberal Education Seminars, distribution courses, and tool subjects) as well as requirements for his college, if there are any, and his concentration, concentration-option, and professional collateral, if applicable. This plan should be filed with the Office of the Registrar, where it is used to determine if the student has met all the requirements for graduation. Transfer students provide similar information on another form, Academic Petition for Transfer Students.



Academic Plans must be filed by the appropriate deadline date as follows:

June Graduates—August 15  
 December Graduates—June 1  
 August Graduates—March 1

If the student files the approved Academic Plan prior to the deadline date, he will receive an official senior summary prior to his registration for his last required term.

#### **Request for Graduation**

A student who expects to fulfill degree requirements by the end of the term must file a request for graduation with the senior summary section of the Office of the Registrar. This must be done by the end of the third week of the student's final semester, or by the first week of a summer session for August graduates. The responsibility for filing this request is solely the student's.

#### **Senior Summary**

During the semester after a student has accumulated adequate credits for senior standing, 84 or more, he will receive a summary of the courses and credits to be completed prior to certification for graduation. An approved Academic Plan or an Academic Petition for Transfer Students must be on file in the Office of the Registrar before a summary can be issued. Whenever a student modifies his plan or petition, the substitutions must be approved and such approvals filed in writing in the Office of the Registrar.

#### **Early Graduation**

The UWGB 4-1-4 semester plan offers the student the opportunity to graduate easily within three years if he wishes. He can do this by taking full course loads during each major fall and spring semester, plus attending the special studies period held each January and the eight-week summer session.

By attending each fall and spring semester and each January special studies period, a student

can easily graduate in three and one-half years. The student who prefers to graduate in four years can take slightly lighter course loads during the regular semesters.

#### **Special Petitions**

Whenever a student wishes to waive or modify certain requirements, he must request permission to do so by submitting a form, the Special Academic Petition. The student must state clearly his proposal for modification or waiver and the reasons why this proposal is educationally sound and reasonable. The Special Petition should be filed early enough to ensure a final decision prior to the next registration or other appropriate deadline dates. After the petition is completed the form should be filed with the Office of the Registrar.

#### **SEMESTER PLAN**

The University operates on a 4-1-4 semester plan, with the fall semester opening in early September and ending in mid-December and the spring semester running from early February to the end of May. A special studies period is held during the month of January.

#### **January Practica and Special Studies Period**

The UWGB instructional program is organized with a view to helping students relate values, purpose, and learning to crises of our environment. Relevance is a key concept underlying the theme colleges and is even more intensified by the focus on environmental crises implicit in the concentrations.

The 4-1-4 calendar provides a unique one-month focus where energies can be concentrated on relevance. January programs emphasize the application of theory and concept to a problem setting. Thus, special small group programs called practica are developed by faculty members for students on an open-choice basis.

The required projects related to the sophomore and junior liberal education seminars are completed by many UWGB degree candidates during



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The required projects related to the sophomore and junior liberal education seminars are completed by many UWGB degree candidates during



January. These projects are held both on and off campus. In addition, structured seminar programs are available, especially for freshmen and seniors. These seminar programs are held on campus and related to relevant themes. Other program activities are planned by colleges, concentrations, and options.

Students have the opportunity to propose individual study projects (courses numbered 296-299 and 496-499 in various fields) after obtaining the sponsorship of a member of the UWGB faculty who supervises and evaluates the work.

Program activities carry from one to four credits. A student pre-registers for a particular activity during January when he enrolls in September.

Special January Practica are numbered 195, 295, 395, or 495 and the title of the seminar or independent study project appears on the student's transcript. No additional fees for continuing students or new second semester registrants are charged for January practicum participation. Any student registering only for January practicum credit or non-credit is charged the regular per credit fee. Students are expected to pay expenses incurred in any off-campus program. Some financial aids are available for these programs.

A special series of fine arts activities and lectures is sponsored in relation to the themes addressed during January. Student organizational and social activities continue during the month with special programs.

In general, the January Special Studies period can be used for the following purposes:

1. For the practica portion of the Liberal Education Seminars in the sophomore and junior years (LES courses 212, 214, 216, or 218 at the sophomore level and LES courses 312, 314, 316, or 318 at the junior level). Three credits each.
2. For special seminars or practica especially for freshmen and seniors, but may be taken by sophomores and juniors as well (January

Practica 195, 295, 395, or 495). Normally three credits.

3. For developmental or extra elementary level work, especially in English, mathematics, and the foreign languages. Courses and credit as appropriate. Especially suitable for freshmen and sophomores.
4. For individual study projects. Appropriate for all students. (Courses numbered 296-299 and 496-499 in various fields). One to four credits, as arranged.

### Summer Session

A summer session is conducted at each of the campuses of The University of Wisconsin-Green Bay. Summer programs are an integral part of the academic plan, although not required. Undergraduate courses of a wide variety are offered to complete distribution, tool subject, option, concentration, and professional school requirements.

Many students from colleges and universities across the country attend the summer session at UWGB campuses, taking advantage of courses which meet degree requirements at their parent institutions. Courses are scheduled to make it possible for students to work full time and earn college credit simultaneously. A large number of adults in the communities of the area also take advantage of the summer program of studies. Courses at the Green Bay campus are generally scheduled during the daytime, with some in the late afternoon and evening. At the two-year campuses, courses are generally held during late afternoon and evening hours, with some daytime scheduling as well.

The recent high school graduate will find credit courses and other special programs available to him during the summer. Study skills, introductory courses in many fields, and special learning programs in such areas as honors work, composition skills development, basic mathematics preparation, and foreign language acceleration are conducted. Tutorial assistance and individual



or small group programs characterize this aspect of special summer services.

Undergraduate studio experience in a variety of art forms is available through the Peninsula Summer Studios, offered at Fish Creek in Door County in cooperation with University Extension and the Peninsula School of Art, Inc.

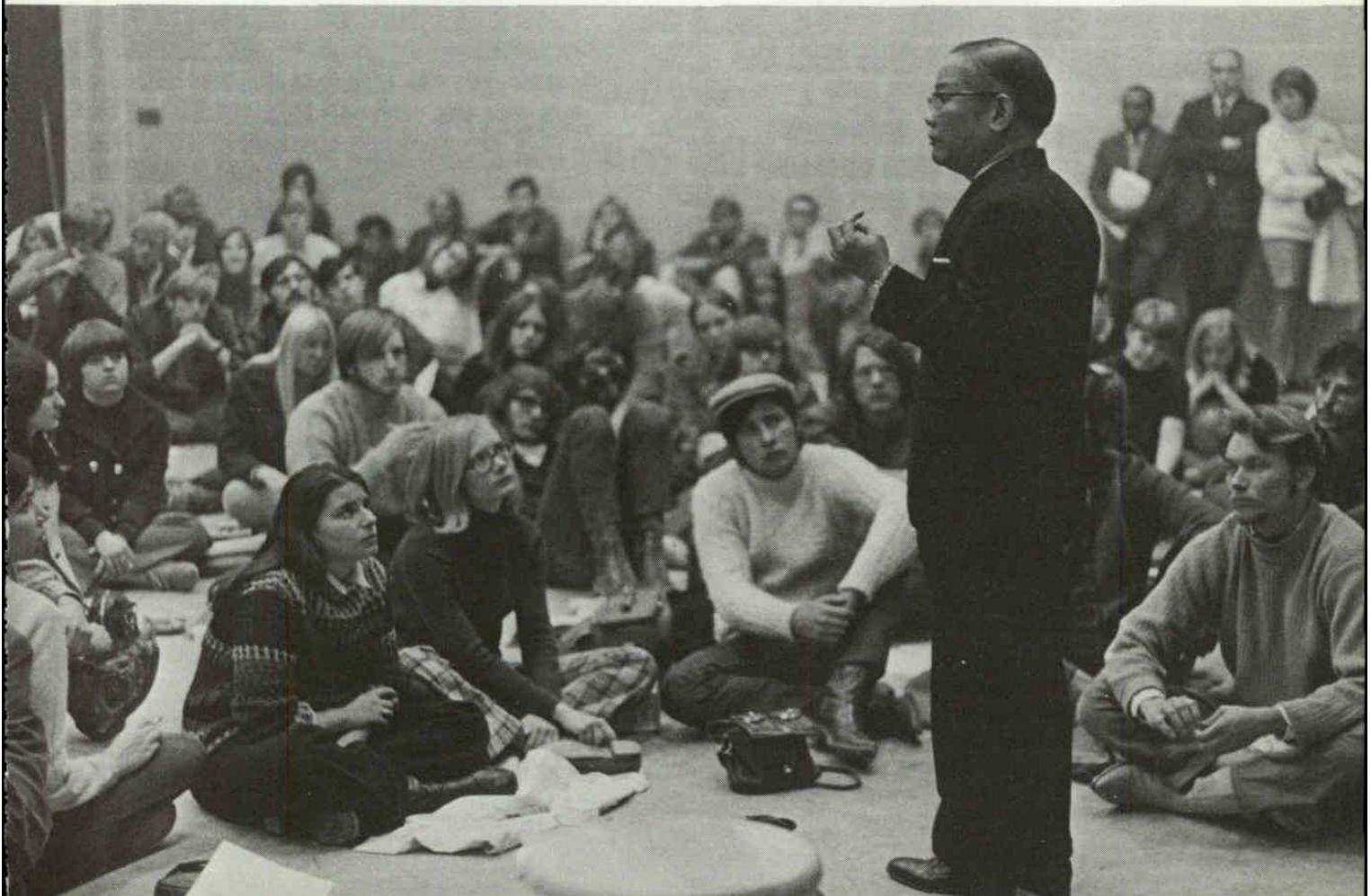
A unique program of dramatics activities is offered at each campus during the summer session. Marinette's popular Theatre On The Bay produces four shows over an eight-week period. Other campuses produce dramatic and musical offerings.

A number of courses at both the graduate and undergraduate levels are offered for intensified periods of less than eight weeks in length. This

enables the student to earn credit for summer work in a specialized area without devoting the entire summer to it.

Liberal Education Seminar requirements in off-campus and cross-cultural practica can be satisfied during the summer with appropriate study trips or work experience and seminars.

University Extension, in cooperation with UWGB, offers graduate courses at nearly all campuses. These courses are in subject matter fields as well as professional education. Many area teachers find that they can complete certification requirements, earn credits toward an advanced degree, satisfy school board requirements, and continue their professional development by taking these courses at UWGB during the summer.





For the high school student, clinics and workshops, of one or two weeks in length, are a regular part of the UWGB summer session. Programs in such areas as band and choral music, basketball, soccer, golf, reading skills, and drama are available at various campus locations. While many area students commute to these clinics and workshops, the availability of on-campus housing now makes it possible for students from greater distances to attend.

Social and cultural activities are planned each summer by a program director at each campus. Students will find many opportunities for fun while they earn credit.

Summer session fees and admission procedures are described in Chapter 3.

Complete information on specific summer programs may be obtained from the Director of Summer Sessions, The University of Wisconsin-Green Bay or the director of student affairs at the campus the student plans to attend. Special publications and announcements about the coming summer's programs are available in advance.

### **SPECIAL PROGRAMS**

UWGB has developed special academic programs to meet the needs of particular students. Three such programs are administered by the office of the Director of Special Learning Programs: the Honors program, the New Opportunities programs, and the Special Learning program.

#### **Honors Program**

The honors program identifies, rewards, and develops students who exemplify the characteristics stated as the educational goals of the University. The Honors student is seen as one who combines high academic achievement with demonstrated willingness to make enhanced capacities and talents available to other members of the University community. The freshman whose grades place him within the top 1 percent of the entering class is invited to begin Honors

work during his freshman year and he may enjoy all the special prerogatives provided for students in the Honors program.

The sophomore or junior is invited to become a member of the Honors program if he has at least a 3.5 grade point average. The student with a grade point average below 3.5 may also be invited if he has demonstrated outstanding achievement over two semesters of academic work and has demonstrated willingness to participate actively in the life of the University community.

Examples of participation by Honors students or prospective Honors students include work as resource assistants in the Liberal Education Seminars, tutors in the Special Learning programs, and counseling assistants in the Office of Student Affairs. Special prerogatives for Honors students include the following:

1. An opportunity, in consultation with theme colleges or Honors advisers, to redefine degree requirements usually imposed upon other undergraduates; specifically, prerequisites for courses and all-University requirements may be waived.
2. An opportunity to waive the all-University limit of no more than 10 credits of 496-499 courses; the honors student may take as many as he wishes.
3. An opportunity to participate in special independent study programs through the identification of a distinctive Honors concentration or concentration-option.
4. An opportunity, in consultation with theme college or Honors advisers, to pursue for credit a number of tutorial opportunities with faculty, limited only by the interest of the individual student involved.
5. An opportunity to elect special Honors sections of the Liberal Education Seminars and selected other courses and to participate in Honors off-campus experiences during the sophomore, junior, and senior years.



6. An opportunity to attend special lectures, seminars, and colloquia involving guests of the University and limited to Honors students.
7. Special library privileges, including the use of special study areas and book loan privileges similar to those enjoyed by faculty.
8. An opportunity to participate in exchange programs with Honors programs at other universities.
9. A diploma which notes that the student is an Honors graduate of the University as well as a graduate of a theme college or school.

#### Graduating With Honors—Senior Honors

A student with a cumulative grade point average of 3.25 is qualified to graduate *cum laude*. A student with a cumulative grade point average of 3.5 who has successfully taken senior Honors is qualified to graduate *magna cum laude*. A student with a cumulative grade point average of 3.75 who has successfully taken senior Honors is qualified to graduate *summa cum laude*.

Each of the four theme colleges and the School of Professional Studies offer students special senior honors. These programs are particularly relevant to those who seek to graduate *magna cum laude* and *summa cum laude*. A special senior project, normally a senior thesis, a senior research project, or a senior creative project is the prime focus. Information on senior honors is available through the office of the academic dean.

#### New Opportunities Programs

Two distinct programs have been developed for students seeking new educational opportunities. These programs are designed to make possible undergraduate education for (1) those who do not initially meet the normal entrance requirements of the University and (2) older students who wish to complete an undergraduate degree after a lapse of years.

The New Opportunities programs constitute an effort to carry out the following resolution adopted by The University of Wisconsin Board of Regents on May 17, 1968:

Whereas the problem of providing equal educational opportunities is one of the urgent and major crises facing this state and the nation; and

Whereas, by long tradition, this University has devoted its instructional, research and extension efforts to the problems of disadvantaged people whether disadvantaged by economics, geography, cultural deprivation or motivation; and

Whereas the University Faculty Council, the University Faculty Assembly and the University Administration have recommended immediate attention to the problems of equal opportunity for all the citizens of the state,

Be it resolved that the Regents of The University of Wisconsin direct the administration of the University to expand, within the limits of its resources, the University efforts to provide equal opportunity for disadvantaged citizens, with primary emphasis on Wisconsin residents. . . .

Students may seek admission to UWGB under the New Opportunities program if they are clearly in need of its special resources. Such need will be verified by consultation with their high school advisers and teachers and religious and community leaders. Others who may seek admission under this program are students whose college careers have been curtailed by military or family obligations. Special prerogatives for students in the New Opportunities program include the following:

1. An opportunity to participate without additional cost in a special learning program for UWGB credit during the month of August before the freshman and sophomore years.



2. An opportunity to participate without additional cost in a special learning program for UWGB credit during the month of January before the second semester of the freshman and sophomore years.
3. An opportunity to take advantage of credits earned in August and January by reducing the academic program by 20 percent during the regular academic year.
4. An opportunity to work with younger students in the New Opportunities program upon completion of the first two years of the program.
5. A general opportunity to improve skills and capacities by use of UWGB Special Learning services, particularly in English composition, speech, and mathematics.
6. Close work with program advisers to assure that the student's academic program meets his immediate and long-range needs.



Freshman enrollees in the New Opportunities program should be aware that a leading objective of the program is to assure that they will be able to complete the junior and senior years without further special academic assistance.

### **Special Learning Programs**

Placement examinations may indicate the need for special below-college-level work. Whether as a result of such tests, through the advice of a member of the faculty, or on his own initiative, a student may take such work in English composition, speech, and mathematics.

While some below-college-level courses do exist at UWGB, most special work is available on a tutorial basis with Special Learning Programs personnel and is arranged through the office of the Director of Special Learning Programs.

### **OFF-CAMPUS STUDY**

It is the philosophy of The University of Wisconsin-Green Bay that man's problems should be observed firsthand and experienced, not just studied through books or in the classroom, laboratory, or studio. Consequently, off-campus experiences for credit and non-credit are available which qualified students are encouraged to elect.

Major opportunities for off-campus study are contained in the sophomore and junior Liberal Education Seminars. During the sophomore seminar, a special project is done using the Northern Great Lakes Region as a laboratory. The off-campus experience in the junior seminar is in another culture. Opportunities to visit other parts of the United States or abroad will be available to qualified students. For students who participate in VISTA, the Peace Corps, or similar programs, credit equivalent to that given for all or part of the sophomore and junior seminars is available. In addition to the seminars, which are required of all students at the University, other types of off-campus programs for credit include special practica during the January special studies term.



A variety of volunteer off-campus opportunities are also available. These normally do not carry academic credit.

#### **COMMUNITY OUTREACH: CONTINUING EDUCATION OPPORTUNITIES**

As part of its outreach responsibilities and efforts, UWGB makes its educational programs and academic resources available to the people and communities of Northeastern Wisconsin. Late afternoon and evening courses are scheduled throughout the year and all daytime courses are open to adults who wish to enroll either on a part-time or full-time basis. In cooperation with University Extension, UWGB also provides continuing education opportunities through classes, seminars, and workshops for working men or women, retired persons, nonprofessionals and professionals, young and old, poor and prosperous. These opportunities are scheduled at the campuses in Green Bay, Marinette, Manitowoc, and Menasha and elsewhere at times convenient to those interested in participating.

In this age of rapidly changing technology and increasing educational demands for advancement, more adults are turning to their university campuses for additional education. Some are working toward career goals which include a Bachelor of Science or Arts degree. Others are enrolling in courses for credit that will enhance their educational or professional attainments.

UWGB encourages all adults to begin or continue their higher education. Those who wish to take courses for credit may (1) enroll as regular students on a full-time or part-time basis or (2) enroll as special students who do not choose to obtain degrees. The special student may enroll as a regular student later, if he wishes.

A number of opportunities are open to each adult. Regular daytime courses are available to those who qualify and are able to attend. Late afternoon and evening courses, especially convenient for the man or woman who has a regular daytime employment schedule, are available both during the regular school year and during the summer session.

Adult members of the community register for credit in the same manner as other students. Fees are established on the basis of the number of credit hours taken. The Office of Student Affairs at each campus can provide specific information and assistance on registration, fees, and related matters. Adults who have questions and special concerns about their educational plans are encouraged to contact the Special Assistant for Returning Adults in the Office of Community Outreach and Research.

#### **Late Afternoon and Evening Course Opportunities**

By their nature or content, some of the courses in UWGB's regular academic curriculum are of particular interest to adults and are scheduled for late afternoon or evening. Examples of credit courses that might be offered in the late afternoon or evening include the following:

Administration: Labor Relations 420, International Labor Relations  
 Administration: Organization and Operations 310, Small Business Management in the Northern Great Lakes Region  
 Anthropology 304, Family, Kin, and Community  
 Biology 202, Biology of Cells  
 Communication-Action 133, 134, Voice and Speech  
 Earth Science 202, The Earth's Physical Environment  
 Economics 401, Regional Economic Analysis  
 Education 405, Individualizing Instruction  
 Engineering 302, Statics I  
 Growth and Development 331, Infancy and Early Childhood  
 History 403, Political and Social History of Modern America  
 Literature and Language 106, Great Books  
 Literature and Language 212, Introduction to Creative Writing  
 Literature and Language 225, 226, (French, German, Italian, Russian, or Spanish) Composition and Conversation  
 Mathematics 095, Intermediate Algebra  
 Mathematics 250, Computer Science I  
 Nutritional Sciences 302, Nutrition and Culture



Political Science 405, American Executive Behavior  
Psychology 335, Psychology of Attitudes and Public Opinion  
Sociology 203, Minorities  
Visual Arts 202, Introduction to Ceramics

These or other courses may be offered in the late afternoon or evening, depending upon the adult interest. Individuals interested in having a particular course or group of courses scheduled for late afternoon or evening should make their interests known to the Special Assistant for Returning Adults in the Office of Community Outreach and Research.

#### **Noncredit Classes, Workshops, Seminars, and Conferences**

UWGB and University Extension cooperate to provide various noncredit offerings that focus on the problems and opportunities of communities, individuals, and families.

Offerings focusing on communities may cover such topics as enhancing environmental quality; community and regional planning and development; economic and social development of Northeastern Wisconsin; business, industry, and labor management; recreation development, including planning and management of facilities and services; conditions of individual, family, and community disadvantage; and cultural development in communities.

Offerings with an individual focus cover a broad array of possibilities, including professional improvement in the fields of education, business management, public administration or governmental services, recreation and leisure use, communications, and social services. Noncredit offerings in literature, history, philosophy, music, theater, dance, and the visual arts may contribute to the general educational advancement or cultural enrichment of the individual.

#### **Distinctive Seminars and Conferences**

From its inception, UWGB has conducted special academic seminars and conferences which help

to highlight the ecological focus of the University and the unique contributions of its four theme colleges and its School of Professional Studies. Nationally known individuals, as well as leaders from Wisconsin, are involved in these seminars and conferences. All interested students, faculty, and area citizens are encouraged to participate.

An example of such a conference was the symposium on "Population Growth: Crisis and Challenge," held in January, 1970 and sponsored by the College of Human Biology. A distinguished group of scientists and social scientists attracted some 175 educators, students, and community citizens. Conferences of this type are a major instrument by which UWGB can truly make the general citizenry a complementary part of the student body.

#### **Undergraduate Credit Courses Through University Extension**

UWGB, in cooperation with academic departments on the Madison and Milwaukee campuses of The University of Wisconsin and University Extension, encourages some courses for undergraduate credit that otherwise would not be available here. These courses are scheduled at the campuses and at such other places as meet the needs of the residents.

Some summer courses which can be taken by adults are offered cooperatively by University Extension and UWGB. For example, summer courses are offered at Door County in painting, sculpture, and art metal. Summer courses also are offered at the four campuses of UWGB. Most classes are held at times convenient for adults.

#### **Graduate Credit Courses Through University Extension**

In cooperation with academic departments on the Madison and Milwaukee campuses, University Extension offers selected graduate credit courses in Northeastern Wisconsin. Examples of such courses are Computer Applications in Educational Administration, Elementary School



Curriculum, Instructional Innovations and Procedures for Driver and Traffic Safety Education, Human Behavior and the Social Environment, Social Policy, and Social Welfare Organization.

**Individual Educational Objectives**

Individuals who wish to make some evaluation of their possible educational objectives or goals can obtain assistance from counselors in the Office of Student Affairs or from the Continuing Education Agent, University Extension, at any of the UWGB campuses. Counselors will in turn refer special questions or requests for information to the UWGB academic dean or to other appropriate individuals.

**Community Outreach Possibilities**

Because of its focus on problems of the environment and its mission to help resolve those problems through education, UWGB is particularly responsive to the needs of Northeastern Wisconsin. For information about the community outreach possibilities and efforts of UWGB, contact Assistant Chancellor, Office of Community Outreach and Research, The University of Wisconsin-Green Bay, Green Bay, Wisconsin 54302.

**STUDENT LIFE**

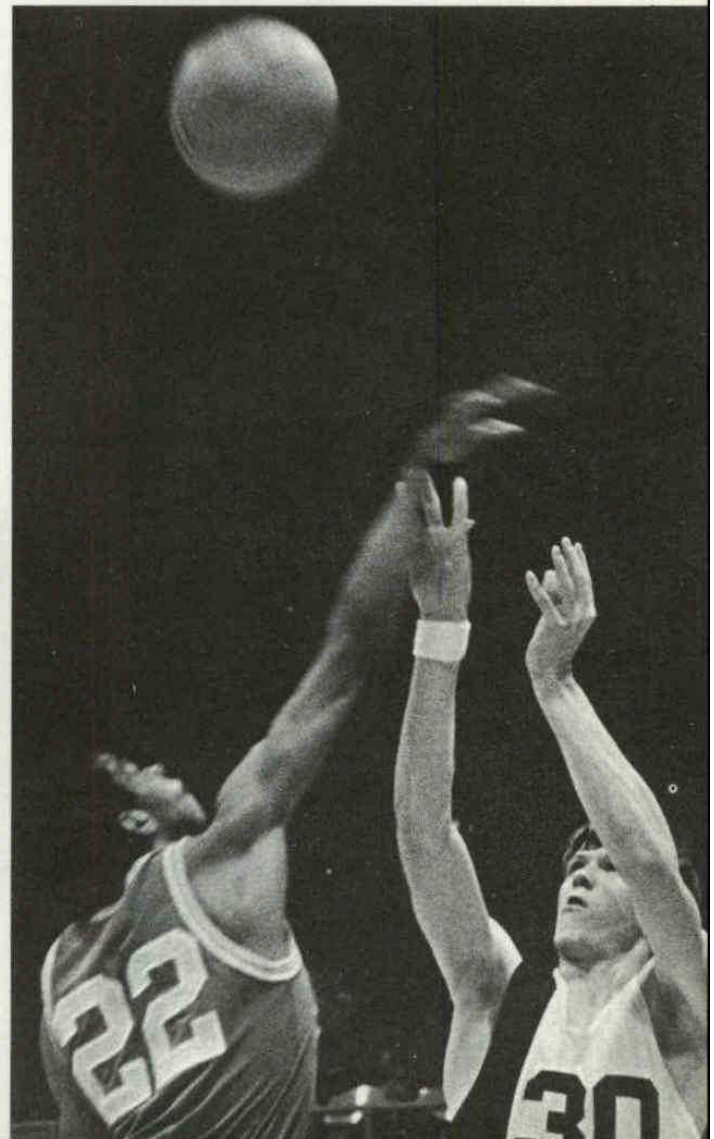
Although the emphasis is on acquiring intellectual skills at the University, it is important that emotional life and practical experiences not be neglected. It is the goal of co-curricular programs to integrate the intellectual and emotional experiences of the student. Included in this integration are the important tasks of applying newly acquired intellectual skills and acquiring new non-academic abilities.

Students are encouraged to become aware of and involved in the community outside the University, reflecting UWGB's emphasis on the relevance of education and its application to area problems. This is accomplished in part by a volunteer program through which concerned students have an opportunity to apply their skills in tutoring, working with psychologically handicapped youngsters, and in other community services.

Students also have taken an active role in their own education by sponsoring speakers, teach-ins, and bus trips to gain information and insight into political and social issues of current interest.

Artistic accomplishment, fostered by participation in the University's music, theater, dance, and visual arts programs, is demonstrated by students participating in band and choral groups, student play productions, art fairs, and many other performance type activities.

The dynamic relationship between the curriculum and the co-curriculum at UWGB is enhanced by





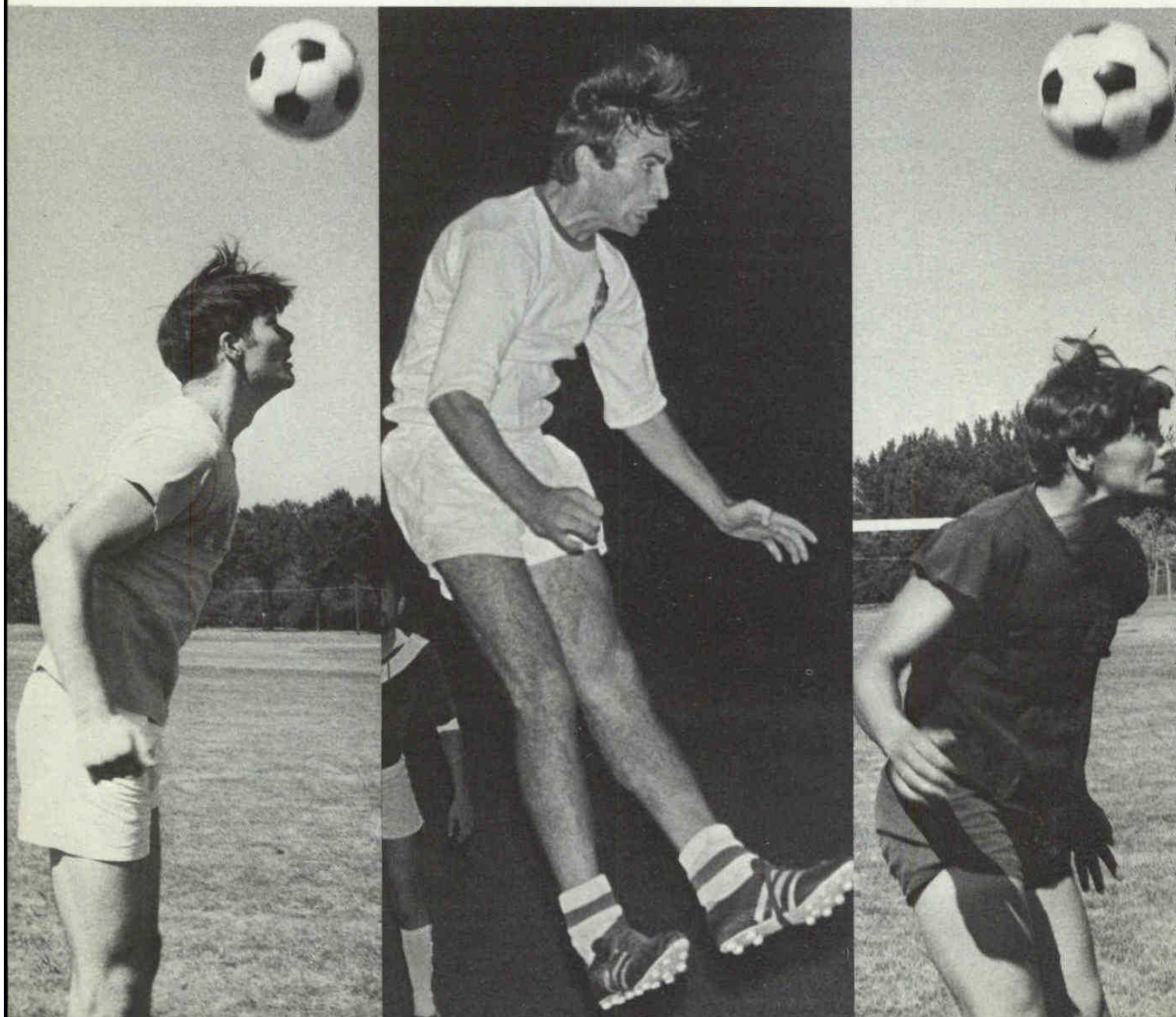
informal individual relations between students and faculty and frequent faculty-student discussion groups meeting in faculty homes.

**Shorewood Club**

The UWGB student center, the Shorewood Club, is situated on a bluff overlooking the waters of Green Bay. It is a place where students, faculty,

and staff gather for informal meetings, seminars, and other activities. Dances, receptions, and other more formal activities also are held here. Food service is available during the noon and early evening hours.

The Shorewood Club also provides a center for students who live on campus to meet informally with those who commute. A special program of





activities is planned to bring all students together. The student center is governed by the Shorewood Board, whose members are elected by the student body.

### **Intercollegiate Athletics**

Basketball and soccer are given major emphasis in UWGB's program of intercollegiate athletics. Teams from the four-year campus in Green Bay compete with other major four-year institutions throughout the midwest and around the country in these sports.

Green Bay varsity teams may also compete in such sports as tennis, golf, and wrestling. The UWGB campuses at Marinette, Manitowoc, and Menasha continue to participate in the Wisconsin Collegiate Conference for two-year campuses in such sports as cross-country, golf, tennis, wrestling, soccer, and basketball.

### **Intramural Activities**

The University of Wisconsin-Green Bay offers a comprehensive program of intramural activities for men and women and encourages each student to participate in one or more such activities. These activities are individual, dual, and team oriented and are coeducational whenever feasible. Intramurals are highly organized with established rosters, schedules, rules, and officials and are promoted in league and/or tournament form. The programs are offered at most hours of the day and days of the week. On-campus sites provide for the majority of the programs but off-campus facilities are occasionally utilized. The emphasis is upon participation, competition, and enjoyment in the following areas:

FALL: Archery, field hockey, flag football, golf, soccer, speedball, and tennis.

WINTER: Badminton, basketball, bowling, fencing, handball, pocket billiards, swimming, table tennis, volleyball, weight lifting, and wrestling.

SPRING: Cycling, golf, horseshoes, softball, tennis, and track and field.

In addition, the four UWGB campuses compete in basketball, bowling, pocket billiards, swimming, table tennis, and volleyball. Other all-UWGB tournaments are conducted at other times of the year. Men's and women's competition is scheduled in these events whenever appropriate.

The intramural program is organized and administered by the Office of Intramural and Recreational Activities and the Intramural Activities Council. The Council is composed of team captains, activity representatives, and staff advisers.

Recreational activities, in contrast to intramural activities, are more individual and less organized. Their purpose is to prepare students for lifelong participation in activities which they find enjoyable and suitable. On-campus facilities and many items of basic equipment are available for students to use.

A Cooperating Community Recreational Agencies Program functions to provide recreational opportunities not available on campus. Under this program students are afforded special privileges or benefits at private, semi-private, or commercial recreational facilities.

### **Student Development Center**

The Student Development Center is an educational resource center designed to help students at UWGB realize their potential for bringing about creative change both in themselves and in the world. Unlike many traditional college counseling centers where just "students with severe problems" are seen, the Student Development Center tries to be responsive to the needs of all students. The primary objective of the Student Development Center is to help facilitate the emotional growth and development of all students. A staff of trained resource persons is available for counseling, human relations training, advising, and testing.

### **Counseling**

Both individual and group counseling are utilized to help students make decisions that affect their



educational, vocational, and personal-social development. While most students generally make sound decisions in these areas, the SDC staff members are valuable resource persons for many students who would like some help in making thoughtful and informal decisions. All students using the SDC are provided with a confidential setting where they can explore their plans and goals. Students requiring long-term counseling or those with severe emotional problems often are referred to appropriate community resources and agencies.

**Academic Advising**

All students who have not chosen a theme college are afforded academic advising through the staff of the Student Development Center. Assistance in academic program planning, particularly during registration periods, is available

to these students. After a student has filed a program and enters one of the theme colleges, a faculty member from that theme college or School of Professional Studies assists the student with further academic advising. Academic advising, like counseling, is designed to help students make realistic and informed educational and vocational decisions.

**Testing**

In combination with advising and counseling, testing can be useful in the educational-vocational decision-making process. This is another educational resource available to all students.

Placement tests are also available for those students who wish to know at what level their previous educational experience will permit them





to learn most effectively. Placement tests in mathematics and foreign languages are examples of this kind of information.

#### **Human Relations Training**

Human relations groups coordinated by the Student Development Center are designed to foster increased authenticity with self and others, expanded awareness of self and environment, improved interpersonal relationships, discovery of hidden talents and potentials, and the increased learning efficiency of a large number of students. A wide variety of time-structured groups are offered to all students on a volunteer basis.

#### **Office of Placement and Career Information**

The UWGB Placement Office provides comprehensive career advisory and placement services. (These services are designed for all UWGB students as well as for alumni desiring new positions.)

The Placement Office endeavors to bring to the campus employers from business, industry, government and education, providing students with a wide range of job opportunities. In addition, a library of up-to-date literature on job opportunities is maintained and career guidance is available to students who request it. Students are assisted in making contacts and preparing resumes for job interviews.

In conjunction with the Placement Office and the Student Development Center, a student can take advantage of individual or group counseling sessions to assist him in reaching a career decision based on a full appreciation of his potential.

The Placement Office also provides information and assistance to seniors wishing to continue their education at the graduate level. The Placement library includes graduate school catalogs and information on financial assistance.

## **RESOURCES**

### **Office of Learning and Information Systems**

The responsibility of the Office of Learning and Information Systems is to support the instructional and administrative functions at all campuses of the University through media and audiovisual services, computing and data systems, UWGB libraries, central duplicating, and the work of the curator of art. Incorporation of these services for enrichment of instruction under a single central office helps to assure that the various units of University life will be drawn together into an integral whole and served in the most effective manner possible.

### **Instructional Resources**

The Instructional Resources area of the Office of Learning and Information Systems functions as the nerve center for all media applications required by the University. As the nucleus for instructional services, this group maintains a supply of audiovisual and other media equipment at each campus which, with appropriate exchanges among the campuses, provides ample facilities for virtually all instructional needs.

Growth of the Green Bay campus and construction of new buildings have permitted the Instructional Resources area to expand. Modern studios and production facilities have been established for preparation of audio tapes, video tapes, slides, films, and other media. The audio studios and control rooms include provision for on-air broadcasting, as does the television facility. Output from all control boards can be switched through microwave links for immediate reception at the three outlying campuses.

Classrooms and study carrels on the Green Bay campus are connected to a master distribution center for audio and video programming. Materials for the distribution system, such as tapes, films, slides, filmstrips, and single-concept loop films, are housed in a media library where professional personnel are employed to advise



faculty and students on the most effective audio-visual applications.

Support for the production facilities is available from a fully-equipped and staffed graphic arts area, as well as still and motion picture photography services. Integrated program planning and development is assured by concentrating supervision of all Instructional Resources efforts in a single office.

#### **Computing and Data Services**

In September, 1969, a high-speed general-purpose computer was installed on the Green Bay campus to form the heart of the University's Computing and Data Services facility. The office is now entering an expansion phase as space assignments in the Instructional Resources building are revised.

The academic and professional staff of Computing and Data Services is comprised of programmers, systems analysts, computer and machine operators, administrative and clerical personnel, and hourly student employees. This staff supports the academic program of UWGB, sponsored and unsponsored research for faculty members, and administrative requirements of University offices, including the business office, library, student affairs, and academic administration. Consulting services are also offered to students and faculty in such areas as use of facilities, user program design, software availability, program testing, and use of basic machines.

Access to computer facilities has been brought directly to the locations of administrative and instructional activity through a system of remote terminals strategically placed on the Green Bay and outlying campuses. Capability of the UWGB computer system is multiplied by its link to the statewide University of Wisconsin computing utility network, permitting programs in a wide choice of computer languages and software.

#### **Libraries**

A carpeted, air-conditioned, eight-story Library-Learning Center is scheduled to open in the fall of 1971. The library is thoroughly contemporary *in spirit and in utility*. Employing the latest developments in library automation and planning; embodying attractive and practical design; centrally located on the campus; providing for the comfort and convenience of its readers and staff; endowed with a warm, pleasant atmosphere which invites students and stimulates learning in its many modes; and stocked with books, periodicals, and a full range of resource materials in all forms, the library is the intellectual center of the campus.

Students currently enrolled in the University have access to the materials and services to be provided in the new building through attractive temporary library quarters housed in the Instructional Resources Building. Use of a computer and the most advanced processing techniques have helped to provide more than 100,000 books, 10,000 reels of microfilm, more than 100,000 microprint cards, and various other types of library material now being used by students. The combined periodical subscription list for all UWGB libraries now totals about 2,200 titles, with backfiles of most titles available on microfilm.

The library has been designated as a full depository for United States government documents and for Wisconsin documents. A complete set of United Nations documents and selected documents of foreign countries is maintained on microprint. In addition, the library is a depository for Wisconsin and Michigan maps of the U.S. Geological Survey. Negotiations are being completed to have the library designated as an Area Research Center of the State Historical Society.

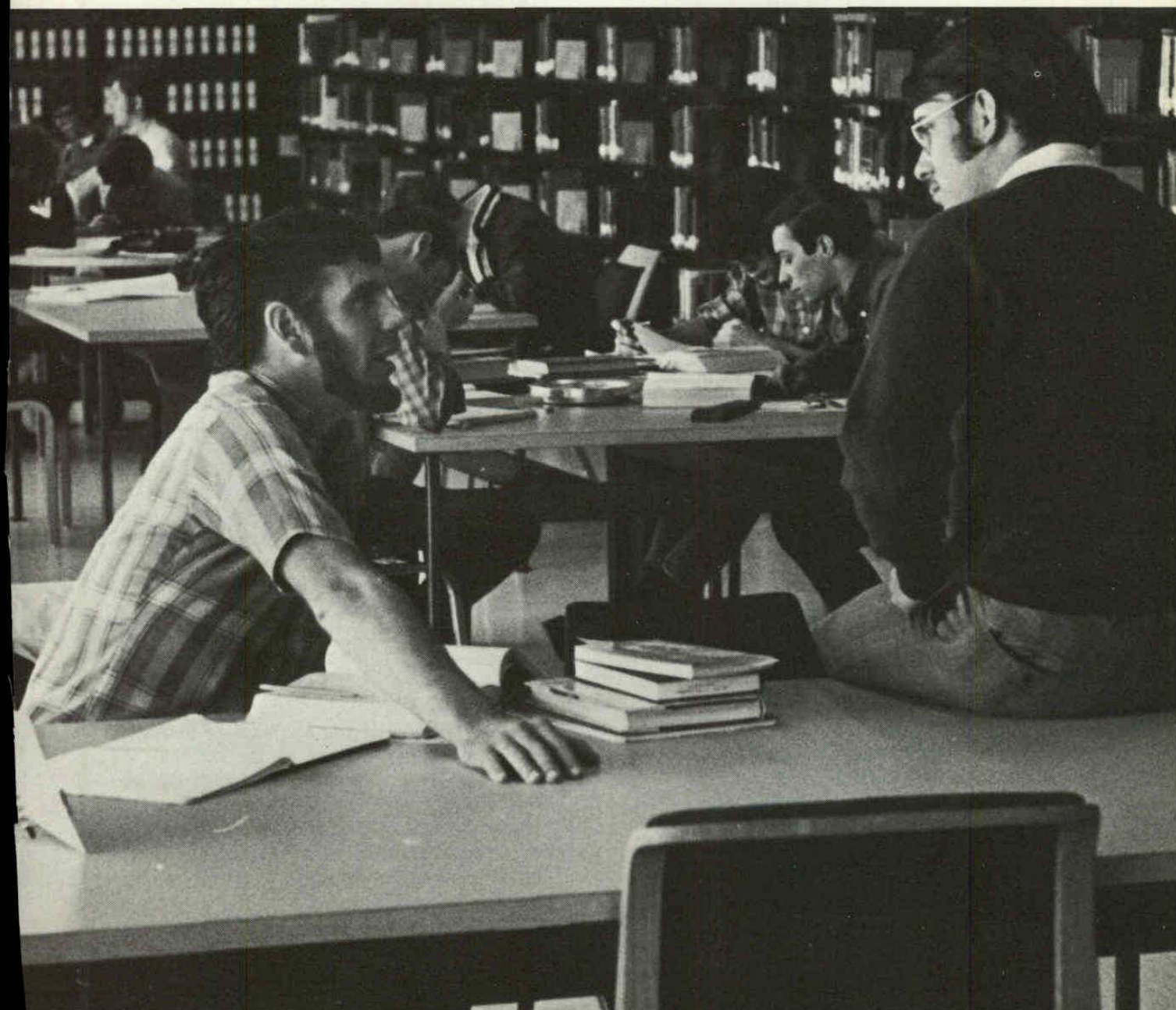
A highly trained staff is now on hand to assist students and faculty in their work. The library's open stack arrangement brings readers and books together quickly and pleasantly. Carrels, tables, and group study rooms are provided in close proximity to the collection for convenience



and uninterrupted study. Carrels are electronically connected to a central audio and video distribution facility. Resources of the Memorial Library in Madison are made available through weekly truck service to Madison aided by a microfilm copy of the Memorial Library public catalog standing near the UWGB public catalog. The library is also an active member of NEWIL, an organization of area libraries sharing resources for better service to patrons. In addi-

tion, faculty and students with advanced standing can obtain materials from other libraries throughout the country and the world through the Interlibrary Loan Service.

Libraries containing from 10,000 to 20,000 volumes each are located at each of the three two-year campuses. Tailored to the unique offerings of each campus, these collections by no means duplicate each other or the main campus





collection. Each library is directed by a trained professional librarian who is able to assist students and faculty in using and obtaining materials from all UWGB libraries and from outside sources. A microfilm copy of the union catalog of the holdings of all UWGB libraries is maintained at each branch library for lending purposes. The best available means of communication and daily truck service tie all campus libraries together to make their resources available to all students.

#### **Curator of Art**

The University Curator of Art serves as custodian of UWGB's art collection, which includes the contemporary work of artists enjoying national and international reputations. Also among the collection are exemplary efforts by outstanding artists residing in the Upper Great Lakes region. Paintings, sculpture, watercolors, prints, drawings, ceramics, and photography comprise the various art forms owned by the University.

The Curator of Art arranges a rotation of exhibits presenting a variety of works at all campuses. He assists in the planning of new University buildings and advises on outstanding art opportunities within and outside the structures. The curator acts as liaison to the major museums around the world and to the principal Northeastern Wisconsin museums.

### **STUDENT HOUSING**

#### **On-Campus Apartments**

The dynamic relationship that exists between the student's academic development and his learning environment is supported by various residence programs based in campus housing units. Privately owned apartment-style residences provide living-learning experiences for hundreds of UWGB students on the Green Bay campus.

Student housing on the main campus is planned so that the program, staff, and facilities complement the academic program. Since the curriculum stresses independent study and small

group seminars, the housing units are built with student privacy and opportunities for small group relationships as primary goals. Apartments provide two double bedrooms, a common living-study area, and kitchen facilities for every four students.

The variety of residence programs based on the grouping of students and the uses of staff and facilities will include the following possibilities as soon as the number of residential facilities permit:

The living-learning center concept, which emphasizes the grouping of students according to a related or common seminar, possibly including the residency of the seminar leader.

Special purpose housing, which includes programs of varying lengths and purposes, such as foreign language houses, leadership training, and Special Learning Programs workshops or projects.

Students at similar stages of academic progress might share several adjoining apartments while preparing for "off-campus" or "other-culture" experiences.

#### **Off-Campus Housing**

UWGB students are not required to live in on-campus housing. The Fox Valley, Manitowoc, and Marinette campuses are attended primarily by commuting students who live at home or in local rooms and apartments that are privately owned. Many students at the main Green Bay campus also live at home or in private residences.

For those who choose to live in private off-campus housing, efforts are made to implement programs similar to those for the campus residence units. The Office of Student Life and Housing maintains a current listing of a limited number of private rooms and apartments available to students. Such off-campus listings are maintained by the Office of Student Affairs on each of the four campuses.

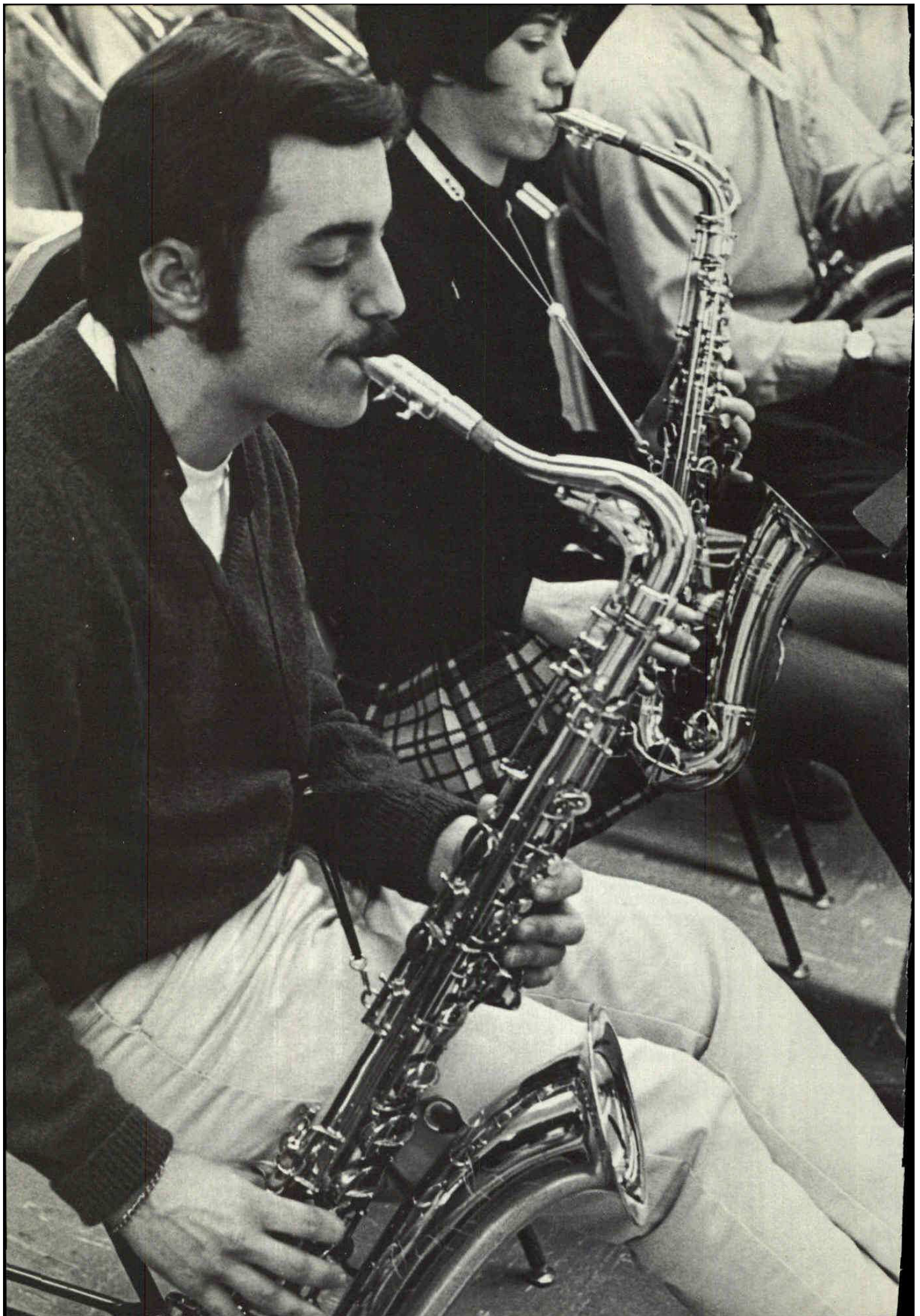


the university  
of wisconsin  
green bay



**Admission, Expenses, and Financial Aids**







# Admissions, Expenses, and Financial Aids

## GENERAL POLICY

The University of Wisconsin has a uniform admissions policy for all campuses. One application blank is used throughout the University, and every student is expected to meet the same requirements for admission whether he plans to start his college career at one of the campuses of The University of Wisconsin—Green Bay, on the Madison campus, the Milwaukee campus, at UW—Parkside or at one of the campuses of the Center System.

The University of Wisconsin—Green Bay bases its admissions decisions on the policy of accepting all qualified applicants who seem to have a reasonable chance of meeting academic requirements for graduation from the University.

### Admission Requirements

A high school graduate who wishes to qualify for admission as a degree candidate should fulfill the following requirements:

1. Rank in the upper half of his high school graduating class. (A resident of a state outside Wisconsin may be expected to rank above this level as measured by his high school record and standardized test scores.)
2. Provide the University with a recommendation from his high school principal or guidance counselor.
3. Take one of two standard tests required for admission: the American College Test (ACT), given by the American College Testing Program, Inc., or the Scholastic Achievement Test (SAT), given by the College Entrance Examination Board. The standardized test score (ACT or SAT) is considered as part of the application for admission, but there is no passing or failing of an entrance examination. The level of achievement indicated by test results will be used by an admissions counselor in carrying out the basic admissions policy.

4. Present 16 units of high school preparation distributed in the following pattern:

	English	3 units
	Algebra	1 unit
	Geometry	1 unit
		<hr/>
		5 units
2	Foreign language*	2 units
out of	History and social studies	2 units
3	Natural science	2 units
		<hr/>
		4 units
	Academic electives:	
	English	
	Speech	
	Foreign language*	
	Social studies	
	Natural science	
	Algebra	
	Geometry	
	Trigonometry	
	Analytic geometry	
	Calculus	
	Total	3 units
	Other electives**	4 units
		<hr/>
		16 units

### Admission Procedures

**Prospective freshmen.** A student seeking to enter the University as a freshman should complete an application for admission and take one of the two admissions tests. An application blank may be obtained from the student's high school office or from the admissions office at any University of Wisconsin campus. At the time of the admissions test (ACT or SAT) or later, the student should request that test scores be sent to the UWGB Office of Admissions.

\*Fractional units not accepted

\*\*Fractional units accepted



An application should be submitted no later than August 1 for the fall term, December 15 for the spring term, or May 1 for the summer session. A student who does not qualify as a Wisconsin resident must submit a \$10, nonrefundable fee with the application for admission. Wisconsin residents do not pay an application fee.

Many students are admitted to the University on the basis of grades earned through the junior year in high school plus a listing of subjects carried in the senior year, and therefore may receive a permit to register before high school graduation. Others may be asked to provide grades through the senior year to assist the admissions counselor in making the best possible evaluation of their potential for achievement.

Anyone who enters the University as a new student is required to have a physical examination by his own physician, at his own expense. The form to be completed by the physician will be mailed with the authorized permit to register. Results of the physical examination will have no effect on a student's eligibility to enter the University, but will be kept on file as confidential material.

#### **Office of School and College Relations**

If any one office of the University can be identified as existing to serve the high school student, his counselors, and his teachers, it is the Office of School and College Relations.

The basic goals of this office are twofold: to assist the potential college student in choosing the school he will eventually attend, and to extend University services and programs to the school communities it serves.

#### **Advanced Standing Transfer Students**

The student who has attended any kind of school except another UW campus after high school graduation will complete the same application as new freshmen. In addition to the high school record, a transfer student must submit an official transcript from all schools attended since high

school graduation and evidence of honorable dismissal in all respects and/or eligibility to continue from each school attended. Included are nursing schools, business schools, vocational and technical schools, as well as other colleges and universities. The student must submit the records whether or not the work was completed and regardless of his desire to claim credit for the courses. The only exception is made for training schools attended as part of military service.

A student who has completed 15 or more credits at another college or university is not required to submit ACT or SAT scores. Residents of Wisconsin should normally have earned at least a "C" average in all college work; residents of other states should have earned grades averaging at least half "B" and half "C" on all credits carried.

UWGB is flexible regarding the transferability of credits from other institutions. While college credits from all accredited colleges and universities are evaluated, UWGB is concerned mostly with levels of proficiency. Through the use of the College Level Examination Program (CLEP) and other tests the level of proficiency of students with varying kinds of educational experience beyond high school is measured. In some cases UWGB credits are awarded for high placement on these tests.

#### **University of Wisconsin Transfer Students**

A student who has attended a University of Wisconsin campus will complete the UW Re-entry/Transfer Application. The completed application should be filed at the Office of the Registrar of the campus last attended. A student must be in good standing and eligible to continue at the UW campus where last enrolled.

A student transferring to UWGB as an advanced freshman must meet all the requirements of the University and his theme college, if there are any. Any student transferring to UWGB with more than 42 credits, but less than senior standing is required to complete the Junior and Senior Liberal



Education Seminars only. Those students transferring to UWGB with senior standing meet the LES requirements by taking the six credits of the Senior Seminar plus six credits of the sophomore Liberal Education Seminar or six credits of the junior LES. A student transferring as a sophomore or junior will normally be given credit for meeting the distribution and tool subject requirements if he has taken courses that, although not equivalent, meet the spirit of the requirements.

A student may move freely from one to another campus of UWGB. One who does is not considered a transfer student.

Further information regarding residence requirements and graduation procedures can be found in Chapter 2, Part 2.

#### Credit Evaluation

A student who has attended another college, university, technical school, or nursing school, must submit an official transcript from each institution as part of the requirements for admission. Subsequently, any courses completed or credits earned will be evaluated by the credit evaluators in the Office of the Registrar; an official credit evaluation will be issued to each student indicating the courses and credits accepted to fulfill requirements at UWGB. In general the accreditation status of the previous institution as well as the quality of achievement are the determining factors in course and credit transferability.

#### Academic Petition for Transfer Students

The student who transfers to UWGB from another UW campus or from another college or university, must file a form, the Academic Petition for Transfer Students, which is similar to the Academic Plan. The principal difference is that a transfer student may elect to substitute his former basic degree requirements for the all-University requirements of UWGB. The student should file this petition with the Office of the Registrar as soon as possible to ensure good

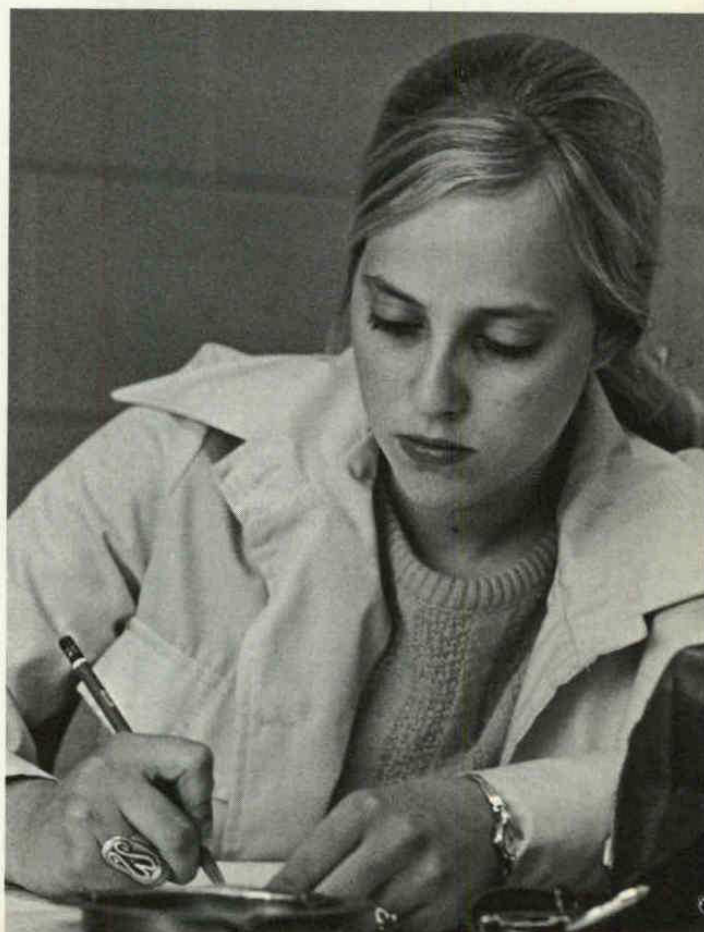
program planning and optimum progress in meeting an approved set of degree and major requirements.

#### Admission to Summer Session

The following categories have been established for admission to the UWGB summer session.

**Temporary UW Inter-Campus Transfers.** A student who plans to enroll only for the summer session at one of the UWGB campuses should obtain a Temporary Inter-Campus Transfer form from the Admissions or Registrar's office at his home campus. The completed form should be sent to the UWGB Office of Admissions.

**Non-UW Undergraduates.** To take work at a UWGB campus as a summer session special student, the applicant must be eligible to continue at the college or university last attended. He is





responsible for determining the acceptance of credits by the institution at which he is working for a degree. Admission as a summer session special student carries no commitment for permission to register in the regular school year at any campus of The University of Wisconsin.

**High School Juniors and Seniors.** A student who has completed the 10th or 11th grade and is in the upper 10 percent of his class should discuss his plans for college and obtain written permission to attend from his principal or school head; the permission must accompany the application.

**Continuing UWGB Students.** A UWGB student enrolled at any campus can pre-register for summer session courses during the spring. He does not need to apply for admission to the summer session.

The same academic regulations apply in the summer as during the regular academic year; however, a maximum credit load is 9 credits.

#### **Special Opportunities**

The student who qualifies may be permitted to enroll in one or two University subjects while completing high school. Interested students should consult with their principals or guidance counselors before completing an application, since recommendations by these persons are necessary to ensure that the program fits in with high school class schedules.

**Early admission for superior high school students.** UWGB provides opportunities to permit superior high school students to begin college work at any of the four campuses before graduation. Selection for early admission is based on the individual's high school record, social maturity, educational plans, and the appropriateness of the plan for the particular student. Scholastic ability is measured by the high school record and an ACT or SAT test score which places the student in the top tenth of high school class scores. Major consideration is given to the recommendation of the student's high school principal or guidance counselor. A student electing

an early admission program should have completed at least the 10th grade and preferably the 11th grade.

**Adult students and veterans.** UWGB provides many opportunities for those who have not pursued higher education and for those who had to interrupt their education to work, raise a family, or fulfill a military obligation. These opportunities take into consideration that some adults in these categories do not qualify for admission on the basis of the requirements listed previously. The adult is well advised to study programs offered in Continuing Education Opportunities through University Extension (see page 93). Should he wish to take one or two courses to work toward a degree, he is invited to consult an admissions counselor at any of the four UWGB campuses, or write for information to the UWGB Director of Admissions.

#### **PLACEMENT EXAMINATIONS**

Voluntary as well as compulsory placement examinations are offered by UWGB in most areas of high school work. Students entering mathematics, biology, chemistry, physics, or foreign language courses for the first time may be required to take a placement examination. Students in history and the social sciences may take such examinations. Normally, placement examinations do not lead to university credit; they indicate the level of work previously achieved and the course or courses in which to enroll. The results of placement examinations are advisory; a student may enroll in a course more advanced than indicated as desirable by the examination. Normally it is probably not wise to do so. The examinations may lead to the waiving of certain requirements, however.

Placement examinations may indicate the need for remedial, pre-college level work. Whether as the result of such tests or on his own initiative, a student will find special learning programs available (see section on Special Learning Programs).



In regard to written and spoken English, the philosophy of UWGB is that effective English should be used at all times and in all courses. Any instructor may refer a student to the Special Learning Programs in English composition and speech at any time for extra help. Special attention is given to written English in the freshman Liberal Education Seminar, and special attention to spoken English in the sophomore and junior Liberal Education Seminars. However, English is not a particular course to be taken and passed. It is a communications skill which must be constantly employed.

## EXPENSES

### Semester Fees and Tuition

Legal residents of Wisconsin, with certain exceptions, are charged only fees. Nonresidents are charged a combination of fees and tuition. The following tentative fee and tuition schedule is subject to change by the University of Wisconsin Board of Regents and the Wisconsin Legislature.

Fees for each semester currently total \$254 for a student who is classified as a Wisconsin resident by the Office of the Registrar and who is enrolled for 12 or more credits. A nonresident student pays \$899 per semester tuition and fees. A part-time student may register for 11 credits or less on a per-credit basis. Wisconsin residents pay a fee of \$20.50 per credit; nonresident students, \$74.50 per credit.

Resident status classification is determined by residence examiners in the Office of the Registrar and is governed by Section 36:16, Wisconsin Statutes of 1963. Since the regulations which determine resident status for tuition purposes differ in many respects from resident determination for other purposes, the student whose resident status may be in question is advised to consult the statute specified above or write to the Office of the Registrar. Informal opinions or statements concerning residence status determination by other University personnel are not to be considered official.

The University reserves the right to alter the fee and tuition schedule, as well as the application fee, preregistration fee, late payment fee, late registration penalty fee, and the refund schedule, without notice. Revised schedules are published in the timetable for each semester or term.

### Preregistration Fee

When a student confirms his preregistration study list he is required to deposit a nonrefundable preregistration fee of \$50. This deposit is applicable to the regular semester fees when final registration is completed and the balance of the semester fees is paid. The fee is nonrefundable. The preregistration fee is not an additional fee but is a part of the semester fee used as a deposit to reserve a student's place on class rosters.

### Late Registration and Late Payment Fees

An added fee of \$10 is charged all full-time students, and certain part-time students, who complete final registration after classes begin.

If fees are paid after the first week of classes, the student will be assessed a late payment penalty according to the following schedule: during the second week of classes, \$25; during the third and fourth week of classes, \$50 penalty.

### Refunds

A student who notifies the Office of the Registrar, by filing an official withdrawal form, that he is withdrawing from all classes at the University before the end of the fourth week of classes is entitled to a partial refund of fees and tuition as follows: during the first or second week of classes, 80 percent; during the third and fourth week of classes, 60 percent refund; after the fourth week of classes, no refund. The date on which the official notice of withdrawal form is submitted to the Office of the Registrar is the date used for authorizing a partial refund.

Students who make substantial credit load reduction adjustments during the first through fourth



week may also be eligible for a partial refund of fees and tuition.

**Summer Session Fees**

Fees for the summer session are based on the number of credits elected and are subject to change without prior notice by the University of Wisconsin Board of Regents. Fee schedules for the 1971 and 1972 summer sessions have not yet been determined, but they will be announced in appropriate summer session publications well in advance.

**STUDENT FINANCIAL AIDS**

The primary objective of the Office of Student Financial Aids is to assure that no academically qualified student shall ever be denied an education at UWGB because of lack of financial resources. There are many and varied financial aids available to qualified students who wish to attend any UWGB campus. Students have the opportunity to draw from the overall University financial aids program. In addition, some campuses have their own special programs. The financial aids office at the campus the student wishes to attend will give him information about financial aid and how he may obtain it.

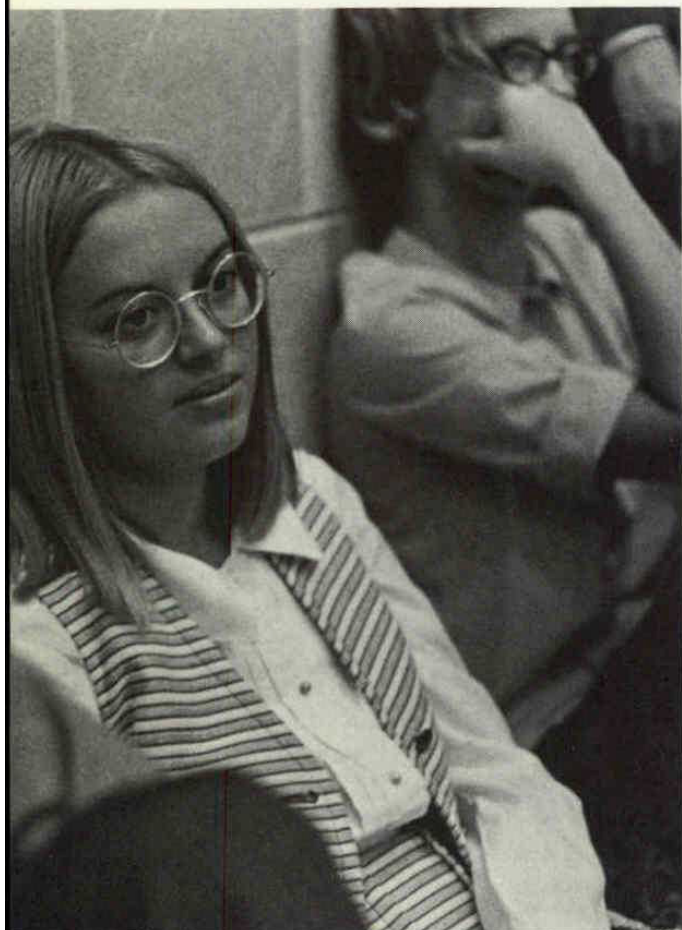
**A Typical Budget**

A student who attends UWGB for the full academic year covering the fall and spring semesters and the January special studies period can expect approximately the following expenses:

	Commuter student living at home	Resident student living on campus
Fees	\$ 508	\$ 508
Books and supplies	\$ 125	\$ 125
Room and board	\$ 450	\$1150
	(board only)	
Travel and miscellaneous	\$ 550	\$ 475
Totals	\$1633	\$2258

Nonresident students should add \$1290 to this budget for out-of-state tuition. Changes of fees and tuition, which may be made without notice, would also change the budget totals.

The "living at home" budget shows the actual costs of supporting a student in college, including the cost of food, miscellaneous expenses, and travel. Commuters and their parents should keep in mind that they are already paying for these items; the only additional costs are for fees and books, a total of \$630. Travel expenses may be higher than transportation costs of the





student while in high school, depending on whether the student is a resident of a UWGB community or commutes from a more distant residence.

### Financial Aid Application Procedures

**Forms.** Only one form is required. It is included in an application packet which can be obtained from guidance counselors and principals in Wisconsin high schools, or from the Office of Student Affairs at any UWGB campus. A student who submits an application is considered for all the types of financial aid for which he is eligible. An application for aid may be filed before the University issues a permit to register, but a student must have his permit before receiving an offer of aid. A parents' confidential statement, completed by the parents of the applicant, must be sent to the agency listed in the instructions.

**Deadlines.** The application deadline for a scholarship grant and/or a combination of assistance is March 1 for high school seniors; February 15 for continuing and transfer students. High school seniors are notified between April 15 and May 15 of action taken on their applications. Continuing and transfer students are notified between May 15 and June 15.

For National Defense student loans, work-study jobs, and State of Wisconsin loans, applications will be accepted throughout the year as long as funds are available. However, all applications filed before April 15 are given first priority. Students who file late applications are taking a risk because the University cannot guarantee loan or job assistance to those applying after the priority date. Students applying after the scholarship deadline dates but before priority dates will be notified of their awards by August 15.

**Parents' Confidential Statement.** To help the University judge student need and award aid fairly, the University asks parents to fill out a confidential statement of their income, assets,

and liabilities. On the basis of this financial statement, the University can determine the difference between what parent and student can provide and what his education will cost.

Some things considered in determining a reasonable parental contribution are salaries of both parents, additional income, net worth of business or farm, real estate holdings, savings, investments, special family circumstances (such as the additional costs of two working parents), number of dependents, student's earnings and assets, extraordinary expenses (such as business or medical), and debts for certain purposes. Circumstances such as job expenses, debts, support of elderly relatives and having other children in college are also taken into consideration.

Students are expected to commit substantially all of their resources toward educational expenses before they request assistance. For students living on or near the campus, a car is unnecessary and can be a hindrance. Hence, a car often is regarded as an asset which can be sold to help a student meet his educational expenses.

Rarely can a student meet all his expenses through one type of financial aid. Most students can meet only one-third to one-half of their expenses through summer and part-time work. Very few loan or scholarship programs for undergraduate students can pay the total educational bill. This means that assistance generally must come from a combination of these resources. A student may be selected to receive a loan and grant, a scholarship and a loan, a loan and a job, or other combination. He need not accept the whole package to receive part of it.

Awards are based upon the total cost of supporting a student for an academic year. Assistance given beyond costs for fees and books should go toward meeting board and miscellaneous expenses.

**Eligibility.** In addition to financial need, the student must meet certain other eligibility require-



ments to qualify for various types of financial aid. In most cases he must be a citizen and permanent resident of the United States, must be enrolled as at least a half-time student, and must maintain a satisfactory academic level. To be eligible for Wisconsin loans, the student must also be a resident of Wisconsin.

### Types of Financial Aids

**Scholarships.** Nearly all scholarships are awarded on a merit-need basis. Awards to prospective freshmen will be made on the basis of test scores, high school ratings based on seven selected traits, and rank in class based on high school work. These scholarships are contingent upon continued satisfactory grades in the senior year. A student who does appreciably better during his seventh semester may submit seventh semester grades and have them considered in his scholarship rating.

Awards to continuing and transfer students are made on the basis of the student's college cumulative grade point average.

**Educational opportunity grants.** The Higher Educational Act of 1965 created a new federal student assistance program to help students "of exceptional financial need." In general, this means those students whose parents are able to provide only a small portion of the financing of their son's or daughter's education.

Further, the act specified that the institution awarding the federal grant must also offer the student an equal amount of assistance from its own resources. The matching award may be in the form of a job, a loan, or a scholarship. The student must accept the matching award when he accepts the grant. The amount of the grant may equal half of the student's need up to a maximum of \$1,000. This grant is renewable each year up to four years as long as the student continues to make satisfactory progress toward his degree and his financial situation does not change. Grants are considered gift assistance and do not have to be repaid.

**Loans.** In some cases it is advisable to borrow to finance an education. Caution is advised in borrowing, however, and, generally, a student should not rely primarily on loans to finance his education. A student is usually advised not to borrow more than half of what he needs to meet his expenses.

**National Defense student loan program.** Under Title II of the National Defense Education Act of 1958, students in good standing and with financial need may apply for National Defense student loan funds. An undergraduate, depending upon his need, may borrow up to \$1,000 during any one fiscal year (July 1-June 30). Accumulated loans may not exceed \$5,000. Graduate students may borrow up to \$1,500 per year, depending on financial need, with a maximum accumulation of \$10,000.

A borrower may have up to 10 years and nine months after he ceases to be at least a half-time student to repay a loan. Repayments with interest of 3 percent a year begin nine months after a student receives a degree or permanently leaves the institution. The University bills on a quarterly basis and a minimum yearly repayment of \$180 is required.

If a borrower becomes a full-time teacher in a public or private non-profit elementary or secondary school or institution of higher education, he can arrange to have portions of his loans cancelled at the rate of 10 percent a year for each complete year of academic service. (This provision is subject to change by federal legislation.) The maximum amount which may be cancelled for teaching service is 50 percent of the total loan, including interest, unpaid as of the first day of teaching. Cancellation of 15 percent a year for up to 10 years may be obtained for teaching service in schools for the handicapped or in areas designated by the appropriate state agency as having a high concentration of low income families. Deferments of up to three years on all interest and repayments may be obtained while on active duty in the armed forces, Peace Corps, or VISTA.



**Wisconsin State Student Loans.** Residents of Wisconsin may borrow from the State of Wisconsin student loan program. These loans are from funds established by the state, and are administered jointly by the institution the student is attending and the State Higher Educational Aids Board. An undergraduate student may borrow up to \$1,000 per year and has up to 10 years and nine months after he leaves school to repay the loan, at 7 percent interest. Deferments of up to three years may be obtained for active duty with the armed forces, Peace Corps, or VISTA.

**Wisconsin guaranteed loan program.** Residents of Wisconsin may also borrow from the Wisconsin guaranteed student loan program established in August of 1967. Loans under this program come from participating private lending institutions, such as banks, savings and loan associations,

and credit unions. The program is administered jointly by the private lending institutions, the Wisconsin Higher Education Corporation (a subsidiary of the Wisconsin State Higher Educational Aids Board, 115 West Wilson Street, Madison, Wisconsin 53703) and the University.

Depending upon the total amount borrowed, the student has up to 10 years to repay the loan, at 7 percent interest, after he has permanently left school. The undergraduate may borrow up to \$1,000 per fiscal year with an additional \$250 per summer session. Maximum accumulation of loans, including summer session loans, is \$5,000.

**University short-term student loans.** These loans are made from funds established by gifts to the University and are generally granted only to full-time students in amounts up to \$300 per





academic year. Repayment usually is expected no later than the beginning of the next academic year, and summer earnings are pledged for that purpose. Interest rates vary, but the average is 2 to 3 percent per year. This loan is usually used only for emergency situations.

**Veterans Educational Assistance program.** The primary source of information for all programs administered by the Veterans Administration or the Wisconsin Department of Veterans' Affairs is the Veterans' Service officer of the county from which the veteran departed for service, or where he now claims residence. He may also seek assistance from the Office of Student Affairs at the campuses at Manitowoc, Marinette, and Menasha and at the Office of the Registrar at the Green Bay campus. Veterans should submit the Certificate of Eligibility to the Office of the Registrar for enrollment certification and transmittal to the Veterans Administration regional office. A special registration card must be filed by every veteran who wishes to be certified for benefits for the ensuing term.

**War Orphans Educational Assistance.** The War Orphans Educational Assistance Act has been amended to provide educational benefits for children of permanently disabled veterans, as well as children of deceased veterans. The veteran must have died or become disabled as a result of service in the armed forces during the Spanish-American War, World War I, or since September 15, 1940. A student who thinks he may be eligible for such financial assistance should write or call his county Veterans' Service office. Eligible students should submit the Certificate of Eligibility to the Office of the Registrar for enrollment certification and transmittal to the Veterans Administration Regional Office. A special registration card must be filed by every student who wishes to be certified for benefits for the ensuing term.

**Student employment.** All enrolled students and their spouses are eligible to use the employment services of the Office of Student Financial Aids. The student may apply any time during the year

but he cannot be referred to a job opening until he arrives on campus.

Many students work on the UWGB campuses and others work in the surrounding communities. In addition, federal funds are available under the work-study program for the employment of full-time students who have substantial financial need. Students generally are able to earn from \$500 to \$700 during the academic year.

Most academically able students can carry a full load of coursework while holding a part time job of 12 to 15 hours a week without undue strain. Many students find they earn better grades while working part time because they budget their time more wisely.

While previous work experience is taken into account, the possession of needed skills is even more important in obtaining a job. The student who has skills such as typing, shorthand, key-punching, bookkeeping, drafting, carpentry, or painting, or who knows something about mechanics, photography, laboratory work, sales, or janitorial work, will have a much easier time finding a part-time position. The rate of pay for student jobs on and off campus generally ranges from \$1.60 to \$2.50 an hour. The exact rate depends on the complexity of the job. The chart below shows possible expected earnings (before taxes and other deductions) in a school year of about 34 weeks:

Hours worked weekly	\$1.60/hour	\$1.75/hour
10	\$544	\$595
12	\$653	\$714
15	\$816	\$893

**Financial Aid Counseling**

Counseling is available to all students applying for financial assistance at UWGB before and after admission. Financial counseling is also available for married students or those planning marriage. Students who have special problems or questions regarding financial aids are encouraged to make use of this service.

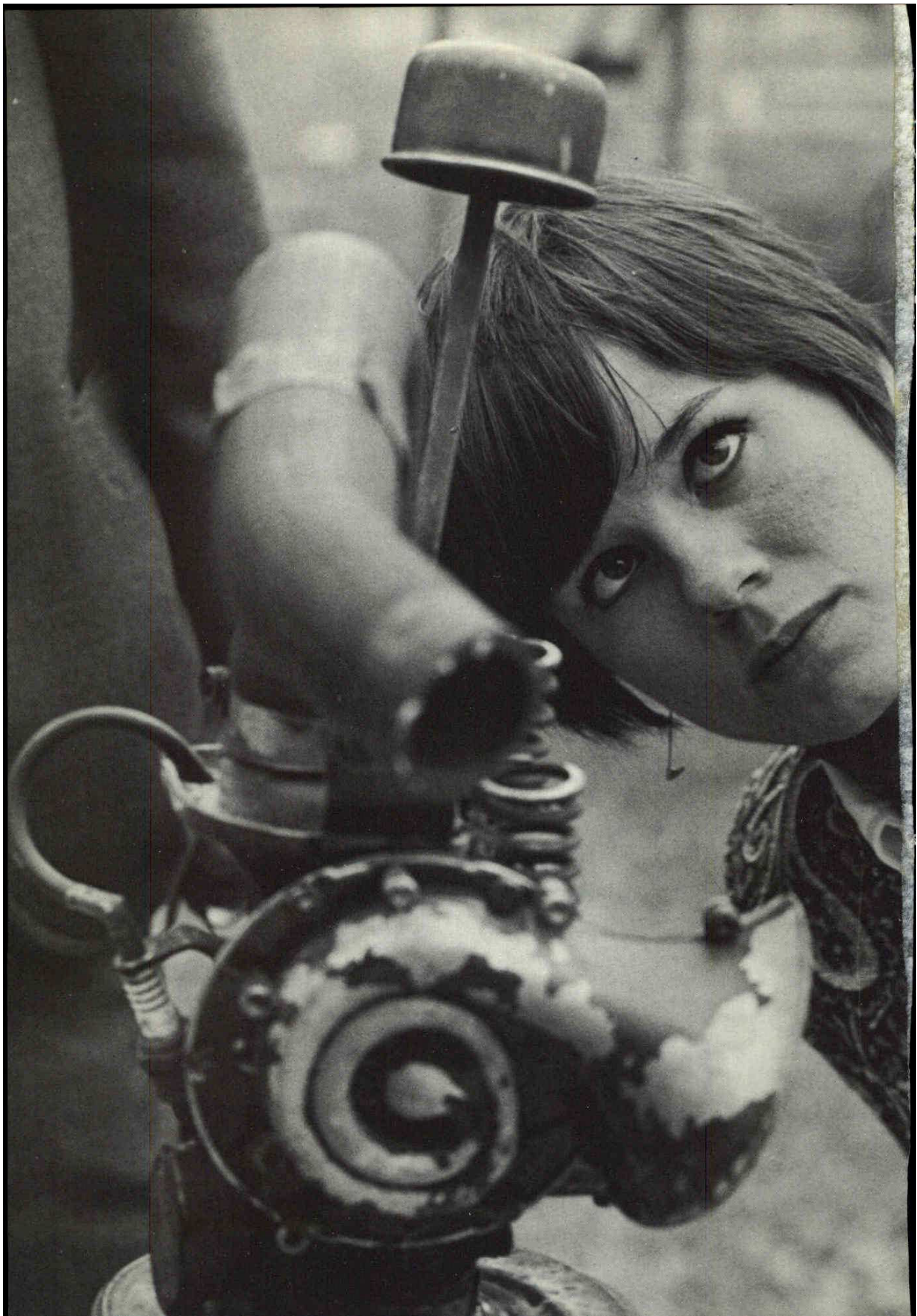


the university  
of wisconsin  
green bay



**Descriptive List of Courses**







# Descriptive List of Courses

## COURSES

The following section gives descriptions of all courses currently offered at The University of Wisconsin-Green Bay. The list is alphabetical, with the following categories being used for headings: theme colleges, concentrations, options, disciplines within options (listed alphabetically with the options), collaterals, Liberal Education Seminars, and January Practica. The following abbreviations are commonly used throughout:

### Abbreviations

cr	credits
P	prerequisite(s)
fr	freshman
soph	sophomore
jr	junior
sr	senior
st	standing
cons inst	consent of instructor
CCC	College of Creative Communication
CCS	College of Community Sciences
CES	College of Environmental Sciences
CHB	College of Human Biology
SPS	School of Professional Studies

(The abbreviation listed with each category, except for options, indicates the college or school within which it is housed. Options are not housed within colleges, but the college designation after the option title indicates the grouping of courses for purposes of the distribution requirement.)

Courses are not normally cross-listed. Furthermore, the cross-listing of a few courses should not lead the student to conclude that other courses cannot be suitably worked into any particular major.

Prerequisites are to be considered as essentially advisory and not as firm requirements. They indicate the level of proficiency required in order to carry on a course. The student who feels he has the level of proficiency necessary without taking the suggested prerequisites should

consult the instructor before enrolling. The instructor's opinion is advisory only, but should be useful in assisting the student to make a decision.

Courses in the 296-299 and 496-499 series permit individual work for all students and offer 1-4 credits as follows: 296 and 496, 1 credit; 297 and 497, 2 credits; 298 and 498, 3 credits; 299 and 499, 4 credits. Normally, a student cannot take more than one 496-499 course per semester. A grade point average of 2.5 or higher as of the previous semester is required for enrollment in 296-299 courses. The student must have a 2.0 average to enroll in 496-499 courses. The instructor's advance permission in writing is always needed. These courses must always be taken for a regular grade (not on a pass-fail basis). A maximum of 10 credits can be accumulated in 296-299 and 496-499 courses. The student should consult with his adviser for specific information about these courses.

### ADMINISTRATION: DISTRIBUTION (SPS)

#### 302 Principles of Distribution 3 cr.

An introduction to marketing and advertising goods and services from the standpoints of seller and buyer. P: jr st.

#### 305 Theory and Practice in Public Relations 3 cr.

External relations of the business enterprise or governmental unit; attitudes and actions of the public and how they affect internal relations and conduct of the unit.

#### 310 Transportation and Purchasing 3 cr.

Economic analysis of the costs of transportation and their effects on economic development, location, and marketing; relationships with price policies; principles of procurement of materials and goods by industry and government: sources, specifications, quality and price, internal control.

#### 402 Retailing and Wholesaling 3 cr.

Management practices in the operation of retail and wholesale enterprises; merchandising, promotion, role of the buyer, inventory control. P: Distribution 302, sr st.



**403 Principles of Advertising 3 cr.**

Types of advertising and their characteristics; planning, execution, and auditing of advertising campaigns. P: Distribution 302.

**404 Marketing Research 3 cr.**

The techniques of securing information about marketing problems and analyzing them; securing data from primary sources, including shelf inventory sampling; keying advertising to sales.

**407 International Distribution and Marketing 3 cr.**

The structure of foreign trade; facilities available to exporters and importers; cross-cultural and economic analysis in marketing decisions; contemporary trends in international economic affairs. P: Distribution 302 and Economics 403.

**410 Applied Motivational Research 3 cr.**

Studies and cases in the motivation of buyers and sellers, consumers and categories of publics. P: Distribution 302 and Psychology 335.

**ADMINISTRATION: FINANCE (SPS)**

**303 Corporation Finance 3 cr.**

Organization for management of finance of business units; management of fixed and working capital; short- and long-range financial planning; money and capital markets; expansion of income administration; failure; reorganization. P: Organization and Operations 203.

**305 Principles of Risk Management 3 cr.**

The theory of probability applied to risk management; techniques and bases for decision making in management of business and personal risks. P: jr st. A course in social science statistics is recommended.

**306 Public Finance and Fiscal Policy 3 cr.**

The theory and practice of public finance: revenues, primarily taxes; budget, expenditures, public debt, fiscal policy. P: jr st.

**402 Problems of Investment 3 cr.**

Principles underlying the construction and management of investment portfolios; meeting investment needs of personal and institutional

investors; reducing investment risks inherent in selection; inflation, depression and money market fluctuations. P: Finance 305.

**403 Financial Planning and Control 3 cr.**

Money management; anticipation of cash flow and cash needs; relation of capital management to work production and asset management. P: Finance 305.

**405 International Finance 3 cr.**

Theory and recent experience in currency standards, international banking, exchange fluctuations and exchange controls; international monetary cooperation and special topics. P: Economics 403.

**ADMINISTRATION: LABOR RELATIONS (SPS)**

**302 Personnel Administration in Business 3 cr.**

The functions of personnel management: recruitment, staffing, training, safety, wage policy, and fringe benefits. P: jr st. This course may not be taken by persons who have had Labor Relations 303.

**303 Personnel Administration in Government 3 cr.**

A counterpart course to Labor Relations 302, but emphasizing aspects of personnel management unique to government service: the problem of patronage, civil service rules and regulations, written examinations for recruitment. P: jr st. This course may not be taken by persons who have had Labor Relations 302.

**310 Labor Unions in America 3 cr.**

The history and development of labor unions in private business and in government service: present status of unionization. P: jr st. (Or may be taken as Political Science 310.)

**312 Collective Bargaining 3 cr.**

Cases on techniques and problems in dealings between organized employees and their employers; industry-wide collective bargaining; constraints in the public service; administration of collective bargaining agreements. P: Labor Relations 310 or cons inst.



**402 Problems in Labor Relations 3 cr.**

Treats basic problems such as industrial vs. craft unionism, strikes in government employment, the role of mediation and arbitration; the efficacy of statutes governing organized relations. Does not include cases in collective bargaining. P: Labor Relations 312.

**403 Labor Legislation and Administration 3 cr.**

Federal and state statutory and administrative regulation of collective dealings between employers and employees; other regulations, including workmen's compensation, unemployment compensation, social security, and labor laws respecting women and children. P: Labor Relations 310 or cons inst.

**412 Cases in Collective Bargaining 3 cr.**

Cases involving union recognition, type of shop, aspects of wages and hours determinations, strikes, grievance machinery, and fringe benefits. P: Labor Relations 312 and sr st.

**420 International Labor Relations 3 cr.**

Comparative labor relations in industrialized foreign countries: government regulation, labor productivity, wage rates and labor costs; relationships between labor organizations in the U.S. and the International Labor Organization. P: Labor Relations 312.

**ADMINISTRATION:  
ORGANIZATION AND OPERATIONS (SPS)****202 Business and Its Environment 3 cr.**

The interaction of environmental factors with American business, including social, political, and economic systems; the development of business practices and institutions. The first semester of the introductory course is required of all business and public administration majors.

**203 Government and Business 3 cr.**

Relations of businessmen and business firms with the levels of government: local, state, and national; corporations and bureaucracies as institutions, their similarities and differences; brief treatment of government regulation of busi-

ness and business determinants of government policy. The second semester of the introductory course for majors in business and public administration. P: soph st.

**302 Principles of Organization and Operation 3 cr.**

Principles underlying the subdivision and specialization of productive work; problems arising from line and staff functions, and geographical decentralization; changing work demands; flow of information; means of control; adapting to new requirements. P: Organization and Operations 203, or concurrent registration.

**304 Industrial Management 3 cr.**

The management of physical and human resources in the production and operations functions for producing goods or providing services in manufacturing and processing enterprises. P: jr st.

**310 Small Business Management in the Northern Great Lakes Region 3 cr.**

Case studies leading to the development of principles concerning the operation of small businesses; cases drawn from the Northern Great Lakes region. Course draws upon all phases of business management at the level of simplification suitable to enterprises of limited size and staff. P: jr st.

**320 Practice of Public Administration 3 cr.**

The management of physical and human resources in the execution of public policy, relationship between policy determination and policy administration; leadership, control, and accountability. P: jr st. (Or may be taken as Political Science 320.)

**402 Planning, Control, and Routinization 3 cr.**

The ongoing process of an administrative organization in operation: job analyses, routinization of procedures; handling variations in work load; standing orders; translating control information into planning terms. P: jr st.



**491, 492 Problems of Business Management I, II 3, 3 cr.**

The capstone undergraduate course in business administration; conducted on the case system, utilizing principles and techniques in all the fields of business administration. Open to seniors in business administration, and to others only with cons inst. Must be taken in sequence except by cons inst.

**493, 494 Problems of Public Management I, II 3, 3 cr.**

The capstone undergraduate course in public administration; conducted on the case system, utilizing principles and techniques in all the fields of public administration. Open to seniors in public administration and to others only with cons inst. Must be taken in sequence except by cons inst.

**496, 497, 498, 499 Special Readings in Administration 1-4 cr.**

A reading course adapted to the individual's particular interests in the field of administration. P: jr st and cons inst.

**ADMINISTRATION: QUANTITATIVE METHODS (SPS)**

**204 Introductory Accounting 3 cr.**

Fundamental principles of accounting; basic business terminology, techniques and practices, books and accounts, and statements for retailing and wholesaling concerns; treatment and presentation of sole proprietorship, partnership, and introductory corporation accounts. Open to second semester fr; soph st recommended.

**205 Intermediate Accounting 3 cr.**

Accounting theory, principles, concepts, and procedures as they apply to balance sheet and income statement accounts; presentation and interpretation of financial reports, including the problems of terminology, manufacturing valuation, and analysis. P: Quantitative Methods 204.

**206 Accounting for Administrators 3 cr.**

Accounting concepts and methods; interpretation and use of accounting reports and analyses for the managerial purposes of planning, coordination, and control. P: Quantitative Methods 204 or jr st.

**230 Quantitative Methods in Administration 3 cr.**

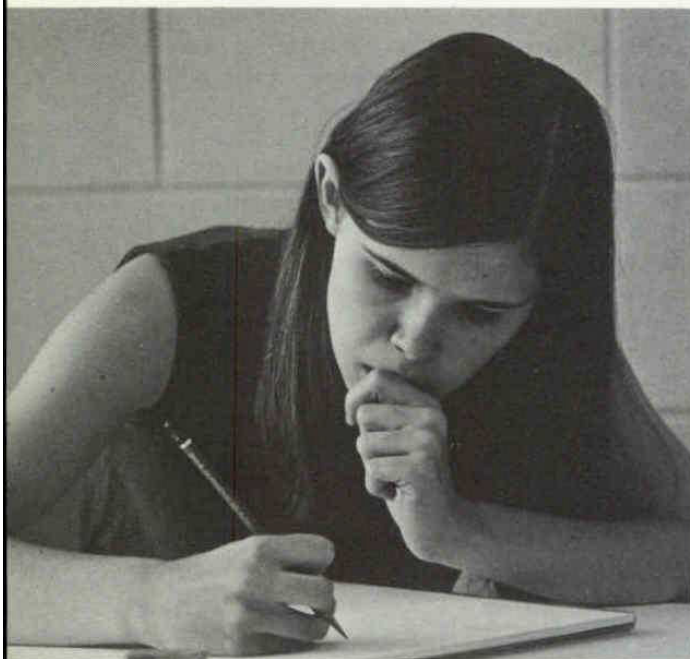
Studies of the origin, processing, use, and interpretation of accounting, statistical and other computerized data in administrative organizations; application of techniques of accounting and financial analysis to reporting, planning, and controlling. P: soph st.

**302 Cost Accounting 3 cr.**

Problems of accounting for costs in administrative organizations; structural aspects, working knowledge, and techniques for solving cost problems. P: Quantitative Methods 204, 205, or 230.

**303 Financial Accounting, Theory, and Practice I 3 cr.**

The analysis of accounting problems, methods of problem solving, specialized and technical subject matter for majors in accounting; accounting for installment sales and consignments,





reorganizations, bankruptcy and equity receivership; estates, personal trusts, and partnerships. P: Quantitative Methods 205 or 302.

**304 Financial Accounting, Theory, and Practice II 3 cr.**

Specialized and technical subject matter for majors in accounting; home office and branches, preparation and interpretation of consolidated statement and foreign exchange. P: Quantitative Methods 303.

**310 Governmental and Institutional Accounting 3 cr.**

Accounting theory and practice unique to governmental and institutional jurisdictions; control of revenues and expenditures through budgets and allotments; comparison with commercial accounting, including nature and purpose of separate funds. P: Quantitative Methods 303.

**315, 316 Business Law I, II 3, 3 cr.**

Contracts, agency, negotiable instruments, sales, property, partnerships, corporations, bankruptcy law. P: jr st. May be taken in sequence, in reverse order, or independently.

**403, 404 Auditing Standards and Procedures I, II 3, 3 cr.**

First semester: auditing standards and procedures; review and evaluation of internal control; examination and reporting; short cases and problems. Second semester: advanced cases covering the various audit points and procedures; readings, problems, and cases on statistical sampling, electronic data processing, systems auditing; SEC requirements. P: Quantitative Methods 303 or cons inst. Must be taken in sequence.

**410 Income Tax Theory and Practice 3 cr.**

Federal and state income tax as applied to individuals, partnerships, and corporations; tax and raw source materials; written problems; tax planning and tax determination. P: Quantitative Methods 204 or 206.

**ANALYSIS-SYNTHESIS (CCC)**

**302 Human Identity 3 cr.**

The concept of human identity is presented from the vantage point of many disciplines; the contributions of science and art and their mutual interaction is demonstrated. Not required, but recommended for the concentration in analysis-synthesis. P: jr st or cons inst.

**311, 312 Visions of Man 3, 3 cr.**

In our time, no single vision of man in his world has sufficient authority to command belief and provide assurance. In such a skeptical situation, the individual is apt to feel alienated from himself, from others, from his world. It becomes increasingly difficult for man, in Rilke's words, to dwell meaningfully with himself and his things.

Without dogmatically teaching a vision of man, this course seeks to provide the student with an experience of some of the most significant ways in which man, in the past and in the present, has sought to understand himself, to look at himself in relation to his fellow man and to his world. The student is shown how such visions of man organize and interpret the chaos of the unexamined life, and he will hopefully perceive and strive for some of the intellectual and emotional pleasures that such comprehensive and rational visions provide.

These visions, to be presented by an interdisciplinary faculty team in a non-specialized and broadly based way, are sets of ideas, feelings, and aspirations defining the human condition and held in common by a group of artists, writers, and thinkers, either at the same or differing times and places. The sets of ideas, feelings, and aspirations the course presents are those which can be labelled tragic or comic. Both the tragic and comic visions of man provide a way of dealing with the universal problems of the human condition, with an understanding of self and humanity, and with an awareness of human identity. Not required, but recommended for the concentration in analysis-synthesis. P: jr st or cons inst.



**ANTHROPOLOGY (CCS)**

**102 Environmental Anthropology 3 cr.**

Science of human cultures in different ecological contexts; man's biological and social variability; human societies of the present and recent past around the world; man and nature interrelationships and cultural adaptability emphasizing contemporary problems of various cultures. P: Community Sciences 102.

**203 Understanding Changing Cultures 3 cr.**

Fundamental concepts and methods and their substantive applications to the changing non-literate, peasant, and complex societies; study of cultural processes of innovation, transculturation, drift, modernization, secularization, and integration. P: soph st.

**210 Introduction to Cultural Analysis 3 cr.**

A review of major concepts, methods and approaches of cultural and social anthropology as applicable to a comparative evaluation of contemporary problems of culture and communities. P: soph st or Community Sciences 102.

**215 Prehistoric Man and His Surroundings 3 cr.**

Human biological and cultural evolution, with special emphasis on prehistoric archaeology and prehistoric ecology. P: soph st.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**302 Peoples and Cultures of the Northern Great Lakes Region 3 cr.**

Description, comparison, and analysis of regional, cultural and resource variations; their past and present interrelationships with development and adjustment problems of the Northern Great Lakes region. P: jr st.

**303 Cultural Ecology 3 cr.**

A study of interrelationships of man, nature, and culture; cultural adaptability, with regard to physiological and behavioral traits and mechanisms for human groups inhabiting different environments and spatial arrangements. P: jr st.

**304 Family, Kin, and Community 3 cr.**

A cross-cultural comparison of the form and function of such social institutions as marriage and the family; age, sex, and kin groups; task groups; caste and class. P: jr st.

**307 Heredity, Environment, and Human Population 3 cr.**

Cultural and ecological factors influencing the composition and structure of human population; expression and distribution of genetic versus acquired characteristics within and between populations; mating systems and their genetic consequences. P: jr st or Biology 203, or sociology course at 300 level.

**310 Culture and Personality 3 cr.**

A critical survey of the field of culture and personality and of the principal concepts and methods used in studying the relationship of the individual to his culture. P: jr st or cons inst.

**320 Economic Anthropology 3 cr.**

Production, distribution, and consumption in nonliterate societies; land tenure and personal property concepts, prestige systems, and incentives to labor. P: jr st or cons inst.

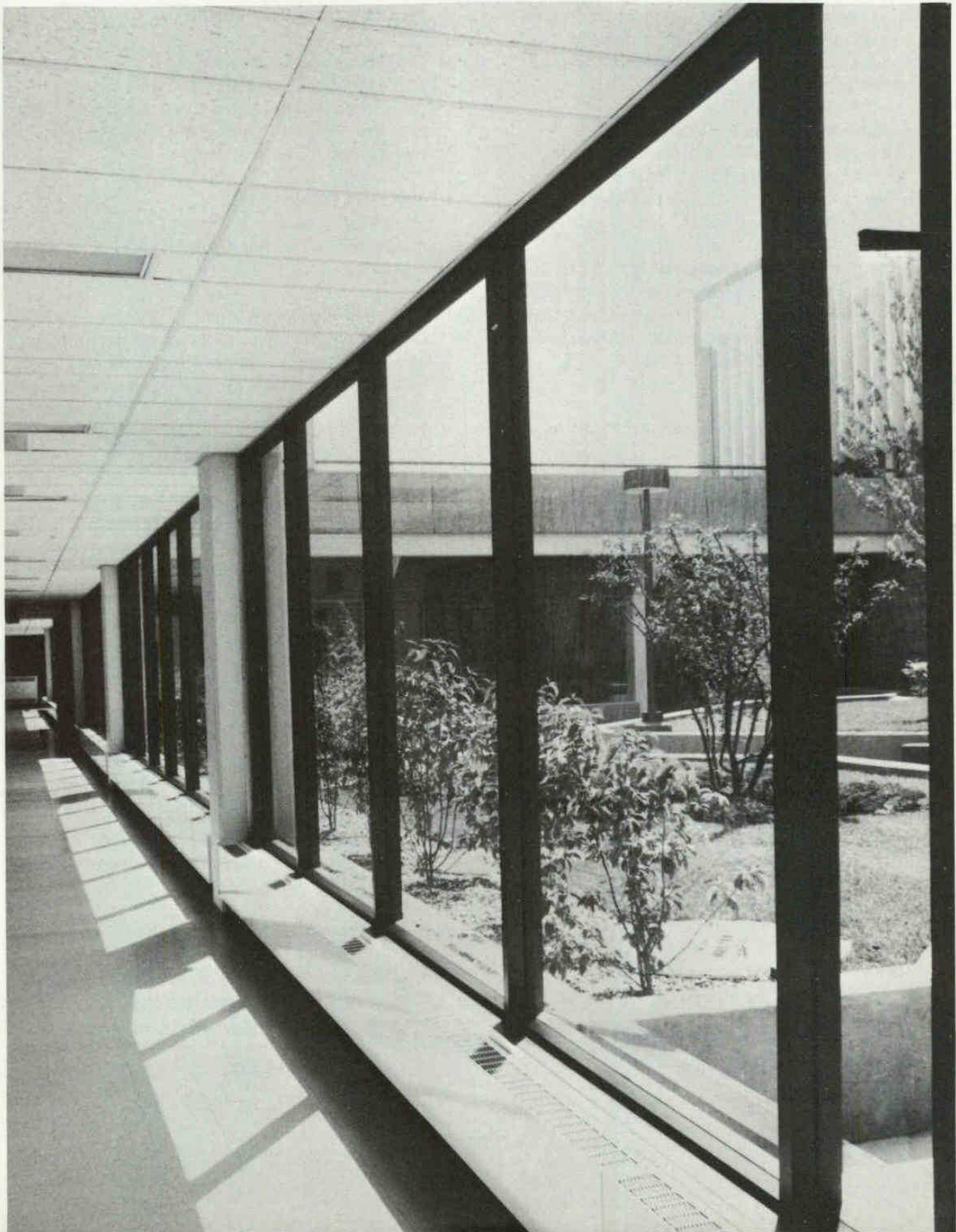
**330 Technological Change and Cultural Patterns 3 cr.**

Introduction to anthropological analyses of contemporary cases relating to human problems resulting from cultural change; emphasis on modernization problems and processes of cultures in developed and underdeveloped countries. P: jr st or cons inst.

**340 Anthropological Perspectives on Population Problems 3 cr.**

Evaluation of sociocultural factors influencing growth and movement of rural-urban population; cultural factors in human fertility and population







control; cross-cultural study of population control; evaluation and measurement of communication and motivation problems in different cultural groups. P: jr st or cons inst.

**402 Comparative Social Structures 3 cr.**

Research procedures and theories in the cross-cultural examination of social categories, groups, and classes; their interrelationships with cultural and ecological factors. P: sr st.

**403 Race and Genetic Variation of Man 3 cr.**

Genetic and morphologic variations of the living races of mankind; processes of human variation; biological history of selected human populations. P: sr st. (Or may be taken as Human Biology 440.)

**496, 497, 498, 499 Contemporary Problems in Anthropology 1-4 cr.**

Senior seminar or tutorial on current issues in anthropology related to methods, theories and concepts of physical and cultural anthropological analysis; their values, uses, and limitations in reference to community problems. Integrative individual projects are developed for student reading, research, and reports. P: pursuit of anthropology option. May be repeated for credit.

**BIOLOGY (CHB)**

**202 Biology of Cells 4 cr.**

An introduction to biological principles; cells as the fundamental units of living organisms. Includes laboratories.

**203 Biology of Organisms 4 cr.**

An introduction to biological principles; structure and function of organisms and their relationship to the environment. Includes laboratories.

**303 Genetics 3 cr.**

Mechanisms of heredity and variation, their cytological basis and their implications in biology. P: Biology 202.

**BIOLOGY: BOTANY (CHB)**

**240 Plants and Civilization 2 cr.**

The economic importance of plants in the development of civilization and in modern agriculture and industry. Emphasis is on historical and modern cultural aspects.

**320 Field Botany 3 cr.**

Identification and natural history of plants indigenous to Northeastern Wisconsin. P: Biology 203.

**350 Plant Physiology 4 cr.**

General physiology of vascular plants; nutrition and metabolism; plant growth and development; natural and synthetic growth regulators; transport systems. P: Biology 202, 203 and Chemistry-Physics 112 or 212.

**410 Dendrology\* 3 cr.**

Identification of native and cultivated trees and shrubs, their economic uses, distribution, growth, reproduction, and autecology. P: Ecosystems Analysis 314 or Botany 320.

**BIOLOGY: ENTOMOLOGY (CHB)**

**302 Principles of Entomology 3 cr.**

The biology and habits of insects and their interrelationships with man. This course includes general anatomy, physiology, embryology, and classification of insects. Field collection is required. P: Biology 203.

**310 Taxonomy of Insects 3 cr.**

The principles of insect taxonomy with identification and morphology of mature and immature insects. P: Entomology 302.

**BIOLOGY: MICROBIOLOGY (CHB)**

**302 Principles of Microbiology 4 cr.**

A study of microorganisms and their activities. Included is their form, structure, reproductive

\*Not offered in 1971-1972.



physiology, metabolism, and identification; their distribution in nature and relationship to each other and to other living things. P: Biology 202 and Chemistry 108 or Chemistry-Physics 110.

**303 Advanced Microbiology 3 cr.**

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

**306 Mycology 3 cr.**

Introduction to mycology with emphasis on morphology and taxonomy of lower and higher fungi; laboratory techniques involved in collection, isolation, culture, and identification; field trips; mycological literature. P: Biology 202.

**310 Microbial Physiology 3 cr.**

The chemistry and physics of bacterial processes. P: Chemistry 330 and Microbiology 302.

**320 Microbial Genetics 3 cr.**

The fundamental genetic principles; examples from fungi, bacteria, viruses, protozoa, and algae. P: Microbiology 302.

**403 Pathogenic Microorganisms 3 cr.**

The physical and chemical manifestations of diseases produced by microorganisms at the micro- and macro-level. P: Microbiology 302.

**408 Forest and Plant Pathology 3 cr.**

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

**BIOLOGY: ZOOLOGY (CHB)**

**302 Vertebrate Zoology 3 cr.**

The taxonomy, general biology, ecology, behavior, and special adaptations of chordate animals. P: Biology 203.

**303 Comparative Anatomy of Vertebrates 4 cr.**

Lectures compare structure of organ systems in

the different vertebrate groups. Laboratory dissection of shark, mud-puppy, turtle, bird, and cat. P: Biology 203.

**305 Animal Behavior 3 cr.**

The biology of animal behavior patterns; the behavioral interactions of animals with their environment. P: Biology 202 and 203.

**310 Embryology 4 cr.**

Principles of development including gametogenesis, fertilization, gastrulation, organogenesis, and experimental aspects of development in vertebrates. Laboratory work includes morphogenesis of amphibians, chicks and pigs, and work with living embryos. P: Biology 203.

**311 Histology 3 cr.**

Microscopic structure of cells, tissues, and organs; growth, differentiation, and organization of tissues, their structural patterns, and functioning interrelationships in animals adapted to various environments. P: Biology 203.

**320 Field Zoology 3 cr.**

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

**420 Principles of Parasitology 3 cr.**

General biology, ecology and classification of animal parasites; adaptations of parasites to the external environment; physiology of parasites, host-parasite relationships, and immunity to parasite infection. P: Biology 203.

**CHEMISTRY (CES)**

**108 General Chemistry 5 cr.**

For students who will take only one semester of chemistry. Extra emphasis is given to organic chemistry. Does not serve as prerequisite for Chemistry-Physics 111 or 211.

**110, 111, 112 Chemistry-Physics 5, 5, 5 cr.**  
(See Chemistry-Physics)



**110, 211, 212 Chemistry-Physics 5, 5, 5 cr.**  
(See Chemistry-Physics)

**228 Bio-Organic Chemistry 3 cr.**  
An introductory course in organic chemistry with emphasis on those aspects of the field which are more pertinent to students planning to enter the biologically related disciplines. The course includes a study of basic organic chemistry, natural products, and molecules important to biological systems. P: Chemistry-Physics 112 (or Chemistry 108 and cons inst).

**229 Bio-Organic Chemistry Laboratory 1 cr.**  
An optional laboratory course to accompany Chemistry 228. P: Credit or concurrent registration in Chemistry 228.

**302 Organic Chemistry I 3 cr.**  
The study of aliphatic and aromatic hydrocarbons and their derivatives. Structure and properties of organic compounds, mechanisms, spectroscopic studies of organic compounds, stereochemistry, saturated and unsaturated aliphatic hydrocarbons, benzene and aromatic substitution reactions, alkyl halides and alcohols. P: Credit or concurrent registration in Chemistry-Physics 112 or 212.

**303 Organic Chemistry II 3 cr.**  
A continuation of Chemistry 302. Aromatic compounds and their chemical reactions, ethers, carboxylic acids, aldehydes and ketones, amines, phenols, aryl halides, glycols and epoxides, derivatives of carboxylic acids, carbohydrates, amino acids, proteins, natural products. P: Chemistry 302.

**304 Organic Chemistry Laboratory 1 cr.**  
One three-hour laboratory per week. Basic techniques and syntheses in organic chemistry. P: Credit or concurrent registration in Chemistry 302.

**305 Organic Chemistry Laboratory 1 cr.**  
One three-hour laboratory per week. Intermediate level instrumental techniques and syntheses in organic chemistry. P: Credit or concurrent registration in Chemistry 303 and 304.

**313 Analytical Chemistry 4 cr.**  
Introduction to the theory and practice of chemical analysis. Gravimetric analysis techniques, computations, solubility products, and applications. Volumetric analysis techniques, computations, acid-base titrations, oxidation-reduction titrations, precipitation titrations, and complexometric titrations. Introduction to instrumental analysis, spectrophotometric and electroanalytical methods. P: Credit or concurrent registration in Chemistry-Physics 112 or 212.

**315 Nuclear and Radiochemistry\* 4 cr.**  
An introduction to the properties and reactions of atomic nuclei; the application of the properties of the radioactive nuclei to the solution of chemical and biological problems. P: Chemistry-Physics 212 or cons inst.

**320 Thermodynamics and Kinetic Theory**  
(See Chemistry-Physics 320)

**321 Physical Chemistry 3 cr.**  
Properties of gases, liquids, and solids; solutions, chemical kinetics, electrochemistry, quantum theory, symmetry, atomic and molecular structure, spectroscopy. P: Chemistry-Physics 320.

**322 Thermodynamics and Kinetic Theory Laboratory 1 cr.**  
(See Chemistry-Physics 322)

**323 Physical Chemistry Laboratory 1 cr.**  
One three-hour laboratory per week. P: Credit or concurrent registration in Chemistry 321 and Chemistry-Physics 322.

**330 Biochemistry 3 cr.**  
Nature and function of the important constituents of living matter, their biosynthesis and degradation. Energy transformation, protein synthesis and metabolic control. P: Biology 202 or 203, Chemistry 303 and 305 or cons inst.

**331 Biochemistry Laboratory 1 cr.**  
One three-hour laboratory per week. P: Credit or concurrent registration in Chemistry 330.

\*Not offered in 1971-1972.



**410 Inorganic Chemistry 4 cr.**

A survey of the elements and their relationships to atomic structure. Principles of chemical bonding and their application to inorganic stereochemistry and complex compounds; theory of acids and bases; non-aqueous solvent systems. Preparation of various inorganic compounds are undertaken in laboratory. P: Chemistry 321.

**413 Instrumental Analysis 4 cr.**

A survey of the theory and practice of analysis by instrumental methods including methods based on absorption and emission of radiation, electro-analytical methods, chromatographic methods, and radiochemical methods. P: Chemistry 313 and 321.

**422 Protein Chemistry\* 3 cr.**

Chemistry and structure of proteins and amino acids; protein synthesis and metabolism, role of nucleic acids. P: Chemistry 330.

**424 Environmental Biochemistry 3 cr.**

(See Environmental Control 424)

**426 Soil Chemistry 4 cr.**

(See Environmental Control 426)

**434 Water Chemistry 4 cr.**

(See Environmental Control 434)

**453 Air Chemistry 4 cr.**

(See Environmental Control 453)

**CHEMISTRY-PHYSICS (CES)****107 Fundamental Concepts of Chemistry-Physics 1 cr.**

This course is designed for students who have a limited or nonexistent background in chemistry and/or physics. It discusses topics normally covered in a high school chemistry course, including the metric system, formulas and equations, stoichiometry, gas laws, atomic structure and chemical bonding. Offered on an automatic pass-fail basis, except by petition.

\*Not offered in 1971-1972.

P: Cons inst and concurrent registration in Chemistry-Physics 110.

**110 Chemistry-Physics 5 cr.**

Concepts and language of physical science, chemical changes, elementary laws of mechanics, atomic theory, chemical bonding, and the states and structure of matter. P: Concurrent registration in Mathematics 112 and 113 or 114.

**111 Chemistry-Physics 5 cr.**

Thermodynamics, chemical kinetics and chemical equilibria, motion, system of forces, gravitation, mechanics of fluids, oscillations, wave motion, sound, and geometrical and physical optics. Students intending to pursue options in engineering, chemistry, or physics must take Chemistry-Physics 211 and 212. P: Chemistry-Physics 110 or cons inst.

**112 Chemistry-Physics 5 cr.**

Electricity and magnetism, chemical and physical properties of selected elements and compounds, nuclear physics and radio chemistry, modern physics topics, and selected integrated topics. Students intending to pursue options in engineering, chemistry, or physics must take Chemistry-Physics 211 and 212. P: Chemistry-Physics 111.

**211 Chemistry-Physics 5 cr.**

Thermodynamics, chemical kinetics and chemical equilibria, motion, systems of forces, oscillations, gravitation, and mechanics of fluids. Recommended for students pursuing concentrations in the College of Environmental Sciences or options in earth science, engineering, chemistry, mathematics, or physics and those preparing for graduate studies in the natural sciences. P: Chemistry-Physics 110; concurrent registration in Mathematics 202.

**212 Chemistry-Physics 5 cr.**

Wave motion, sound, geometrical and physical optics, electricity and magnetism, chemical and physical properties of selected elements and compounds, nuclear physics, radiochemistry, and selected integrated topics. Recommended for students pursuing concentrations in the College of Environmental Sciences or options in earth



science, engineering, chemistry, mathematics, or physics or those preparing for graduate studies in the natural sciences. P: Chemistry-Physics 211 and concurrent registration in Mathematics 203.

**320 Thermodynamics and Kinetic Theory 3 cr.**  
Temperature, heat, and work. Thermodynamic properties of gases, solids, and solutions. Homogeneous and heterogeneous equilibria. Thermodynamics of electrochemical cells. Kinetic theory. Statistical thermodynamics. The calculation of thermodynamic properties of substances. P: Chemistry-Physics 212 or Chemistry-Physics 112 and Mathematics 203.

**322 Thermodynamics and Kinetic Theory Laboratory 1 cr.**  
One three-hour laboratory per week. P: Credit or concurrent registration in Chemistry-Physics 320.

**COMMUNICATION-ACTION (CCC)**

**133, 134 Voice and Speech I, II 3, 3 cr.**  
Elementary speech training; work on clarity of articulation and diction; elementary study of phonetics as an aid; elementary voice training; work on breath control, resonance, voice production; corrective speech: elimination of regionalism, accents, nasality; elementary problems of oral interpretation: reading aloud and speaking of prose texts.

**202 Voice and Diction 3 cr.**  
A personal approach to the study of the vocal mechanism and the speaking process. Laboratories are used for the practical application of methods learned in the lectures. Phonetics is introduced and used in learning articulation.

**262 Argumentation and Debate 3 cr.**  
The theory of argument, with practice in the preparation and delivery of various types of argumentative speeches and debates. P: soph st.

**266 Theory and Practice of Group Discussion 3 cr.**  
The structure and dynamics of small group decision-making; includes critical and creative problems in group interaction processes. P: soph st.

**471 Styles of Expression: Man and Technology 3 cr.**  
Living as he does in a super-technological society, man has quite naturally turned to the products, processes, and imagery of industry and science. Some approach technology with traditional attitudes; others are using it to change the very definition of art, music, film, theater, dance, and literature. This course seeks to examine the new processes and forms of man's artistic communications and prepares the student for similar expressions related to his world and his time. Not required, but recommended for the concentration in communication-action. P: jr st or cons inst.

**COMMUNITY SCIENCES (CCS)**

**102-103 Man and His Social Environment 3, 3 cr.**  
Introduction to concepts and concerns of the community sciences through an interdisciplinary focus on problems and opportunities of man and his social environment. A two-semester course. Students should take 102 before entering 103.

**205 Social Science Statistics\* 3 cr.**  
Course in application of statistics to problems of the social sciences, particularly those problems pertaining to regional analysis, urban analysis, and modernization processes. Application of statistical techniques in problem definition;

\*Not offered in 1971-1972. Students interested in this course are referred to Mathematics 260.



hypotheses construction; and data collection, processing, and evaluation. P: soph st.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**305 Foundations for Social Research 3 cr.**

An integrated introductory examination of the nature of science, theory, and statistics. The emphasis is on identifying and interpreting relationships between social phenomena. This is assured by applying the conceptual tools provided in the course to specific problems. P: Mathematics 260 or Community Sciences 205, and one course in Community Sciences.

**496, 497, 498, 499 Community Sciences Special Readings 1-4 cr.**

Special readings on the role of man in his social and cultural environment; community problems and opportunities at the local, state, national, and international levels; possible contributions and interdependencies of disciplines. P: soph st. May be repeated for credit.

**EARTH SCIENCE (CES)**

**141 Elementary Astronomy 3 cr.**

(See Ecosystems Analysis 141)

**202 The Earth's Physical Environment 4 cr.**

The materials and processes that have determined and are now modifying the physical features of the earth's environment are described and analyzed. Field trips.

**302 Geologic Evolution of the Earth 4 cr.**

The physical history of the earth during geologic time; the history of plants and animals with particular emphasis given to the adaptations made by earlier life forms to the changing conditions of the physical environment. Field trips. P: Earth Science 202 or cons inst.

**310 Paleobiology 4 cr.**

Descriptions are made of the plants and animals that contribute to the many life assemblages in the earth's ancient environments and of the relationship of the biota to the varied facets of the physical-chemical environment. Local field trips. P: Earth Science 302 or cons inst.

**320 The Soil Environment**

(See Environmental Control 320)

**321 Soil Environment Laboratory 1 cr.**

(See Environmental Control 321)

**330 Surface and Ground Water 3 cr.**

(See Environmental Control 330)

**331 Introduction to Oceanography 3 cr.**

(See Ecosystems Analysis 331)

**340 Minerals, Rocks, and Mineral Resources 3 cr.**

The descriptions and the classifications of the most important rock-forming minerals and the most commonly occurring rocks are presented. The uses made of these components of the earth's physical environment are emphasized. Local field trips. P: Earth Science 202 or cons inst.

**350 Field Geology 4 cr.**

Description of the standard field techniques employed in geologic mapping, measuring sections, and collection of rock and fossil specimens; integrated application of these techniques to the solution of field problems. P: Earth Science 202.

**360 Structure of the Earth's Crust\* 4 cr.**

The description and genesis of the primary and secondary structures of rocks of the earth's crust are presented. Local field trips, as well as one or two week-end field trips are scheduled to provide opportunities to apply in the field principles learned in the classroom and laboratory. P: Earth Science 302.

**420 Soil Classification and Geography**

(See Ecosystems Analysis 420)

\*Not offered in 1971-1972.



**432 Hydrology 3 cr.**

(See Environmental Control 432)

**441 Earth Resources I: Minerals\* 4 cr.**

Knowledge of the relationship of mineral structures to energy distribution provides a framework for carrying the study of minerals beyond chemical classification. The relationship of crystallography to minerals; description of the principal rock-forming and ore minerals; recognition of minerals in hand specimens. P: Chemistry-Physics 112 and Earth Science 202.

**442 Earth Resources II: Rocks\* 4 cr.**

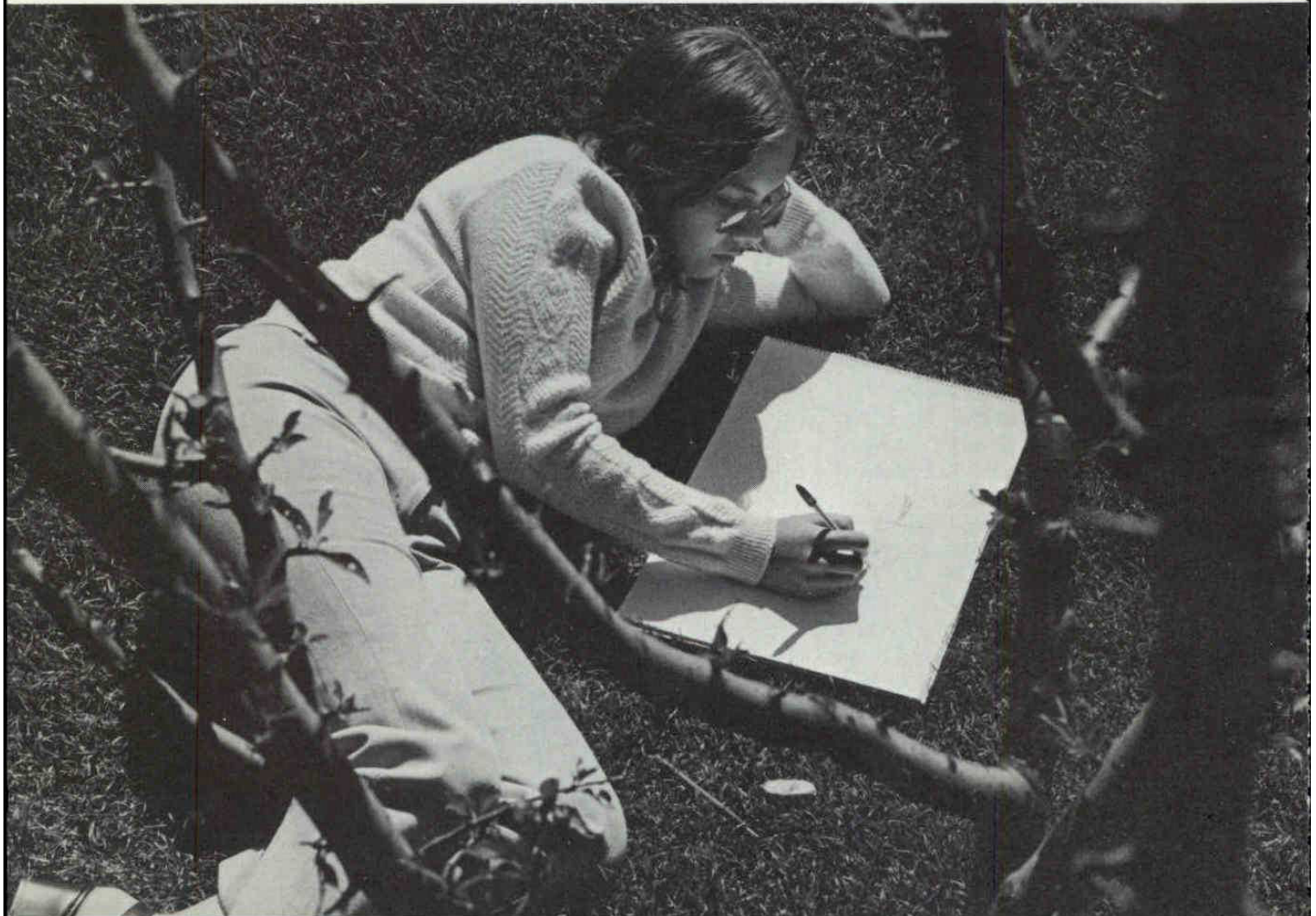
Study of igneous, sedimentary, and metamorphic

rocks related to classification, genesis, and distribution; introduction to optical methods of identification; identification of hand specimens, and field occurrences. P: Earth Science 441.

**470 The Glacial Environment and Chronology\* 3 cr.**

An interdisciplinary approach to an understanding of the extremes in environmental behavior which characterized Pleistocene time. One weekend and one or more local afternoon field trips required. P: Earth Science 202 (302 recommended.)

\*Not offered in 1971-1972.





**ECONOMICS (CCS)****102 Economics and the Modern World 3 cr.**

An introductory study of the economic system; economic institutions; economic growth; comparative economic systems. P: Community Sciences 102.

**202 Macro Economic Analysis 3 cr.**

An introduction to analysis of behavior of the economy and its components; national accounts; flow of funds, money, and credit; government operation; business fluctuations; economic growth; concepts of aggregative economic analysis. P: soph st, Economics 102, or cons inst.

**203 Micro Economic Analysis 3 cr.**

An introduction to the decision making process of individuals and business firms associated with the determination of what products will be produced, how they will be produced, and what prices specific goods and services will command. Includes a discussion of the institutional framework within which these decisions are made, for example, proprietorships, partnerships, corporations, cooperatives, and cooperative marketing.

**230 Money and Banking 3 cr.**

Monetary and banking principles and practices; price theories; banking systems and their operation. P: Economics 202.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**303 Money, Income and Prices 3 cr.**

Monetary standards, the value of money, monetary equilibrium; employment, output, and prices; monetary policy and public finance. P: jr st and Economics 302.

**304 Contemporary Labor Markets 3 cr.**

Labor supply, demand and wages; labor force,

unemployment and underemployment; labor mobility, functioning of the labor markets; problems of labor and management and their interrelationships with government. P: jr st and Economics 202 and 203.

**305 Natural Resources Economic Policy 3 cr.**

Acquaints the student with policies leading to public, private, and public-private arrangements for the development, management, and use of natural resources; their physical and economic classifications, physical and economic feasibility, benefits and costs, external effects. P: jr st.

**306 Public Finance and Fiscal Policy 3 cr.**

Effects of government spending and taxation on resources, incomes, prices, and employment; major taxes employed at national, state, and local levels; current policy problems. P: jr st and Economics 202 and 203.

**307 Sources of Contemporary Economics Concepts 3 cr.**

The development of contemporary economic thought, drawing upon contributions from the mercantilist period to the present, emphasizing contributions of major schools of thought. P: jr st.

**308 Business Cycles 3 cr.**

Description and recent history of business cycles; leading explanations of the levels of employment, output, and prices; savings and investments, forecasting, governmental policy. P: jr st and Economics 202 and 203.

**309 Introduction to Quantitative Economics 3 cr.**

Introduction to the estimation of economic relationships, including simulation and operations research. P: Community Sciences 205.

**401 Regional Economic Analysis 3 cr.**

Introduction to basic concepts and problems in the economic study of sub-regions of an economy, in both an intraregional and interregional context; problems in regional analysis, economic concepts regarding location and spatial organization; economic concepts regarding planning for regional development. P: Economics 202.



**402 Resource Economics Analysis 3 cr.**

Study and use of the tools and concepts of economic analysis in resource decision-making; concepts of joint production and joint costs, externalities; public finance, introduction to welfare economics; capital theory and discount rates, cost-benefit analysis and rates of return. P: jr st and Economics 202 and 203.

**403 International Trade 3 cr.**

Theory and concepts in development of international trade and finance; contemporary conditions and major current problems in international economic relations. P: jr st and Economics 202.

**404 Economics of Developing Areas 3 cr.**

Social and economic factors underlying economic development; leading issues in growth theory; comparative rates of progress in different countries. P: sr st and Economics 202.

**405 International Finance 3 cr.**

Theory and recent experience in currency standards, international banking, exchange fluctuations, and exchange controls; international monetary cooperation and special topics. P: Economics 403.

**406 Comparative Economic Systems and Institutions 3 cr.**

Analysis of contemporary functioning of different economic systems and institutions; comparison of principles of operation, social conditions, and objectives; role and function of cooperatives.

**496, 497, 498, 499 Contemporary Problems in Economics 1-4 cr.**

Senior seminar or tutorial on selected topics and current issues in economics related to concerns with business, industrial, and labor economics; economic theory; international economics; public finance; resource economics. Course includes the values, uses, and limitations of economic concepts to community problems. Integrative individual projects are developed for student reading, research, and reports. P: pursuit of an economics option. May be repeated for credit.

**ECOSYSTEMS ANALYSIS (CES)**

**141 Elementary Astronomy 3 cr.**

An introduction to the universe; a study of the solar system, stars, galaxies, and universe. Two lectures and one two-hour laboratory in the planetarium per week. Field trips included.

**302 Principles of Ecology 3 cr.**

(See Environmental Sciences 302)

**303 Electromagnetic Radiation 4 cr.**

A study of electromagnetic radiation starting from Maxwell's equations; the electromagnetic spectrum; geometrical and physical optics, optical instruments; interference, diffraction, and polarization; microwave technology; x-ray technology; special topics. P: Chemistry-Physics 212.

**306 Biophysics 3 cr.**

The application of physical principles to the understanding of biological phenomena; the physical basis of life; inter- and intra-cellular processes; the role of mechanics, light, electricity, and sound in biology; the physical basis of vision, muscle, hearing, nerves, and brain function; the physical factors in the relationship of an organism to its environment. P: Concurrent registration in Biology 203 and Chemistry-Physics 212 or equivalent or cons inst.

**310 Plant Ecology\* 3 cr.**

Interrelations of plant populations with the physical and biological factors of the environment; detection and description of pattern in the vegetation of North America and of Wisconsin. P: Environmental Sciences 302.

**312 Productivity of the Ecosystem\* 3 cr.**

World food sources and production processes, components of yield, fertilizer efficiency, genetic potential, climatic control, and land capability restrictions on food production; potential of aquatic and microbial food sources. P: Biology 203.

\*Not offered in 1971-1972.



**314 Plant Taxonomy 3 cr.**

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

**316 Principles of Plant Distribution 3 cr.**

A study of present and past distributions of plants throughout the world and the structure of modern vegetation with emphasis on the floristic and ecological plant geography of North America. P: Botany 320 or Ecosystems Analysis 314.

**318 Systematics and Taxonomy\* 3 cr.**

A consideration of the historical background of systematics, modern systems of analysis, the experimental approach to systematic problems, and interrelations with other fields. P: Biology 203.

**331 Introduction to Oceanography\* 3 cr.**

An analysis of the major disciplines in oceanography including the nature and extent of the marine environment, the physical and chemical properties of sea water, mass movements of oceanic water, marine geology, plant and animal life in the sea. Environmental problems associated with the exploitation of the marine environment and the Great Lakes are discussed. Field trip to be arranged. P: Biology 203, Chemistry 108 or Chemistry-Physics 110, and Earth Science 202.

**350 Meteorology\* 3 cr.**

Introduction to atmospheric processes, their nature, and their measurement. P: Chemistry-Physics 212.

**351 Microclimatology 3 cr.**

Heat exchange near the ground; relation of topography and plant cover to the microclimate; modification of microclimate by inadvertent and conscious intervention by man. P: Chemistry-Physics 212 and Environmental Sciences 310.

**403 General Limnology 3 cr.**

An introduction to the physical, chemical and biological interactions in lakes and streams as expressed in the nature and dynamics of aquatic

communities; laboratory and field techniques used in the characterization of the aquatic environment. P: Biology 203 and Chemistry-Physics 110.

**410 Principles of Human Ecology 3 cr.**

(See Population Dynamics 410)

**412 Bioenergetics 3 cr.**

Energy biology, a thermodynamic and kinetic view of energy and energy flow through biological systems. The results are applied to problems in human biology, terrestrial ecology, and trophic ecology. P: Biology 202, 203, and Chemistry-Physics 112 or 212.

**420 Soil Classification and Geography\* 3 cr.**

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

**452 Elements of Biometeorology\* 3 cr.**

The influence of the atmospheric environment on plants and animals; adjustments and adaptations made by organisms to changes in atmospheric environment. P: Environmental Sciences 302 and Ecosystems Analysis 350.

**472 Systems Simulation 3 cr.**

The comparison of proposed methods of operating a system through experimentation by means of the symbol manipulation capabilities of the computer, programming languages used in simulation, technical problems of simulation, statistical problems peculiar to simulation, applications. P: Mathematics 250 and 361.

\*Not offered in 1971-1972.



**EDUCATION (SPS)**

**302 Elementary School Teaching Methods in Social Studies 3 cr.**

Teaching methods in the social studies in the elementary school. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**303 Elementary School Teaching Methods in Art 2 cr.**

Teaching methods in art. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**304 Elementary School Teaching Methods in Music 2 cr.**

Teaching methods in music. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**305 Elementary School Teaching Methods in Mathematics and Science 4 cr.**

Teaching methods in mathematics and science. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**306 Elementary School Teaching Methods in Physical Education 2 cr.**

Teaching methods in physical education. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**307 The Teaching of Reading 3 cr.**

Teaching methods in reading. Required for an elementary school teacher's license in Wisconsin. P: jr st.

**310 Teaching Methods in English 3 cr.**

For students who wish to be licensed in Wisconsin for the teaching of English in secondary schools. P: jr st.

**311 Teaching Methods in Foreign Languages 3 cr.**

For students who wish to be licensed in Wisconsin for the teaching of foreign languages in secondary schools. P: jr st.

**312 Teaching Methods in Social Studies 3 cr.**

For students who wish to be licensed in Wisconsin to teach one or more of the social studies in secondary schools. Fields included are history, political science, economics, geography, psychology, sociology, social problems, civics (citizenship), and other social studies. This course is required for every field of social studies licensure. P: jr st.

**313 Teaching Methods in Mathematics 3 cr.**

For students who wish to be licensed to teach mathematics in Wisconsin secondary schools. P: jr st.

**314 Teaching Methods in the Sciences 3 cr.**

For students who wish to be licensed to teach chemistry, physics, biology, or earth science in Wisconsin secondary schools. Appropriate differentiations are provided for the teaching of the several disciplines. P: jr st and appropriate courses in science.

**316 Teaching Methods in Art 2 cr.**

For students who wish to be licensed to teach art in Wisconsin secondary schools. Appropriate differentiations are provided for the needs of students according to the art medium selected. P: jr st and appropriate courses in art.

**317 Teaching Methods in Music 2 cr.**

For students who wish to be licensed to teach instrumental music, vocal music, or both in Wisconsin secondary schools. P: jr st and the appropriate courses in music.

**402 Student Teaching in the Elementary School 4-8 cr.**

Supervised student teaching in the elementary school. Student teachers meet periodically as a group with the supervisor of student teaching and in seminar with each other. Required for a teacher's license. P: the required courses in education. Preregistration is required, sr st and written cons inst.



**403 Student Teaching in the Secondary School 4-8 cr.**

Supervised student teaching in the secondary school. Student teachers meet periodically as a group with the supervisor of student teaching and in seminar with each other. Required for a teacher's license. P: a 300-level course in education. Preregistration is required, sr st and written cons inst.

**404 Creative Learning in the Schools 3 cr.**

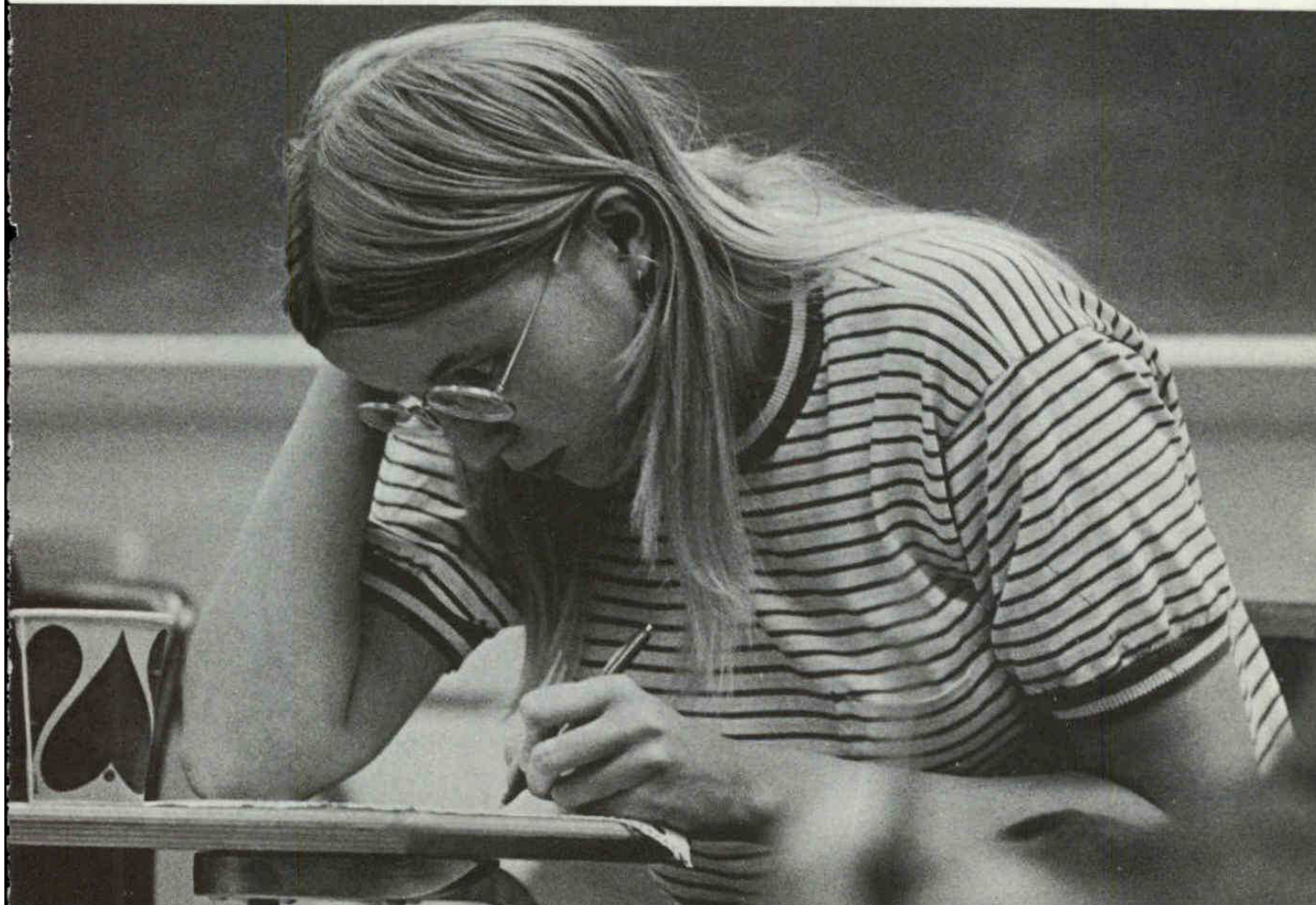
Study of systems of instruction which foster creativity within the school. Simulation of learning experiences, systems of discovery-centered questions, and individual approaches to learning in the several subject matter areas are explored. P: jr st.

**405 Individualizing Instruction 3 cr.**

Development of instructional systems, continuous monitoring of achievement, analysis of achievement data, and prescription of learning activities consistent with past learning profiles; development of criteria for assigning learning tasks and construction of specific performance objectives. P: jr st.

**406 Evaluation Systems 3 cr.**

Techniques for construction of tests and measurement systems, statistical procedures applied to classroom data, monitoring and assessment of individual and group learning situations, use and interpretation of data from standardized tests.





**407 Instructional Management 3 cr.**

Evaluation of teacher performance, utilization of instructional consultants, differential compensation of staff, management of diagnostic data, leadership and group dynamics as applied to school settings. Development of leadership techniques and instructional units.

**408 Instructional Planning 3 cr.**

Planning group instructional sequences, role differentiation, utilization of specialists and consultants, and development of techniques of group behavior; evaluation, diagnostic, and remedial techniques; assessment of curricular needs, assessment of learning difficulties, and utilization of instructional technology. Designed for the classroom teacher. P: jr st.

**496, 497, 498, 499 Special Readings in Professional Education 1-4 cr.**

A readings course adapted to the individual's particular interests in the field of professional education. P: jr st and cons Inst.

**ENGINEERING (CES)**

**102 Elements of Descriptive Geometry 3 cr.**

Orthographic projection and its application to analysis and solution of three-dimensional problems involving points, lines, planes, and solids; axonometric projections for pictorial representation with engineering applications. P: Mathematics 095.

**113 General Engineering Graphics 3 cr.**

Advanced principles of projection and perspective, sectional views, dimensioning freehand sketching, isometric, and oblique pictorials, graphs and nomographs, drawings and electric circuits. Individual problems are designed to serve the interests of the student's concentration. P: Engineering 102.

**302 Engineering Statics I 3 cr.**

Two- and three-dimensional force systems, distributed forces, centroids, hydrostatic forces, statically determinate frames and trusses, cables, friction and impending motion, space trusses,

principles of work and potential energy, stability. P: Mathematics 202.

**303 Engineering Dynamics II 3 cr.**

Displacement, velocity, and acceleration components; kinematics; rectilinear, curvilinear, and constrained particle motion; impulse and momentum; equation of motion for translation and rotation; work, energy; angular momentum. P: Engineering 302 and Mathematics 203.

**311 Mechanics of Materials 3 cr.**

(See Environmental Control 311)

**315 Mechanics 3 cr.**

(See Physics 315)

**318 Engineering Systems and Automatic Control 3 cr.**

(See Environmental Control 318)

**ENVIRONMENTAL CONTROL (CES)**

**302 Statics 3 cr.**

(See Engineering 302)

**303 Dynamics 3 cr.**

(See Engineering 303)

**311 Mechanics of Materials 3 cr.**

Stress and strain, torsion, bending of beams, shearing stresses in beams, compound stresses, principal stresses, deflections of beams, statically indeterminate members, columns. P: Engineering 302.

**315 Mechanics 3 cr.**

(See Physics 315)

**318 Engineering Systems and Automatic Control 3 cr.**

Basic laws of system components, analogies, system transfer functions, block diagrams, transient and steady state response characteristics, use of analog computer, feedback and automatic control, frequency response, stability. P: Chemistry-Physics 212; Environmental Control 311 or Mathematics 317 recommended.



**320 The Soil Environment 3 cr.**

The physical, chemical, and biological properties of soil. Formation, classification, and distribution of major soil orders. Influence of soil on agricultural, engineering, urban, and water systems. Field trip. P: Chemistry 108 or Chemistry-Physics 110; Earth Science 202 recommended.

**321 The Soil Environment Laboratory 1 cr.**

Laboratory and field study of physical, chemical, and biological properties of soils. P: Credit or concurrent registration in Environmental Control 320.

**330 Surface and Ground Water 3 cr.**

The hydraulic phenomena of watersheds concerned with water balance, floods and sedimentation; management and development of watersheds for controlled water yields; natural and artificial ground water recharge; efficient use of available water resources. P: Earth Science 202 and Environmental Control 320.

**332 Fluid Mechanics\* 3 cr.**

Fundamental, mechanical, and thermodynamic behavior of fluids; the statics and dynamics of compressible flow, viscous flow and incompressible flow; boundary layer problems. P: Chemistry-Physics 212 and Mathematics 308.

**360 Renewable Resources 3 cr.**

The nature and variety of renewable resources, man's dependence upon renewable resource production and quality. P: Biology 203.

**424 Environmental Biochemistry\* 3 cr.**

Microbial and chemical transformations of carbon, nitrogen, phosphorus, sulfur, and certain trace compounds in soil-water atmosphere systems; fate of selected pesticides, fertilizers, natural and man-made wastes in the ecosystem; beneficial and toxic effects on plants and animals; role in pollution of the environment; use of waste disposal systems for pollution abatement. Field trip. P: Biology 202, Earth Science 202, Chemistry 228 or 302.

**425 Environmental Biochemistry Laboratory 1 cr.**

Methods of microbial and chemical analysis. P: Credit or concurrent registration in Environmental Control 424.

**426 Soil Chemistry 4 cr.**

Fundamental principles of the structure and chemical behavior of clay minerals; reactions of soil colloids; soil pH and redox potentials; chemical reactions occurring in soils and their significance in the growth and nutrition of plants and on the quality of surface and ground waters. P: Chemistry 313, Chemistry-Physics 321, and Earth Science 320.

**428 Soil Physics 3 cr.**

The structure and physical constitution of soils; physical laws governing the infiltration, drainage, and flow through porous media; factors affecting the composition, exchange, and movement of gases in the soil; heat flow and soil temperature. P: Chemistry-Physics 212, 320 and Earth Science 320.

**432 Hydrology 3 cr.**

Major physical processes relating to water as it moves from the atmosphere, over and through the earth, is discharged to the oceans, and returned to the atmosphere. P: Environmental Control 332 or 428.

**434 Water Chemistry\* 4 cr.**

Study of fresh and ground water, chemical composition, chemical reactions, and physical principles which control or affect solute content of natural waters. Analytical and sampling techniques used to study natural waters. P: Chemistry 313.

**436 Water Pollution 4 cr.**

Physical, chemical, and biological factors affecting water quality; problems in maintaining water quality in agricultural, industrial, urban, and wildland areas; waste water treatment and natural purification. P: Environmental Control 424 and 434.

\*Not offered in 1971-1972.



**450 Air Pollution Meteorology 3 cr.**

The application of meteorological principles to the accumulation and dispersal of biologically important materials; plant pathogens, aeroallergens, dust, and emissions from man's technological devices. P: Ecosystems Analysis 350.

**451 Community Air Pollution 3 cr.**

Evaluation of the impact of air pollution on the community; the community air quality survey and monitoring of community air pollution; effects of air pollutants on plants, animals, man, buildings, and materials; aesthetic effects of air pollution. P: Environmental Control 450.

**453 Air Chemistry 4 cr.**

The nature, composition, and chemical reactions occurring in the several regions of the atmo-

sphere. Transformations of nitrogen, sulfur and carbon compounds in the troposphere and their relationship to human uses of the atmosphere receive special attention. P: Chemistry 313, 315, and Ecosystems Analysis 350.

**455 Air Pollution Control\* 3 cr.**

Establishment of air quality criteria and air quality standards; role of federal, regional, state, and local agencies in air pollution control; survey of engineering aspects of air pollution control; legal and economic considerations in air pollution control. P: Environmental Control 451.

**460 Resource Management Strategy\* 3 cr.**

Application of principles of ecology and conservation to the development of strategies for maintaining optimum environmental qualities. P: Environmental Sciences 302 and Environmental Control 360.

**462 Landscape Ecology\* 3 cr.**

Problems of multiple use of landscapes. P: Environmental Sciences 302.

**468 Applied Environmental Science\* 3 cr.**

Problems of control of quality of water and air; laboratory studies of air, water, and community wastes; effects of water and airborne wastes on the environment. P: sr st in the College of Environmental Sciences.

**ENVIRONMENTAL SCIENCES (CES)**

**102 Introduction to Environmental Sciences 3 cr.**

The description of the components of the ecosystem; their structure, function, and interrelationships; analysis, measurement, and management of the environment.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A report or equivalent must be submitted for evaluation for credit approval. A short title

\*Not offered in 1971-1972.





**223 Man and the Ocean of Air 4 cr.**

Study of the fundamentals of the processes of the atmosphere, the resulting weather and climate, and the effects of the atmosphere on other aspects of the earth's environments and on man.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**316 Geography of Transportation and Industrial Location 3 cr.**

Geographic analysis of transportation and industrial location; the role of transportation in determining the location of business and industrial activities. P: jr st or cons inst.

**320 Landform Geography: Topics and Regions 3 cr.**

Introduction of geographic methods of landform description and analysis with application to selected regions of the world. P: jr st or cons inst.

**325 Regional Climatology 3 cr.**

The elements, controls, and classification of climates; the distribution of climatic types over the earth; world patterns. P: jr st or cons inst.

**341 Urban Geography 3 cr.**

Regional variation in form and degree of urbanization and in relations of cities to the areas they serve. P: soph st.

**342 The City 3 cr.**

Areal diversification of character, function, and relationships within individual cities. P: jr st or cons inst.

**345 Historical Geography of Urban Places 3 cr.**

Changes in the morphology, functions, and arrangement of towns and cities over time. P: jr st or cons inst.

**350 Maps and Air Photos 3 cr.**

Introduction to the use and evaluation of various kinds of maps; interpretation of air photos: large-scale maps and vertical air photos. P: soph st.

**351 Elements of Map Making 3 cr.**

The use of control, coordinate systems, compilation, and photogrammetry for medium and large-scale maps. P: jr st or cons inst.

**353 Air Photo Interpretation and Use 3 cr.**

The use of vertical, oblique, and infrared aerial photographs as research sources in the social and physical sciences; the theory of aerial photo measurement and photo mapping procedures. P: jr st or cons inst.

**355 Introduction to Quantitative Methods of Spatial Analysis 3 cr.**

A methods course covering application of selected statistical measures and computer techniques to the analysis of geographic problems. P: Community Sciences 205 or a course in applied statistics.

**361 Geography of Africa 3 cr.**

The broad physical and human patterns of Africa; historical aspects of geography including the imposition of colonial organization on resource use and on indigenous cultures. P: soph st.

**362 Geography of the Great Lakes Region of Africa 3 cr.**

A systematic analysis of the areas surrounding the Great Lakes of Eastern Africa, with emphasis on the ecological and historical bases of cultural, economic, and political diversity; the resource base with respect to economic activities and regional development. P: soph st.

**371 Geography of the United States and Canada 3 cr.**

A systematic analysis of the physical features, resources, people, and economic activities of the United States and Canada. The various regions of the two countries are compared and contrasted. P: soph st.



descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**302 Principles of Ecology 3 cr.**

The biological principles which govern the interactions of plants and animals in their physical and biotic environments. Mechanisms of evolution and the resultant physiological and behavioral adaptations of individuals to their environment. Succession, productivity, energy flow, and nutrient cycling in ecosystems. Consideration is given to man as a factor in the ecosystem and to concepts underlying strategies used in the management of natural resources. P: Biology 203.

**303 Conservation of Natural Resources 3 cr.**

Principles of conservation, including: the nature and extent of our natural resources; exploitation and conservation of our resource system, as well as the chemical, physical, and biological processes occurring in nature which affect and influence our conservation and management practices. Consideration is given to the politics and economics of resource conservation. P: Environmental Sciences 102 or Biology 203 or Earth Science 202.

**310 Environmental Measurement 3 cr.**

Actual measurements and determinations of important environmental variables associated with air, water, and soil as they are related to living plants and animals affected by open field, urban, and other special types of environments. Principles of sampling, data recording, and data analysis are discussed. Opportunities to install and operate specific instruments are offered, and some of the practical difficulties and limitations of each measurement are discussed and demonstrated. P: Chemistry-Physics 212; Mathematics 204 or 260 recommended.

**496, 497, 498, 499 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A report or equivalent must be submitted for evaluation for credit approval. A short title

descriptive of the program must be submitted for entry on the transcript. P: jr st and cons inst.

**GEOGRAPHY (CCS)**

**102 Approaches to Geography 3 cr.**

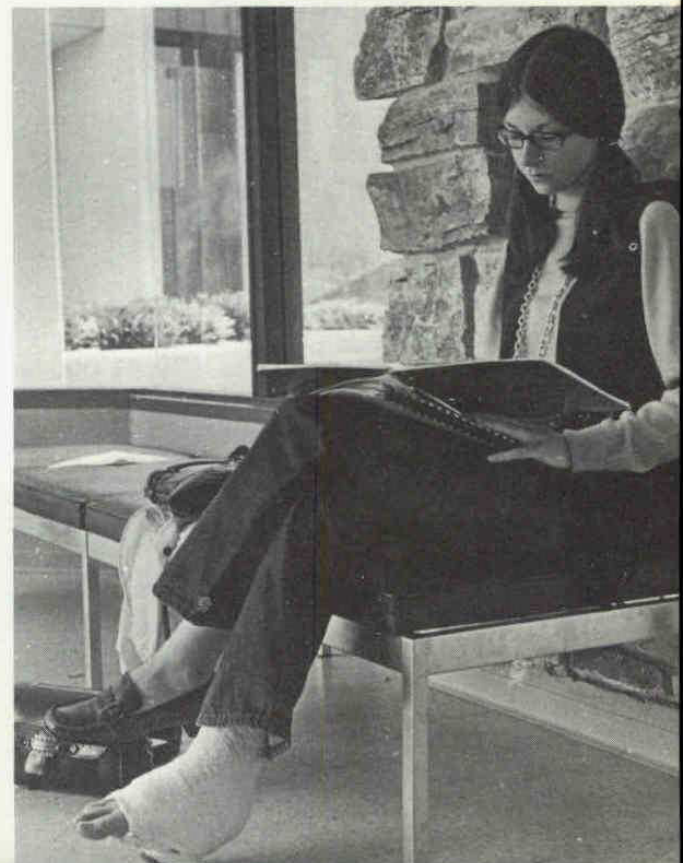
An introduction to contemporary geography, its viewpoints and methodology. Geographic reality of the present-day world is analyzed in the form of case studies in which both the regional approach and systematic analysis are used. P: Community Sciences 102.

**202 Introduction to Cultural Geography 3 cr.**

A consideration of the impact of culture through time in creating the world's contrasting landscapes.

**215 Economic Geography 3 cr.**

A survey of patterns of economic activities, including agriculture, extractive industries, manufacturing, transportation, and trade. Major theories and concepts essential to understanding the location of economic activities are discussed.





**372 Geography of the Great Lakes Regions of North America 3 cr.**

A systematic analysis of the areas surrounding the Great Lakes of the United States and Canada; internal and external relationships of the region; economic activities of the region; regional change and problems. P: soph st.

**376 Geography of Developing Areas 3 cr.**

An analysis of the geography of countries in various stages of development and the role of physical and human resources. P: soph st.

**377 Geography of Northern Lands 3 cr.**

A topical and regional analysis of the subarctic and arctic areas of North America and Eurasia; regional emphasis on Alaska, Northern Canada, and Greenland. P: jr st or cons inst.

**378 Geography of Tension Areas 3 cr.**

Investigation of the economic and political geography of areas actually or potentially dangerous to the peace of the world in an attempt to analyze underlying causes of existing tensions. P: jr st or cons inst.

**496, 497, 498, 499 Contemporary Problems in Geography 1-4 cr.**

Senior seminar or tutorial on selected topics and current issues related to cultural, physical, regional, and urban geography; current geographic problems related to student's academic experiences. Integrative individual projects will be developed for student reading, research, and reports. P: pursuit of a geography option. May be repeated for credit.

For physical geography, see: **Earth Science**.

**GROWTH AND DEVELOPMENT (CHB)****331 Infancy and Early Childhood 3 cr.**

Review of genetic and physical factors; social, emotional, cognitive development; family and other social interaction impacts. Includes motivation and learning; personality and intellect; sex role development; health; interrelationships with family, school, and community. P: Psychology 102 or equivalent.

**332 Middle Childhood and Adolescence 3 cr.**

Physical growth: social, emotional, and intellectual development; learning processes and interests; school and community impacts; physiological factors, social roles, identity-crises during adolescence. P: Growth and Development 331.

**333 Observation and Interpretation of Child Behavior 3 cr.**

Interpretation of behavior and development during the preschool and early school years through directed observation in selected situations. P: Growth and Development 331.

**334 Play and Creative Activities in Childhood 3 cr.**

Concepts of the contributions of play and creative activities to physical, intellectual, emotional, and social aspects of development. Specific contributions of selected creative activities examined. Systematic observation and interpretation of children's behavior in a variety of play situations. P: Growth and Development 331.

**336 Sex Role Development in Contemporary Society 3 cr.**

Analysis of the impact of social change on sex roles from an interdisciplinary and developmental orientation. Effects of child rearing practices, current social demands and expectations, problems of identity resolution. P: soph st and some course work in psychology, sociology, or anthropology.

**430 Guidance and Methods for Preschool and Kindergarten Groups 3 cr.**

Principles and dynamics of programming and management of preschool and kindergarten groups, including necessities of space, equipment, and supplies. Provision for activities in art, music, literature, science, pre-academic concept formation, manipulative-constructive, and creative-expressive experiences. Interrelationships of child, family, school, and community, including problems of health management. P: Growth and Development 333, 334.



**431 Cognitive Development and Facilitation in Childhood and Adolescence 3 cr.**

An analysis of the course of development of cognitive functioning and the conditions of learning from infancy through adolescence, with particular attention to the findings of Piaget and other current investigators. Effects of the interrelationship of cognitive and affective factors are examined, as are the implications for learning. P: Credit or concurrent registration in Growth and Development 332.

**432 Cultural Impacts on Human Development 3 cr.**

The cultural context of socialization, class, and ethnic differentials and their impact on cognitive style, value systems, interpersonal relations, and personality patterning. Subcultures considered are those of the inner city, American Indian, and

others involving significant segments of the American population. P: Growth and Development 332.

**433 Adulthood and Later Maturity 3 cr.**

Emphasis on identity resolution, adjustment to work, marriage, parenthood; processes of old age, involving physical, intellectual, personality developments, adjustments to retirement. P: Growth and Development 332.

**434 Practicum in Working with Preschool and Kindergarten Groups 5 cr.**

Directed work in selected preschool and kindergarten milieu, practice in applying the principles of guiding children in preschool and kindergarten groups. Students arrange for 12 hours of participation in preschool and/or kindergarten settings per week. P: Growth and Development 430.





**435 Developmental Problems and Deviations 3 cr.**

Developmental deviations in childhood and in adulthood, of constitutional and of social-emotional etiology are considered. Problems of exceptional children, children with handicaps, learning difficulties. Signs of coping difficulty. P: Growth and Development 332.

**436 Developmental Guidance with Children and Adolescents 3 cr.**

Theory and principles of remediation in developmental problems suitable for teachers and others dealing with children in groups, as well as individually. Problems to be elaborated will be selected as most relevant to the students' respective interests. A case study approach will be utilized and practice via simulation techniques will be undertaken in relation to selected topics. P: Growth and Development 435.

**437 Developmental Guidance with Adults and the Aged 3 cr.**

Common problems of young adults, parents, and the aged requiring guidance. Principles of effective interpersonal communication as applied to adults. Analysis of individual and parental behavior as a function of personality and cultural-social context. The use of communication as a change-agent technique. P: Growth and Development 433.

**HISTORY (CCC)**

**202 Rise of the International Economy, 1400-Present 3 cr.**

The development of technology and economic institutions in Europe and their interaction with the economies of other continents and geographical regions; growth of international trade and its importance to regional and national economies; economic significance of colonial systems and patterns of their economic development. Emphasis on the pervasive influence of the international economy on peoples of the modern world.

**203 History of Europe from 1300 to 1815 3 cr.**

The development of Europe from the early

Renaissance to the end of the Napoleonic era; the emergence of secular nation-states.

**204 History of Europe Since 1815 3 cr.**

Evolution of the modern European states since the end of the French Revolution; domestic crises and change; international competition; emergence of modern ideologies and institutions.

**205 History of the United States from 1600 to 1865 3 cr.**

The development of the United States from the first colonial settlements to the end of the Civil War.

**206 History of the United States from 1865-Present 3 cr.**

Reconstruction, industrialism, Progressivism, and adjustment to a new society; the New Deal and State capitalism; World War II and Pax Americana.

**261 Ancient History, Neolithic Age to 323 B.C. 3 cr.**

An orientation for the history major or serious student of human affairs and organization into the methods of investigation and evaluation of evidence for the history of human accomplishment in the areas where agriculture and metallurgy enter into man's new world.

Geographically the course begins in Anatolia, the Mesopotamian valley, the Fertile Crescent, the Nile Valley, and the islands of the Eastern Mediterranean. The history of the Mycenaean, Hellenic, and post Hellenic period to the death of Alexander the Great provides the means for studying the history of the ancient near east, classical Greece, and the archaeological, artistic, and documentary sources of knowledge. Special attention given to a critique of the writing and reconstruction of history.

**262 Ancient History, Mediterranean History from 323 B.C. to 337 A.D. 3 cr.**

The westward spread of Greco-Roman civilization, into which Christianity was born, and its press Northward into the Celtic and Germanic areas. Of major interest in this period is the



great constitutional struggle that ended the Roman Republic and brought into being the Roman Empire, which continued to develop and mature into a military dominated authoritarian state. Study of the surviving monuments in art, architecture, and literature, shows how the finished product of 12,000 years of development looked and how the Semitic religion of the Fertile Crescent was transformed into the Greek style of presentation and finally organized by concepts of Roman morality and law.

**302, 303 History of American Thought and Culture 3, 3 cr.**

European influences on American thought, religion, science, art, and the agencies of cultural life; emergence of distinctive American patterns; influence and impact of American ideas on the world. P: jr st. Can be taken out of sequence.

**304, 305 History of Asian Thought and Culture 3, 3 cr.**

The evolution of Asian thought, religion, and art; the agencies of cultural life; impact of European culture; influence of Asian thought outside Asia. P: jr st. Can be taken out of sequence.

**306, 307 History of European Thought and Culture, 1650-Present 3, 3 cr.**

Major currents in European philosophy, religion, science, artistic modes, and cultural life; the worldwide influence of European culture and the impact of European ideas on other major regions. P: jr st. Can be taken out of sequence.

**308, 309 History of Modern Science 3, 3 cr.**

The development of science since the 16th century; changes in the conditions facing the scientist over the past four centuries; relationship of scientific discovery to technological change. P: jr st. Can be taken out of sequence.

**312 History of the Great Lakes Region, 1600-Present 3 cr.**

The development of the Great Lakes Region as a distinct physiographic, economic, political, and cultural region in North America. The historical development of such an international region within the context of traditional nationalism and

international rivalry, as well as its impact and influence within the respective nations. A frame of reference is provided for comparison with other regions within the North American milieu. P: jr st. Can be taken out of sequence.

**314 The Modernization of Russia, 1850-1917 3 cr.**

Survey and analysis of social, intellectual, political, and economic developments from the mid-nineteenth century to the Bolshevik revolution. P: jr st or History 204.

**315 History of Soviet Russia, 1917 to the Present 3 cr.**

A survey of the origins and evolution of the main ideological, political, economic, social, diplomatic, and cultural developments of Russia since the Bolshevik revolution. P: jr st or History 204.

**321 Economic History of the U.S., 1600-1876 3 cr.**

Mercantilist thought and organization and the development of the American colonies; growth of laissez-faire attitudes, specialization of capital and labor, industrialization, and the influence of the railroads are thoroughly covered. P: jr st.

**322 Economic History of the U.S., 1876-Present 3 cr.**

The development of a corporate economy and the rise of government intervention; industrial, financial, agricultural, and labor reorganization; wage and price policies and their relationship to these general themes; special attention to modernization and urbanization processes and the developing relationship between the domestic and the world economy. P: jr st or cons inst.

**323, 324 History of American Foreign Relations, 1775-1890-Present 3 cr.**

American foreign relations as a medium for the study of American history; the different facets of American values, economic structures, and political decision-making as they affect the nation's relations with the rest of the world and as the rest of the world affects them. P: jr st or cons inst. Can be taken out of sequence.



**350 Social History of Europe Since the Industrial Revolution 3 cr.**

The central concern of this course is the analysis of the social manifestation and consequences of continuing and accelerating economic change. This involves a study of the origins, development, diffusion, and impact of the Industrial Revolution on European society, an examination of the theoretical and institutional bases of liberalism, socialism, communism, and fascism within the framework of the evolving modern mass society.

**356, 357 History of Africa 3, 3 cr.**

Study of the development of the social, political, and economic institutions of Africa from prehistoric times to the present. Emphasis upon the development of these institutions as response to particular ecological needs. Analysis of the impact of colonialism upon African cultures and the emergence of modern African nation-states. Can be taken out of sequence.

**363 Medieval History, 337 to 1100 A.D. 3 cr.**

The development of human institutions in the West beginning with the death of the first Christian Roman emperor. The newly Christianized Mediterranean culture moves northward in the West as do the Celtic and Germanic peoples in the East; Greek Christianity moves into the areas of the Slavs. The Turkic peoples provide new Eastern forces, affecting the Arabs, then the Byzantine empire, while the Scandinavian Vikings change the course of the West. Development of the Carolingian empire and the Papacy in the West indicate the inherited forms were inadequate. The First Crusade is an index of a new dynamism in the West.

**364 Medieval History, 1100 to 1453 A.D. 3 cr.**

The development of European society continues from the point where the culture derived from the Mediterranean is modified to the needs and under the values of peoples who have passed from the stage of being pupils to being masters. Subdivisions of the Slavs, changes in the territories of the Byzantine empire, formation of new dynastic states, population increase comes into its own. The rapid rise of the city, new classes based upon mercantile wealth, new forms in

technology bring about changes reflected in architecture, painting, sculpture, philosophy, theology, and the spread of that unique medieval institution, the university. During this period the same kind of awareness develops as in the Hellenistic period and in our own lunar and space age. As the seams give, the elements that are intensified in the Renaissance and Reformation are witnessed.

**402 Political and Social History of Modern Asia 3 cr.**

A critical examination of political and social change in 20th century Asia; the clash between colonialism and emerging nationalist movements; continued European and American involvement in Asia. P: jr st and one 300-level history course.

**403 Political and Social History of Modern America 3 cr.**

A critical examination of political and social change in 20th century America; the evolution of governmental roles in essential social change; the emergence of the United States as a world power. P: jr st and one 300-level history course.

**404 Political and Social History of Modern Europe 3 cr.**

A critical examination of political and social change in 20th century Europe; the emergence of European fascism; post-World War II changes. P: jr st and one 300-level history course.





**405 History of Technological Advancement 3 cr.**

An analysis of the impact of major inventions on the patterns of life in modern society; ecological problems resulting from technological changes. P: jr st and one 300-level history course.

**496, 497, 498, 499 Problems in Historical Causation 1-4 cr.**

A seminar or tutorial involving the careful consideration of major schools in historiography; problems in the interpretation of cultural, economic, political, scientific, and social history. P: sr st and choice of history option.

**HUMAN ADAPTABILITY (CHB)**

**104 Anatomy and Physiology 4 cr.**

The structure of the human body and the physiology of the organ systems. P: Biology 202 and Chemistry 108 or Chemistry-Physics 110.

**302 Comparative Physiology\* 3 or 4 cr.**

The functional aspects of animal systems, from invertebrate to mammalian, are compared at the subcellular, cellular, and organismal levels. The course includes the ecology of both internal and external environments. P: year of college biology and Chemistry-Physics 112 or 212.

**325 Biological Instrumentation 3 cr.**

Laboratory exercises with instruments useful in biological investigations. P: cons inst.

**330 Human Growth, Development, and Senescence 3 cr.**

An analysis of the physical and functional events of the stages in the life sequence of the human being. P: year of college biology.

**402 Human Physiology 4 cr.**

The study of the functions of the major organs and organ systems of man, application of systems analysis to physiological regulation. P: year of college biology and Chemistry-Physics 112 or 212.

**420 Exercise Physiology 4 cr.**

Study of human activity and the effects of activity on organs and organ systems; *training* as an adaptation, component analysis of human movement. P: Human Adaptability 402.

**430 Environmental Physiology 4 cr.**

Effects of meteorological factors on living systems and their response to heat, cold, altitude, and solar radiation. P: Human Adaptability 402.

**HUMAN BIOLOGY (CHB)**

**102 Introduction to Human Biology 3 cr.**

Introduction to the development, nature, and processes of human adaptability.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**496, 497, 498, 499 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's choice. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: jr st and cons inst.

**JANUARY PRACTICA**

**195, 295, 395, 495 January Practicum 1-3 cr.**

The practicum offers students the opportunity to participate for credit in special programs designed by the faculty exclusively for presentation during January. The major focus of these special programs is on the extension of theories and concepts studied in classes to relevant and practical conditions. These special programs may consist of a series of studies on each campus related to a contemporary and relevant theme. On-campus activities for individuals and groups, guided study tours, field trips, as well as

\*Not offered in 1971-1972.



such other activities as may be appropriate to the January time period are conducted. These activities are under the direct supervision of a faculty member. The use of credit obtained for distribution, option, or concentration requirements is subject to the approval of the dean of the appropriate college. Students ordinarily pursue one activity during January and may earn a maximum of 12 credits in four years in 195, 295, 395, and 495 programs. A catalog of specific January programs is published during the previous fall semester. P: As specified by the instructor. Offered only in January.

#### LEISURE SCIENCES (SPS)

##### **302 Philosophy and Sociology of Leisure 3 cr.**

The impact of increasing leisure on society, its culture, and sub-cultures; fundamental attitudes and values which have influenced the development of leisure services in various organizational and institutional settings; the emergence and development of leisure service professions. P: jr st. (Or may be taken as Sociology 310.)

##### **303 Physiology and Psychology of Recreation 3 cr.**

Concepts of the individual and his total development; the differential physiological effects of work and leisure activity; the differential effects of various kinds of recreation; the psychological motivations involved in leisure activities of various kinds and their differentiation from work motivation. P: jr st.

##### **310 Formulating and Administering Recreation Programs 3 cr.**

Practice in designing programs and establishing effective organizations for their administrations; applying valid conclusions from the philosophical, sociological, physiological characteristics of leisure usage; theories, principles, and practices of program development in public, private, and commercial operations. Includes such settings as community centers, hospitals, convalescent centers, camps, nature centers, resorts, parks, and tourist centers. P: Leisure Sciences 302 and 303.

##### **320 Field Practicum 2 cr.**

Directed work-study experiences in selected environmental settings in the United States, Canada, or other culture; available to qualified students between junior and senior years. Oral and written reports are required. P: Leisure Sciences 302 and 303.

##### **403 Recreation Supply and Demand Analysis 3 cr.**

Actual case problems in analyzing both supply and demand for recreation; theoretical concepts, determinants of supply and demand, including treatment of the substitution effect; pricing and allocation of recreation resources and services. P: Leisure Sciences 302 and 303.

##### **404 Public Park and Recreation Systems 3 cr.**

Policies, principles, and administrative practices involved in the planning, development, and operation of public park and recreation systems. P: sr st and Leisure Sciences 310.

##### **410 ~~Recreation Resource Planning in the Upper Great Lakes Region~~ 3 cr.**

Regional recreation resources planning utilizing ecological principles; resource inventory classification and allocation; forecasting demand; quantification of user-resource relationships; formulation and application of recreation planning guides; fiscal considerations. Problems orientation in the Upper Great Lakes region. P: sr st and Leisure Sciences 403.

##### **496, 497, 498, 499 Special Readings in Leisure Sciences 1-4 cr.**

A readings course adapted to the individual's particular interests in the field of recreation. P: jr st and cons inst.

#### LIBERAL EDUCATION SEMINAR

##### **101, 102 Crises of Belief and Ecology 3, 3 cr.**

An introduction to the two central concerns of the University: values and ecology. Crises of belief and the forms of acting on beliefs within a series of ecological crises are emphasized, providing an overview of man's several environments and selected contemporary ecological



problems. Through team teaching and the mixing of students from all parts of the University, a broad experience is assured as the student receives an introduction to ecology as well as a survey of various environmental themes and value approaches.

Large lecture formats and small seminar-discussion sections assure ample opportunities for both oral and written reactions to materials presented. Written requirements are substantial and form the basis for a major portion of the course grade. Required of all UWGB freshmen.

**211 Seminar in Creative Communication 3 cr.**  
Topics studied vary from year to year, but in every case they are dealt with from the perspectives of CCC concentrations. The student is provided with a foundation for the project he will complete in Liberal Education Seminar 212.  
P: Liberal Education Seminar 102.

**212 Seminar in Creative Communication 3 cr.**  
The completion and presentation of a project related to some topic or topics examined in Liberal Education Seminar 211 and related to a supervised field experience. P: Liberal Education Seminar 211.

**213 Seminar in Community Sciences 3 cr.**  
Introduction to the identification, preparation, and presentation of projects related to the opportunities and problems of man and his social environment. Emphasis is on Northeastern Wisconsin. P: Liberal Education Seminar 102 and Community Sciences 102.

**214 Seminar in Community Sciences 3 cr.**  
In-depth study of a specific field project in Northeastern Wisconsin selected in Liberal Education Seminar 213. Data is collected and organized for presentation to the seminar group. P: Liberal Education Seminar 213.

**215 Seminar in Environmental Sciences 3 cr.**  
Introduction to the techniques of identification, definition, and solution of problems relating man to his environment. The scope of the major

facets of that environment are analyzed; techniques of data collection are evaluated; and the organization of the data and the reporting of conclusions are undertaken. P: Liberal Education Seminar 102.

**216 Seminar in Environmental Sciences 3 cr.**  
Each student selects an item of the environment, beyond the limits of the campus but readily accessible to him, of particular interest to him. The student defines the item, analyzes it, and reports upon it to his seminar group. P: Liberal Education Seminar 215.

**217 Seminar in Human Biology 3 cr.**  
Introduction to the method of inquiry into problems of human adaptability. The seminar explores the techniques necessary to the identification, experimental design, collection and analysis of data, and the dispersion of information relevant to these problems. P: Liberal Education Seminar 102 and Human Biology 102.

**218 Seminar in Human Biology 3 cr.**  
Application of the tools acquired in Liberal Education Seminar 217 to a problem appropriate to the concentrations of the college and involving more than library resources. The student identifies the problems, collects the data as part of a field experience, and analyzes and reports the findings to the seminar group.  
P: Liberal Education Seminar 217.

**311 Junior Seminar in Creative Communication 3 cr.**  
Focuses upon the relationship between the national and world community, and cultivates awareness of cultural contrasts and understanding of diverse and universal reflections of human identity. Selected Western and non-Western cultures and human identities are studied, relevant to the student's proposed cross-cultural experience and project, which in turn is related to his concentration or concentration-option specialization. P: Liberal Education Seminar 212.

**312 Junior Seminar in Creative Communication: Cross-Cultural Experience and Project 3 cr.**  
Opportunities for study in other areas of the



United States, the Americas, and in overseas centers are available to qualified students. Study tours to pertinent other-culture centers are planned during the January Practicum, second semester, and the summer school. The requirement can be satisfied by participation in VISTA, the Peace Corps, or other agencies involved in cross-cultural endeavors. Students unable to travel may satisfy the requirement by a supervised intensive study of selected other cultures on the campus. In all cases, a written and oral report is required. P: Liberal Education Seminar 311.

**313 Junior Seminar in Community Sciences 3 cr.**

A focus on the national and world community cultivates awareness of cultural contrast and understanding of other value systems. Selected Western and non-Western cultures are studied and compared, utilizing various resources on the campus in a seminar format, in preparation for the cross-cultural experience which makes up the second semester of the junior seminar. P: Liberal Education Seminar 214.

**314 Junior Seminar in Community Sciences: Cross-Cultural Experience and Project 3 cr.**

Opportunities for study in other areas of the United States and abroad are available to qualified students. The requirement can be satisfied by participation in VISTA, the Peace Corps, or other agencies involved in cross-cultural endeavors. Supervised intensive study of another culture is available on the campus for those unable to travel. In all cases, a written and/or oral analysis is required. P: Liberal Education Seminar 313.

**315 Junior Seminar in Environmental Sciences 3 cr.**

An opportunity to gain insight into the detailed nature of the physical, chemical, and geological aspects of the environment, the regulatory processes of natural and artificial biological systems, and to apply strategy in solving adaptive problems associated with man's impact upon the aquatic, terrestrial, or atmospheric components of the environment. P: Liberal Education Seminar 216.

**316 Junior Seminar in Environmental Sciences: Cross-Cultural Experience and Project 3 cr.**

Under appropriate supervision, the practical or field aspects of the problem or project researched in Liberal Education Seminar 315 are carried out. Upon completion of the field experience, written and oral reports are required. P: Liberal Education Seminar 315.

**317 Junior Seminar in Human Biology 3 cr.**

Environment and man's ability to adapt to it dictate in large part the culture that he develops. Effects of stress on physical and mental growth and development are considered in the light of a number of cultures, using examples of extremes of climate. P: Liberal Education Seminar 218.

**318 Junior Seminar in Human Biology: Cross-Cultural Experience and Project 3 cr.**

Opportunities for study in other areas of the United States and abroad are available to qualified students. The requirement can be satisfied by participation in VISTA, the Peace Corps, or other agencies involved in cross-cultural endeavors. Supervised intensive study of another culture is available on the campus for those unable to travel. In all cases, a written and/or oral analysis is required. P: Liberal Education Seminar 317.

**401 Senior Seminar 3 cr.**

An opportunity to integrate and assimilate knowledge acquired through specialization in a theme college concentration or concentration-option. Problems of values, belief, and ecology are examined with particular attention to the consequences for future generations. The focus is on long-range goals at either the global, regional, or national level in relationship to an appropriate set of indicators of past and present states of affairs, such as social, political, cultural, economic, biological, environmental, and technological. P: Liberal Education Seminar 312, 314, 316, or 318.

**402 Senior Seminar 3 cr.**

Plannings dealing with the anticipation of relevant social and ecological needs in terms of long-range futures. Alternative futures are constructed



and examined with reference to empirical knowledge, constraints, values, and beliefs that underlie those preferred futures. Consideration is given to the problem of implementation. P: Liberal Education Seminar 401.

**LITERATURE AND LANGUAGE\* (CCC)**

**102, 103 Introduction to the (French, German, Italian\*\*, Russian\*\*, Spanish) Language 3 cr.**

Study and practice of the (French, German, Italian, Russian, Spanish) language with emphasis upon the following skills: listening, speaking, reading, and writing. Courses are sequential and according to the level of achievement. One year of high school foreign language usually equals one semester of university work. Offered on an automatic pass-fail basis, except by petition.

**104 Introduction to Literary Types 3 cr.**

A survey of major literary types (epic, lyric, ode, sonnet, ballad, types of the novel, drama, essay) through intensive analysis of literary classics. Significant contemporary works are studied for aesthetic structure and convention.

**106 Great Books 3 cr.**

A study of the literary heritage and traditions of world culture, including non-Western expressions. At the discretion of the instructor, the course may emphasize literature of a particular nation.

\*Courses in English and American literature carry no prerequisite except consent of the instructor. Courses in which the content is at the discretion of the instructor may be repeated for credit if the content is different each time. Students should check the timetable for specific course offerings in foreign literature and language. Separate courses are offered in each language.

\*\*Italian and Russian are currently offered on a limited basis only.

**202, 203 Introduction to the (French, German, Italian, Russian, Spanish) Language 3 cr.**

Study and practice of the (French, German, Italian, Russian, Spanish) language with emphasis upon the following skills: listening, speaking, reading, and writing. Courses are sequential and according to the level of achievement. One year of high school foreign language usually equals one semester of university work.

**212 Introduction to Creative Writing 3 cr.**

A first course in the appreciation, understanding, and technique of creative writing. The particular focus is on the genres of short fiction and poetry.

**220 Poetry in Context 3 cr.**

A chronological study of the development of the more important genres of poetry and their distinctive features with comparative studies of outstanding examples of practitioners of selected forms (e.g., *Beowulf*, Milton's *Paradise Lost*, Williams' *Paterson*).

**221 Drama in Context 3 cr.**

A study of the drama as a form with distinguished examples selected from the dramatic literature of Europe, England, and the United States.

**222 The Novel in Context 3 cr.**

A study of the various forms of the novel (historical, picaresque, manners, social protest, etc.) devoted to a thematic, generic, or period approach.

**223 Approaches to Criticism 3 cr.**

The analysis of various historical, psychological, and formal approaches to the evaluation of literature. Several works chosen by the staff are analyzed using different critical methods.

**225, 226 (French, German, Italian, Russian, Spanish) Composition and Conversation 3, 3 cr.**

Intensive practice in conversational and written (French, German, Italian, Russian, Spanish). Preparation and delivery of oral presentations and dialogues based on current topics of interest. Patterns and idioms practical in simulated but "true" to everyday or special situations. May be



taken concurrently with (French, German, Italian, Russian, Spanish) 227, 228. P: (French, German, Italian, Russian, Spanish) 203 in the same language or equivalent.

**227, 228 Introduction to (French, German, Italian, Russian, Spanish) Literature 3, 3 cr.**

Introduction to the historical periods in (French, German, Italian, Russian, Spanish) literature from the literary beginning to the present. Reading and discussion of representative works. The rudiments of literary criticism. May be taken concurrently with (French, German, Italian, Russian, Spanish) 225, 226. P: (French, German, Italian, Russian, Spanish) 203 in the same language or equivalent.

**296, 297, 298, 299 Problems in Literature and Language 1-4 cr.**

Sophomore seminar or tutorial on selected topics in literature related to literary theory and practice. Integrative individual projects are developed for student reading, research, and reports.

**302, 303 Advanced Creative Writing 3, 3 cr.**

The study and practice of writing poetry, fiction, drama. The genre for any given semester is at the option of the instructor. May be taken for performing arts credit when the drama is selected as the major genre to be studied.

**310 Major English Drama 3 cr.**

A study of the drama either by period or by theme.

**313 Major English Prose Fiction 3 cr.**

A study of the short story and/or the novel either by period or by theme.

**314 Major English Poetry 3 cr.**

A study of poetry either by period or by theme.

**315 History of the English Language 3 cr.**

The origins and development of the English language (dialects, grammar, pronunciation, spelling, vocabulary, and usage) including contemporary American English.

**321 Sociolinguistics 3 cr.**

Study of communication in social groups and application of linguistic principles to specific cultural problems, including conventional patterns of social and regional dialects, stylistic variation, bilingualism, linguistic interference, paralinguistic behavior, and language acquisition.

**322 Modern English Linguistics 3 cr.**

Study of structure and system in language, with particular attention to modern English and including principles of structural linguistics (phonology, morphology, and syntax), principles of tagmemic grammar, and features of generative-transformational models of linguistic competence.

**330 Major American Drama 3 cr.**

A study of the drama either by period or by theme.

**331 Major American Prose Fiction 3 cr.**

A study of prose fiction either by period or by theme.

**332 Major American Poetry 3 cr.**

A study of poetry either by period or by theme.

**333 Literary Themes 3 cr.**

Prose, drama, or poetry. The theme may be explored through the various forms or limited to a single form and may be international in scope. Available in either American, English, French, German, Italian, Russian, Spanish, or other literatures.

**334 Literary Isms 3 cr.**

Prose, drama, or poetry of a significant literary movement such as Romanticism or Realism. Available in either American, English, French, German, Italian, Russian, Spanish, or other literatures.



**335 Literary Eras 3 cr.**

Prose, drama, or poetry: the works of a number of writers studied *in relation to their time*. Available in either American, English, French, German, Italian, Russian, Spanish, or other literatures.

**350 Major Foreign Drama 3 cr.**

A survey of development in drama in the language indicated, with emphasis on any particular aspect (chronological progress, *various isms*, notable periods) depending upon expressed interest of students and faculty. Conducted either in the foreign language or in English.

**351 Major Foreign Prose Fiction 3 cr.**

A survey of development in prose fiction in the language indicated with emphasis on any particular aspect (chronological progress, *various isms*, notable periods) depending upon expressed interest of students and faculty. Conducted either in the foreign language or in English.

**352 Major Foreign Poetry 3 cr.**

A survey of development in poetry in the language indicated with emphasis on any particular aspect (chronological progress, *various isms*, notable periods) depending upon expressed interests of students and faculty. Conducted either in the foreign language or in English.

**431, 432 Shakespeare 3, 3 cr.**

Shakespeare's tragedies, comedies, *tragi-comedies*, and history plays; techniques and problems of play production as these affect interpretation.

**434 A Major British Writer (or Writers) Exclusive of Shakespeare 3 cr.**

A study of one or more outstanding figures in British literature. A careful analysis of the important *themes, devices, and influences* on the specific writer are emphasized.





**435 A Major American Writer (or Writers) 3 cr.**

A study of one or more outstanding figures in American literature. A careful analysis of the important themes, devices, and influences on the specific writer are emphasized.

**436 Major French Writer 3 cr.**

A study of an outstanding figure in French literature. Subject chosen according to student and faculty interest. Class conducted either in French or in English.

**437 Major German Writer 3 cr.**

A study of an outstanding figure in German literature. Subject chosen according to student and faculty interest. Class conducted either in German or in English.

**438 Major Spanish Writer 3 cr.**

A study of an outstanding figure in Spanish literature. Subject chosen according to student and faculty interest. Class conducted either in Spanish or in English.

**490 French Seminar 3 cr.**

A study of a notable writer, literary movement, or influence in French literature. The selection of subject matter is at the discretion of the instructor and according to the students' interest.

**491 German Seminar 3 cr.**

A study of a notable writer, literary movement, or influence in German literature. The selection of subject matter is at the discretion of the instructor and according to the students' interest.

**492 Spanish Seminar 3 cr.**

A study of a notable writer, literary movement, or influence in Spanish literature. The selection of subject matter is at the discretion of the instructor and according to the students' interest.

**493 English Seminar 3 cr.**

A study of a major writer, literary movement, or influence in English literature. Extensive research on the chosen topic is required.

**494 Seminar in American Literature 3 cr.**

A study of a major writer, literary movement, or influence in American literature. Extensive research on the chosen topic is required.

**496, 497, 498, 499 Problems of Literature and Language 1-4 cr.**

Senior seminar or tutorial on selected topics in literature related to literary theory and practice. Integrative individual projects are developed for student reading, research, and reports.

**MASS COMMUNICATIONS (SPS)**

**202 Media I: Introduction to Mass Communications 3 cr.**

Survey of the interplay between American society and mass media, both print and broadcast; commercial, cultural, and political functions of the media, popular taste, the pseudo-environment of symbols, the concept of a free and responsible press. P: soph st.

**203 Media II: Newswriting Laboratory 3 cr.**

Newswriting laboratory; assignments in gathering and writing news; copy editing; emphasis on developing an objective, clear, accurate, and forceful style. Required for the professional collateral in mass communications. P: soph st.

**305 Television and Radio News Writing 3 cr.**

Development of basic skills required for effective newscasting and announcing. P: Mass Communications 203.

**310 Television Directing and Producing 3 cr.**

Objectives and methods in commercial and public service programming, including the conception, writing, and producing of individual program ideas. This is an activity course conducted primarily in commercial television studios in Green Bay. P: jr st and cons inst.

**320 Interpretive Reporting 3 cr.**

Development of skills in journalistic research and in-depth reporting; analysis of source and audience contexts. P: Mass Communications 203.



**325 Specialized Writing 3 cr.**

Development of skills in translating and interpreting material from particular fields of expertise; designed for the preparation of writers specialized in covering such fields as the physical sciences, social sciences, education, business, the arts. P: jr st and cons inst.

**402 Television and Radio Internship 3 cr.**

Supervised assistance and practice in the production of radio programs and television programs at commercial stations in the Green Bay area. P: soph st and Mass Communications 310.

**405 Professional Reporting Internship 3 cr.**

A field course with supervised instruction and practice reporting for a newspaper or periodical in the Green Bay area. P: sr st and Mass Communications 320 or 325.

**430 Mass Media and Society 3 cr.**

Analysis of the media as persuaders, informers, entertainers; public opinion, readership, and audience studies; communication theory; legal aspects; critical examination of mass communication in the changing social environment. P: Nine credits in either Mass Communications or Communication-Action.

**496, 497, 498, 499 Special Readings in Mass Communications 1-4 cr.**

A reading course adapted to the individual's particular interests in the field of mass communications. P: jr st and cons inst.

**MATHEMATICS (CES)****095 Intermediate Algebra 3 cr.**

A developmental course, also intended for students whose algebra preparation did not include the second course in high school algebra (Grade 11): setting up and solving quadratic equations and inequalities, complex numbers, rational exponents, progressions, graphing of circles and quadratic polynomials, definition and elementary properties of logarithms. Offered on an automatic pass-fail basis, except by petition. Credits do not count toward graduation.

**112 College Algebra 3 cr.**

A course to prepare the student for Mathematics 202, Calculus and Analytic Geometry I: algebra of polynomial and rational functions; the function concept; theory of polynomial equations, including remainder and factor theorems; solution of simultaneous linear equations; infinite geometric progressions; mathematical induction; binomial theorem. P: Mathematics 095 or satisfactory score on placement examination.

**113 Trigonometry 2 cr.**

A course to prepare the student for Mathematics 202, Calculus and Analytic Geometry I. Introduces the trigonometric functions of the real number and basic properties and graphs; equations and identities; applications to angles, triangles, and complex numbers. P: Mathematics 095 or satisfactory score on placement examination.

**114 Elementary Functions: Algebra and Trigonometry 4 cr.**

The real number system, functions, exponential and logarithmic functions, trigonometric and inverse trigonometric functions, complex numbers, polynomial and rational functions, systems of equations, principles of counting, sequences. For students whose mathematical background is inadequate for Mathematics 202. P: Mathematics 095 or satisfactory score on placement examination.

**115 Fundamentals of Arithmetic 4 cr.**

Basic notations and operations in elementary arithmetic; place notation with various bases; development of the basic algorithms of arithmetic; prime, decimal, irrational, real, complex numbers, divisibility; rational arithmetic. P: Mathematics 095 or satisfactory score on placement examination.

**140, 141 Finite Mathematics I and II 3, 3 cr.**

Intended for students in the natural and social sciences. Discusses on a reasonable level many topics in mathematics which are being used today in applying mathematics to new areas. Topics covered include logic, sets, Boolean algebra, relations, functions, vectors, matrices, linear algebra, probability, linear programming, game



theory, optimization methods, strategy and decision making, simulation. Applications of many of these topics are discussed. P: Mathematics 095 or satisfactory score on placement examination.

**202 Calculus and Analytic Geometry I 4 cr.**

An introduction to the fundamentals of calculus; functions and graphs, derivatives, theorems on limits, inverse functions, composite functions, differentials, continuity, curve plotting, Rolle's theorem, mean value theorem, indefinite integration, derivatives of sine and cosine, areas as limits, the definite integral, fundamental theorem of integral calculus, area between curves, volume, curve length, area of surface of revolution, centroid, pressure, work. P: Satisfactory score on placement examination or passing grade in Mathematics 112 and 113 or 114.

**203 Calculus and Analytic Geometry II 4 cr.**

Further calculus of one variable: transcendental functions, hyperbolic functions, methods of integration, tangents and normals, Newton's method, equations of loci, conic sections, second-degree curves, polar coordinates, parametric equations in kinematics and in analytic geometry, vectors in space, scalar and vector products, loci in space. P: Mathematics 202.

**204 Elementary Probability 4 cr.**

An introduction to probability and statistical inference, making use of the calculus developed in Mathematics 202. P: Mathematics 202.

**211 Calculus and Analytic Geometry III 5 cr.**

Real valued functions of several variables, partial derivatives, Taylor's series, multiple integrals, improper integrals, applications. P: Mathematics 203.

**250, 251 Computer Science I, II 3, 3 cr.**

A lecture and laboratory course about the structure, operations and programming of a computer; application of data processing to student's areas of interest; logic decision techniques as applied to systems and procedures. Examples are selected appropriate to the needs of students in each of the theme colleges and concentrations.

Mathematics 250, Computer Science I, is required of all students who do not elect to study Calculus (Mathematics 202, and 203 or 204). The tool subject requirement can be completed by electing either Mathematics 251, 252, 260, 353, or Community Sciences 205, Social Science Statistics, to follow Mathematics 250. P: Satisfactory score on placement examination or passing grade in Mathematics 095.

**252 Machine Organization 3 cr.**

An introduction to concepts involved in the design of computers and computer systems. P: Mathematics 250.

**260 Elementary Statistics\* 3 cr.**

Descriptive and inferential statistics; frequency distributions; graphing techniques; percentiles; measures of central tendencies and of dispersion; normal distribution, correlation, regression, prediction; probability, statistical inference; analysis of variance. Applications are processed using computer programs. P: Mathematics 250.

**308 Differential Equations and Matrix Algebra 5 cr.**

Elementary methods of solution, integrating factor, linear differential equations with constant coefficients, solution of systems of first order linear differential equations using matrix methods, applications. P: Mathematics 211.

**311 Advanced Calculus 3 cr.**

Jacobians; transformation of coordinates; functional dependence; constrained extrema and Lagrange multipliers; line, surface, and volume integrals; scalar and vector fields; gradient, divergence, and curl; divergence theorem, Stoke's theorem. P: Mathematics 211.

**312 Real Analysis I 3 cr.**

Sets, functions, sequences of real numbers, series of real numbers, limits, metric spaces, continuous functions on metric spaces, connectedness, completeness, compactness. P: Mathematics 211.

\*This course is equivalent to Community Sciences 205, which is not being offered in 1971-1972.



**313 College Geometry\* 3 cr.**

Intuitive and deductive introductions to euclidean, affine, hyperbolic, spherical, elliptic and synthetic projective geometries. P: Mathematics 202.

**315 Intermediate Ordinary Differential Equations 3 cr.**

Systems of linear ordinary differential equations, Laplace transforms, linear ordinary differential equations with variable coefficients, boundary value problems involving nonhomogeneous linear equations, asymptotic expansions, nonlinear ordinary differential equations, numerical methods. P: Mathematics 250 and 308.

**317 Heaviside Operational Calculus 3 cr.**

Heaviside calculus for recursion relations and digital systems; Heaviside calculus for integral-differential equations and analog systems; *operand convergence, operator convergence*; approximation of an analog system by a digital system. P: Mathematics 308.

**318 Engineering Systems and Automatic Control 3 cr.**

(See Environmental Control 318)

**321 Linear Algebra I 3 cr.**

Vector spaces and vector space isomorphisms, linear transformations, matrices and matrix operations. P: Mathematics 203.

**322 Linear Algebra II 3 cr.**

Equivalence relations on matrices, canonical forms for similar matrices, eigenvalues and eigenvectors, matrix orthogonalization. P: Mathematics 308 and 321.

**350 Numerical Analysis 3 cr.**

Solutions of equations, polynomial approximations, initial value problems for ordinary differential equations; matrix inversion. Students will be encouraged to run a computer program for a problem from their concentration areas. P: Mathematics 250 and 308.

**353 Advanced Programming 3 cr.**

Structure of languages and of a particular pro-

gramming language, theory of compilers, evolution of a translator. P: Mathematics 250.

**355 Optimization\* 3 cr.**

Linear programming, nonlinear programming, dynamic programming, combinatorics, and calculus of variations. P: Mathematics 308 and 311.

**360 Theory of Probability 3 cr.**

Probability as a mathematical system, with applications; basic probability theory; combinatorial analysis; independence and dependence; distribution functions and probability laws; mean and variance of a probability law; expectation of a function with respect to a probability law; normal, Poisson, and related probability laws; random variables. P: Mathematics 211.

**361 Theoretical Statistics 3 cr.**

Sample moments and their distributions, tests of hypotheses, point and interval estimation, regression and linear hypothesis, nonparametric methods, sequential methods. P: Mathematics 360.

**362 Methods of Statistical Analysis 3 cr.**

Model specification, computational techniques, and hypothesis tests in general regression analysis. Topics covered include linear and multiple regression, orthogonal polynomials, block designs, factorial designs, nested classifications, and analysis of covariance. P: Mathematics 260.

**363 Experimental Designs 3 cr.**

Methods of constructing designs for experimental investigations; concepts of randomization and replication; experimental unit techniques; completely randomized and block designs; confounding; fractional replication; response surface methodology; incomplete block designs. P: Mathematics 362.

**366 Theory of Games 3 cr.**

Introduction to von Neumann's theory of games with emphasis on the two-person, zero-sum game, applications to problems of strategy, decision functions, and to linear programming. P: Mathematics 202 and 250.

\*Not offered in 1971-1972.



**403 Differential Geometry\* 3 cr.**

Geometry of curves and surfaces in euclidean 3-space, with extensive use of linear algebra, intrinsic geometry of surface, abstract surfaces, differential forms. P: Mathematics 211.

**405 Numerical Analysis II\* 3 cr.**

Boundary value problems and eigenvalue problems, finite difference methods, energy methods, partial differential equations of second order, iterative methods, stability. P: Mathematics 311, 315 and 350.

**407 Algebraic Structures\* 3 cr.**

Basic algebraic properties of groups, rings, and fields; Galois theory and applications; advanced linear algebra. P: Mathematics 322.

**410 Complex Analysis 3 cr.**

Algebra and geometry of complex numbers, analytic functions, integration, Taylor and Laurent series, contour integration, residues, analytic continuation, conformal mapping, boundary value problems, integral transforms. P: Mathematics 311.

**412 Real Analysis II\* 3 cr.**

Continuation of Mathematics 312. Derivatives, Riemann integral, Taylor series, sequences and series of functions, Lebesgue integral, and Fourier series. P: Mathematics 312.

**416 Orthogonal Functions and Partial Differential Equations 3 cr.**

Fourier series, Fourier transform, orthogonal functions, Legendre and other polynomial systems, Bessel functions, characteristic functions and values, Green's function, wave equation in one and more dimensions, D'Alembert's solution, separation of variables in various coordinate systems, Dirichlet problem, strings and membranes, heat flow, electricity flow. P: Mathematics 308.

**420 Elementary Topology\* 3 cr.**

A course in set theory and functions; topology of the real line, plane, and general euclidean space; abstract topological spaces with properties of compactness, connectedness, and the

separation axioms; metric spaces. P: Mathematics 312.

**472 Systems Simulation 3 cr.**

(See Ecosystems Analysis 472)

**MODERNIZATION PROCESSES (CCS)****360 Concepts and Processes of Modernization 3 cr.**

A familiarization with the concepts and processes of modernization on a global basis with particular reference to the nature and direction of interaction among such factors as culture, technology, ecology, and social organization.

**370 Strategies of Modernization 3 cr.**

A discussion of economic, political, and socio-cultural factors in planned change as it occurs in societies at different levels of modernization; and an examination of resulting forms and dilemmas exemplified by diverse case studies. P: Modernization Processes 360.

**460 Ethos, Ecos, and Ethics of Modernization 3 cr.**

A study of man's encounter with the natural environment through the development and application of technology, particularly a discussion of paradoxes and conflicts produced in values and world views of different human groups.

**470 Senior Seminar in Modernization Processes 3 cr.**

A rigorous analysis and synthesis of a central issue in modernization processes chosen for a full-semester study. The emphasis being intellectually deepening rather than widening, the student applies the previously-obtained knowledge on an aspect of the issue and attempts to synthesize realistic alternatives.

**496, 497, 498, 499 Contemporary Issues in Modernization 1-4 cr.**

Seminar or tutorial on selected contemporary issues and topics in modernization. Directed

\*Not offered in 1971-1972.



readings and individual projects may be taken up on particular problems or processes encountered in modernization, whether on a global basis or in the context of a particular country or area of the world. Emphasis on integration of insights through individual and/or collective research effort.

#### **NUTRITIONAL SCIENCES (CHB)**

**232 Nutritional Significance of Food 3 cr.**  
Fundamentals of human nutrition, including functions and requirements of essential nutrients; means of securing an adequate diet. Specific attention is given to the needs of infancy, adolescence, adulthood, pregnancy and lactation, and aging. P: One year of high school chemistry or one semester of college chemistry.

**302 Nutrition and Culture 3 cr.**  
Effects of environment and culture on food habits in historical perspective. Nutritional problems. Role of food in health and disease as related to man and the biosphere. P: Nutritional Sciences 232.

**303 Food Science 4 cr.**  
Standards of food quality, food preferences, food assay; food deterioration, adulteration, methods of preservation and packaging, problems of food preservation and distribution as related to world food needs. P: Chemistry 330 or Nutritional Sciences 328.

**328 Principles of Nutritional Biochemistry 3 cr.**  
Comprehensive survey of metabolism and physiological chemical functions in living organisms. P: Chemistry 228 or 303.

**329 Nutritional Biochemistry Laboratory 2 cr.**  
An optional laboratory course to accompany Nutritional Sciences 328. P: Chemistry 229 and previous credit or concurrent registration in Nutritional Sciences 328.

**414 Nutrient Analysis 4 cr.**  
Composition of foods and the chemical and microbiological analysis of nutrients. P: Chemistry 229 or 303.

**421 Community Nutrition I 2 cr.**  
Nutritional problems of the individual and family within the context of the larger community—world, nation, region, and state. P: Nutritional Sciences 302.

**422 Community Nutrition II 2 cr.**  
Nutritional problems of the individual and family within a local ecological setting—county, city, special population segments. Includes field work. P: Nutritional Sciences 421.

**485, 486 Advanced Human Nutrition 3, 3 cr.**  
Physiological and biochemical principles of nutrition; fundamental concepts of human nutrition and nutritional diseases. P: Biology 202 and 203; Chemistry 330 or Nutritional Sciences 328.

#### **PERFORMING ARTS: MUSIC (CCC)**

**101 Basic Musicianship 2 cr.**  
Musical notation, scale and chord structure with reference to the keyboard, together with developing skills in sight singing, ear training, rhythmic and melodic dictation.

**111, 112 Beginning Harmony and Counterpoint 3, 3 cr.**  
Elementary study of harmony; species counterpoint in two parts; simple four-part harmonizations of chorale melodies; analysis of pertinent works; attainment of the musical skills of sight singing, dictation, keyboard harmony, and ear training. P: Placement test.

**201 Music in Perspective 3 cr.**  
An introduction and study of musical masterpieces as representative of an entire artistic period. Lectures and readings on the individual areas of history, art, and philosophy as they relate to music.

**211, 212 Intermediate Harmony and Counterpoint 3, 3 cr.**  
Four-part chorale harmonizations; counterpoint in three or four parts; canons and inventions; introduction to harmony based on 19th century practice; analysis of pertinent works; attainment



of the musical skills of sight singing, dictation, keyboard harmony, and ear training. P: Music 112.

**221, 222 Landmarks in Western Music 2, 2 cr.**  
A survey of the important basic musical styles from antiquity to the present. P: Music 112.

**296, 297, 298, 299 Problems in the Performing Arts 1-4 cr.**  
An opportunity to pursue individual or small group problems in the performing arts. P: cons inst.

**301 Music in the United States 3 cr.**  
The contribution of music to the development of American culture with emphasis on classical, folk, and jazz composers, compositions, and performers.

**302 Piano for Elementary Teachers 1 cr.**  
Piano techniques for elementary school teachers, with emphasis on school music literature and flexibility in its use.

**311, 312 Advanced Harmony and Counterpoint 3, 3 cr.**  
The fugue; continuation of 19th century harmony; introduction to 20th century harmonic and contrapuntal practices; practice in composing in larger forms; analysis of pertinent works. P: Music 212.

**313, 314 Analysis of Music 3, 3 cr.**  
A study of musical forms and structural principles from the Middle Ages to the present. Emphasis on selected periods at the discretion of the instructor. P: Music 212.

**315 Choral Arranging 2 cr.**  
Arranging, adapting, and creating scores for small and large vocal ensembles which includes an original composition for soprano-alto-tenor-bass (SATB) to be performed by the concert choir. P: Music 212.

**316 Instrumental Arranging 2 cr.**  
Arranging, adapting, and creating scores for small wind ensembles, as well as full band. Includes an original composition to be performed by the concert band. P: Music 212.

**317 Orchestration 2 cr.**  
Arranging, adapting, and creating scores for small and large string ensembles. Includes an original composition to be performed by the orchestra. P: Music 212.

**318 Choral Literature 2 cr.**  
Analysis of large choral masterpieces from Schuetz to the present. A comparative study of musical styles, interpretive practices, and performance problems inherent in extended choral works and the vocal and instrumental resources necessary to their performance. P: jr st.

**321 Bach and His Contemporaries 3 cr.**  
Music developments of the Baroque and Rococo era, based on analysis of selected works of various composers. P: Music 222.

**322 Haydn, Mozart, and Beethoven 3 cr.**  
Musical developments of these major composers in the Classic period based on analysis of selected works. P: Music 222.

**331 Choral Conducting 3 cr.**  
Detailed study of conducting techniques; emphasis on practical application to choral organizations. P: Music 315 or 318.

**332 Instrumental Conducting 3 cr.**  
Detailed study of conducting techniques; emphasis on practical application to the full score and instrumental organizations. P: Music 316 or 317.

**341 Woodwind Techniques 2 cr.**  
Lecture and laboratory experience in the performance of woodwind instruments including flute, oboe, bassoon, clarinet, and saxophone. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.



**342 Brass Techniques 2 cr.**

Lecture and laboratory experience in the performance of brass instruments including trumpet, french horn, trombone, baritone, and tuba. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

**343 String Techniques 2 cr.**

Lecture and laboratory experience in the performance of string instruments including violin, viola, violin-cello, and string bass. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

**344 Choral Techniques 2 cr.**

Theory and practice in the fundamentals of singing. P: jr st.

**345 Percussion Techniques 1 cr.**

Lecture and laboratory experience in the performance of percussion instruments including snare drum, bass drum, tympany, xylophone, marimba and all trap equipment. Requirements are performance proficiencies on all instruments and completion of a reference syllabus. P: jr st.

**346, 347 Keyboard Accompanying I, II 1, 1 cr.**

Techniques of accompanying the vocal soloist and the choral ensemble at the piano, including laboratory experience in various types of accompaniment. P: Music, Applied 042.

**401 Music of Non-Western Cultures 3 cr.**

Musical cultures of the Orient, India, Africa, and Eastern Europe from the standpoint of tonal and rhythmic usages; musical repertoires and influences upon Western music in the 20th century.





**402 Creating Contemporary Music 3 cr.**

Composition and performance of the music of our time. P: Ability to perform on an instrument or voice.

**411, 412 Composition 3, 3 cr.**

Exercises and original compositions in media from solo to quintet, in forms from binary to sonatina, etc., depending on the needs of the individual student. P: Music 311.

**421 Music of the Nineteenth Century 3 cr.**

Musical developments of the Romantic era based on analysis of selected works. P: Music 222.

**422 Music of the Twentieth Century 3 cr.**

Music developments of the 20th century, based on analysis of selected works. P: Music 222.

**423 Seminar in Music Literature 3 cr.**

Studies in selected areas of music literature. Emphasis is on music for specific media, such as chamber music, opera, music for keyboard, etc., or on works of a single composer. The course may deal with more than one subject area during the semester. P: Music 222.

**496, 497, 498, 499 Problems in the Performing Arts 1-4 cr.**

An opportunity to pursue individual or small group problems in the performing arts. P: cons inst.

**PERFORMING ARTS: MUSIC, APPLIED (CCC)**

**001-440 Class and Private Instruction in Instruments and Voice 1-2 cr.**

Study of the solo literature of music through class or private instruction. Placement by audition before the applied music committee. Instruction in piano, organ, voice, flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, baritone, tuba, percussion, guitar, violin, violincello, double bass, and harp is dependent upon available resident music option staff and their teaching loads.

All students registered for courses in class and private applied music instruction are assessed the

full tuition fee regardless of the total number of credits carried. The prerequisite for courses beyond the "fundamentals" level is successful completion of the preceding course in a sequence and consent of the instructor.

**141, 241, 341, 441 Concert Band 1 cr.**

**142, 242, 342, 442 Marching Band 2 cr.**

**143, 243, 343, 443 Jazz Ensemble 1 cr.**

**144, 244, 344, 444 Woodwind Ensemble 1 cr.**

**145, 245, 345, 445 Brass Ensemble 1 cr.**

**146, 246, 346, 446 Percussion Ensemble 1 cr.**

**151, 251, 351, 451 Orchestra 1 cr.**

**153, 253, 353, 453 String Ensemble 1 cr.**

**161, 261, 361, 461 Concert Choir 1 cr.**

**162, 262, 362, 462 Oratorio Choir 1 cr.**

**163, 263, 363, 463 Vocal Ensemble 1 cr.**

**164, 264, 364, 464 University Singers 1 cr.**

**PERFORMING ARTS: THEATER**

**Acting (8-semester sequence)**

This sequence of courses is based on the system of training the actor developed by Constantin Stanislavski. The experimentation and work of Mayerhold, Vachtangov, and Michael Chekhov, which were based on Stanislavski fundamentals, have contributed new values to some of the physical and psychological training techniques used. Though Stanislavski's work was first developed in the Moscow Art Theatre, the principles and application of the system are no more uniquely Russian than Pasteurization is French. The Stanislavski system, most particularly in its application to acting, but also in its approach to directing, has profoundly affected the theater of the world, notably in Eastern Europe, as well as in England and the United States. For example,



New York's Group Theatre of the 1930's and 40's and the Neighborhood Playhouse School of the Theatre both based their training on this system.

**131, 132 Acting I, II 3, 3 cr.**

Fundamental acting training is begun with the methodical study of professional acting technique. Elementary exercises to develop ability to achieve creative relaxation, keener sensory perception, and heightened creative imagination. Work is done individually and in groups. The student learns to create simple, direct, improvisational scenes which stress the principles of "action" and "objective," working on to more complex scenes and improvisations, and finally he learns to apply these basic principles to simple scenes taken from contemporary plays.

**231, 232 Acting III, IV 3, 3 cr**

Concentrating on scene-study, the student acquires specific knowledge of the basic scenic and text analysis and does more advanced acting technique exercises, including more advanced improvisation. Specific study of some basic problems of characterization and detailed study of the relationship of the character in the play as a whole to the scenic situation. At first partly, and then fully, prepared scenes are presented to solve acting problems on these levels.

**331, 332 Acting V, VI 3, 3 cr.**

Dramatic texts are analyzed, focusing on work in modern and period one-act plays or in one-act sections of full length plays. Attention is focused on specific elements involved in the creation of the role, including precise period study and requisite historical research, embracing the entire spectrum of the socio-anthropological-political context.

**431, 432 Acting VII, VIII 3, 3 cr.**

Students work on full-length classical and contemporary plays in various styles, considering conception and interpretation of the role within the production outline of the director and fulfilling and developing the characterization structure within the precise period of the play and style of the production. Finally, the students present a public theater performance. The purpose

of these productions is to help the students master craft problems and to serve as a summation of their studies. A special laboratory seminar deals with problems of acting in films, TV, and radio.

**Voice and Speech (8-semester sequence)**

The overall objective of this training sequence is to provide the student with the vocal and speech resources—a well-placed, strong, musical voice and excellent speech—he needs to meet the challenges of any role in contemporary or classical theater. Pleasant, effective, and expressive speech in daily life also is an outcome.

Intensive instruction in voice and speech is mandatory for the serious student of acting. Included are training in breath control, resonance, voice placement, diction, and articulation. Choric speech and singing help to strengthen the sound and range of the speaking voice, enhancing its overall musicality.

Speech training is in part corrective, in that it serves to do away with regionalisms, intonations, and accents which interfere with precise and clear speech. The goal is Standard American Speech, and, in more advanced work, Standard English Speech. Facility is developed in American regional dialects, various British dialects, and foreign accents. Studies include reading aloud of poetry and prose of various styles, cultures, and social and historical backgrounds, as well as the speaking of classical drama. Credit is earned for the specific level at which the student is performing.

Together with the study of acting technique, the objective of the prose and poetry speech training is to make available to the student a more meaningful development and utilization of oral interpretation and to equip the student with mastery of his individual voice and speech problems, so that the vocal instrument functions with facility and freedom in contemporary, as well as classical, performance.

**133, 134 Voice and Speech I, II 3, 3 cr.**  
(See Communication-Action 133, 134.)



**233, 234 Voice and Speech III, IV 3, 3 cr.**  
Continuing and more intensive work in basic voice and speech training, emphasis on Standard American Speech, individual corrective work in speech, use of tape recording as an aid, elementary choral singing and choric speech, individual voice work, basic problems of oral interpretation: reading aloud and speaking of poetry.

**333, 334 Voice and Speech V, VI 3, 3 cr.**  
Advanced work on Standard American Speech; basic work on Standard English Speech; study of American and British dialects and foreign accents; training in the speaking of classical drama and poetry: vocal and speech problems, including choric speech, in Greek drama; problems of meter and meaning in Shakespeare and Elizabethan blank verse; clarity of diction and musicality of speech in Moliere and in Restoration drama; singing.

**433, 434 Voice and Speech VII, VIII 3, 3 cr.**  
Advanced work on Standard American and Standard English speech, continuation of advanced voice and speech studies related to classical drama, specific individual voice and speech problems in relation to work on particular roles.

**Dance and Movement (8-semester sequence)**  
The purpose of this sequence is the training and development of the student's body so that he has a strong, well coordinated, properly-aligned, and rhythmically responsive physical instrument that technically equips him to function fully on a preprofessional level in dance and in theater.

**137, 138 Dance and Movement I, II 3, 3 cr.**  
Simple exercises in rhythmic movement to create in the student fundamental feeling of physical freedom and relaxation. Floor work, walking, and movement exercises, primarily corrective in nature, to develop a sense of a well balanced, properly-aligned body. Training in basic ballet and modern dance techniques, folk dance, and social dancing of various periods.

**237, 238 Dance and Movement III, IV 3, 3 cr.**  
More advanced ballet and modern dance techniques, vaudeville theater dance, tap and acrobatic, jazz, ethnic.

**337, 338 Dance and Movement V, VI 3, 3 cr.**  
Continuing ballet and modern dance techniques on an intermediate level. Period dance such as pre-classic dance forms; sarabande, pavane, gigue, allemande, passacaglia.

**437, 438 Dance and Movement VII, VIII 3, 3 cr.**  
Advanced ballet and modern dance techniques. Choreographing of period, folk, and social dances of various cultures.

**139, 140 Theater Dueling I, II 3, 3 cr.**  
Basic techniques of modern fencing are combined with the choreography of all theatrical period duels and the use of accompanying hand weapons and shields. The usage and the actual practices involved in historic hand-to-hand combat familiarize the student with the weapons, crafts, and varied styles of sword-fighting and fencing of different historic eras.

Male students learn the basic techniques of staging fights with broadsword, sabre and sword, and dagger; all students learn the use of the foil and the choreographing of duels and group sword-fights for the stage. Group classes and individual coaching.

**209, 210 Introduction to Theater History I, II 3, 3 cr.**  
An introduction to the study of the history and significance of theater. The origins and development of theater art and craft are considered, as well as the various functions of theater in, and significance of theater to, the different cultures in which it has thrived and through which it has survived. Topics covered may concentrate on any of several periods in the history of American and of world theater.

**221, 222 Introduction to Theater Production Techniques I, II 3, 3 cr.**  
An introduction to the knowledge and appreciation of the various arts and crafts involved in technical theater and in stage production: scene



design and construction, costume design and construction, and prop making; the use of materials and construction methods involved in these crafts, including sewing, woodworking, metal work and plastics.

Study of various elements of two- and three-dimensional form in the visual arts as applied to creating and embodying the stage space for specific performance. Elementary problems of scene, costume, and lighting design. An approach to stage and theater presentation as a part of learning historical techniques and practices in the performing arts.

**225, 226 Intercurricular Theater I, II 3, 3 cr.**

For students who wish the experience of participating in a theater production but do not yet feel prepared to commit themselves to the full theater arts program. The student has the opportunity to involve himself particularly in the area of his greatest interest. All class members study the theory and practice of the play being prepared and performed. The students learn about the place in dramatic literature and theater history of the particular play being produced, as well as researching its overall socio-anthropological and politico-historical context. In brief, they learn to define the milieu that produces the playwright and his view in writing his play. This, combined with the director's view in presenting the play and the student's coping with all aspects of the production, from acting to stage managing, provides the student with a provocative insight into theater.

**309, 310 Theater History I, II 3, 3 cr.**

Theater art and craft, its functions in and significance to the different cultures in which it has thrived. Topics covered may concentrate on any of several periods. American theater history will place critical emphasis on Black American theater and theater literature. History of world theater will include such topics as ancient, medieval, and renaissance periods.

**341, 342 Shakespeare and Poetic Drama I, II 3, 3 cr.**

A study of the complex and unique problems presented by Shakespearean and other poetic

drama. The speaking of dramatic poetry leads to dealing with simple scenes in poetic drama from minor Elizabethan to Shakespeare's plays. Study of more complicated scenes and sets of scenes from Shakespeare and in dramatic verse plays and poetic dramas of various kinds follow.

In addition to Shakespeare and the Elizabethans, 16th, and 17th century Renaissance drama, study includes some of the Greek classics, the Wilbur verse translations of Moliere, Federico Garcia Lorca, Archibald MacLeish, Maxwell Anderson, Dylan Thomas, and contemporary poets such as LeRoi Jones.

Bridging the separation between the so-called prose and poetic drama, the speaking of poetry (verse reading) leads the students by gradual stages from work on simple scenes from various poetic dramas, including Shakespeare's plays, to more advanced and intensive study.

**351, 352 Introduction to Stage Directing I, II 3, 3 cr.**

The study of various theories and techniques of theatrical staging. Primary emphasis is on the relationship of the student director to the work of the student actors.

Students direct scenes of varying lengths and complexity from different kinds of drama and types of staging. Study of dramas, dramatists, critics, and directors leads to staging exercises.

It is recommended that the student with a special interest in directing develop his program in consultation with the theater arts director.

**361, 362 Introduction to Playwriting 3, 3 cr.**

A study of the craft of writing for the theater. Representative theories and playscripts are studied, but primary emphasis is upon the creation of original scripts.

These are first developed improvisationally in relation to the work in Acting and Stage Directing. Student scripts are read and discussed; some are staged, in a rudimentary way, for fuller realization and evaluation.







It is recommended that the student with a special interest in playwrighting develop his program in consultation with the theater arts director.

**403, 404 Seminar in Theater Arts 3, 3 cr.**

Individual or small group study focused on a specific area or areas of theater interest and related to other disciplines whenever possible. Especially pertinent is the study of theater literature of various periods and cultures, both of the United States and other countries. Selected topics might include American dramatic literature of the 1920's, 30's, 40's, 50's, or 60's; American theater literature of the 19th century; theater literature of the contemporary world stage; Black theater literature in the United States; Greek drama; Jacobean drama; Restoration drama; special studies of the work of individual playwrights such as Chekhov, Gorki, Strindberg, Ibsen, O'Casey, Shaw, O'Neill. The student might also concentrate on a special study in theater criticism.

**496, 497, 498, 499 Special Studies in Theater Arts 1-4 cr.**

An opportunity to pursue special studies in a particular area of theater arts. An outline of the proposed project must be submitted in advance to the director of theater arts for credit approval. Selection of the supervising instructor will be made jointly by the student and the director of theater arts.

**PHILOSOPHY (CCC)**

**100 Ethics 3 cr.**

An examination of ethical issues in the thought of selected traditional and contemporary thinkers. Some effort made to use case studies to delimit the chief characteristics of ethical concepts.

**104 Freedom and Individuality 3 cr.**

An exploration into the notions of freedom and individuality and their significance for an individual in a complex and highly structured society. Special emphasis on the relation of historical considerations to contemporary issues.

**106 Pacifism and Violence 3 cr.**

An examination of the nature of violence and pacifism and their various forms. Some historical treatment is considered in conjunction with contemporary studies, including those of anthropology, to clarify the function of violence and pacifism in the contemporary world.

**111 Elementary Logic 3 cr.**

Deductive and inductive inference, kinds of definition and similar problems are considered.

**112 Scientific Methods 3 cr.**

An elementary analysis of scientific methodology as it is found in selected physical and social sciences, with special attention to the similarities of their ideals and practice.

**201 Philosophy and Language 3 cr.**

A philosophical and historical inquiry into the notion of language as a "natural world concept" and the medium of access to the objective world. Such thinkers as Herder, W. von Humboldt, Dilthey, Scheler, and Cassirer are examined.

**206 Belief, Knowledge, and Truth 3 cr.**

Study of the grounds of rational belief and knowledge and the methods for obtaining them as seen by philosophers such as Plato, Descartes and others. The problems of evidence and truth. P: 3 cr in philosophy.

**208 Philosophy and Scientism 3 cr.**

The study of the origins of scientism in the behavioral and natural sciences. Establishment of a philosophical critique of the social and political representations of scientism in the 20th century. P: 3 cr in philosophy or in one of the social sciences.

**209 Philosophy of Religious Consciousness 3 cr.**

The study of the manifestation and significance of religious activity in human consciousness, with consideration of possible extraconscious sources for formation of religious consciousness. P: 3 cr in philosophy.



**210 Philosophy of Theories of Culture 3 cr.**

An inquiry into the dynamics of cultural development, the influence of cultural trends on various activities within a given culture. A critical appraisal of major cultural theories. P: 3 cr in philosophy.

**211 Philosophy of the Arts 3 cr.**

The study of various fine arts with a view to understanding what they might have in common as art, with special attention to the creative activity of the artist. Critical investigation of the significance of the arts for human existence. P: 3 cr in philosophy or in the performing or visual arts.

**213 History of Ancient Philosophy 3 cr.**

An examination of philosophical thought from the pre-Socratics to the time of Augustine, with particular attention to Plato, Aristotle, the Stoics, and the Epicureans. Special emphasis on the relation of that thought to the cultural institutions of the time.

**215 Marxism and Existentialism 3 cr.**

Survey of Marxism and existentialism centered around the problems of man's understanding of his environment. P: 3 cr in philosophy.

**301 The Criticism of Values 3 cr.**

An interdisciplinary study of the thought of selected philosophers and non-philosophers as it represents a critique of the cultural values and institutions of their day. Different thinkers will be dealt with at different times. (For example, Marx, Nietzsche, Weber, Kierkegaard, Dostoevsky, Freud, Ibsen, Sartre.) P: jr st and 3 cr in philosophy.

**304 American Philosophy in Context 3 cr.**

An historical and critical survey of the American philosophical tradition, focusing on those elements which are distinctively American (e.g. transcendentalism, pragmatism) and their relevance to present-day problems. P: jr st and 3 cr in philosophy.

**306 Linguistic Analysis 3 cr.**

A critical examination of the functions of language and relationships between language and

philosophical problems; role of language analysis in the solution of philosophical problems; the works of Wittgenstein. P: jr st and 3 cr in philosophy.

**307 Political Concepts 3 cr.**

The same as Political Science 307.

**310 Philosophy of Mind 3 cr.**

A critical study of the nature of mind and its relation to body and matter; recent movements in psychology and philosophy. P: 3 cr in philosophy.

**312 Philosophy of Science 3 cr.**

An inquiry into the problems of scientific theory, analysis of scientific explanation and prediction, theoretical concepts and causality. P: Philosophy 111.

**313 History of Medieval and Renaissance Philosophy: Augustine to 1600 3 cr.**

An examination of philosophical thought from Augustine to the time of Descartes, with particular attention to the Christian, Jewish, and Arabic philosophical traditions and their relation to the cultural institutions of the time. P: Philosophy 213.

**314 History of Modern Philosophy: Descartes to 1850 3 cr.**

An examination of philosophical thought from Descartes to the time of J. S. Mill. Consideration of the major figures of the French, German, and English traditions and their cultural impact on modern life. P: Philosophy 313.

**315 Philosophy of Work and Leisure 3 cr.**

The study of the roles played by both work and leisure in human existence from the standpoint of the human process in general. Investigation of the relative value of each for human existence. P: 3 cr in philosophy.

**317 The Philosophical Foundations of the Natural Sciences 3 cr.**

Philosophical inquiry into the meaning and structure of nature at large; examination of the basic assumptions in the interpretation of nature



by physics, biology, mathematics, mechanics, psychology. P: 3 cr in philosophy.

**319 Phenomenology I: German 3 cr.**

An introduction to the theory of intentionality in an historical framework. Careful consideration of the basic problems of phenomenology centering around the work of Edmund Husserl and their impact on American Philosophy. P: 6 cr in philosophy.

**320 Phenomenology II: French 3 cr.**

An introduction to French phenomenology with special reference to its theories of reality, ethics, aesthetics, and psychology. P: Philosophy 319.

**322 Aesthetics 3 cr.**

A critical examination of contemporary philosophies of art and art criticism, with particular attention to the central problems of appreciation and evaluation. P: 3 cr in philosophy.

**324 Contemporary Philosophical Movements 3 cr.**

A survey of late 19th century and 20th century philosophical movements in Europe and America (positivism, Marxism, pragmatism, intuitionism, existentialism, analytic philosophy, idealism). P: Philosophy 314.

**325 Symbolic Logic 3 cr.**

A systematic study of deductive logic using the most recent symbolic techniques. A course in philosophical, rather than mathematical, logic. P: Philosophy 111.

**401 Ethical Systems 3 cr.**

An examination of the various types of ethical systems, including an analysis of hedonism, utilitarianism, egoism, and deontological theories. P: Philosophy 301.

**404 Major Philosophic Figures 3 cr.**

A study in depth of the thought of a selected figure who has made a significant philosophical contribution. Different thinkers will be studied at different times (e.g., Plato, Aristotle, Leibniz, Hume, Kant). P: cons inst.

**406 Philosophical Problems in Psychology 3 cr.**

Philosophical examination of the major psychological theories concerning the fundamental structure of the human individual, the relation of conscious to unconscious mental functions, the possibility of freedom, the role of society in the development of the human individual. P: 6 cr in philosophy.

**496, 497, 498, 499 Contemporary Problems in Philosophy 1-4 cr.**

A seminar or tutorial required of senior students in the philosophy option, including critical analysis of current philosophical problems of interest to class and instructor. An effort is made to integrate work of the philosophy option and to direct the results of such work to the solution of the problems discussed.

**PHYSICAL EDUCATION (CHB)**

The physical education instructional program encourages *voluntary* student participation by offering a broad range of activities designed to satisfy varied interests. These *elective* courses are offered for the student who wishes to learn a new skill, who desires to improve his ability in a particular activity, and/or who seeks to improve his personal fitness. In addition, these courses tend to satisfy the physical education requirements of other institutions.

Instruction in each activity not only develops personal skills but seeks to provide knowledge and insight into the nature of human movement and the physiological effects it elicits. Skill and knowledge tests are utilized to measure capacities, progress, and understandings. The ultimate objective of this program is to permit the student to develop a relatively high degree of ability in one or more activities which he finds particularly satisfying and in which he will enjoy participating throughout life.

Semester courses may consist of a single activity unit or a combination of two units. Classes meet twice each week for a standard class period and earn one semester's credit, except for First Aid which meets three times per week, earns two



semester credits, and provides Red Cross and Civil Defense certification. Coeducational classes are offered in appropriate activities. The student must show evidence of personal fitness, via the required University physical examination, for the activity selected.

The student should consult each semester's timetable for specific offerings. Selections are made from the following list:

*Beginning Level Courses (100):* These courses anticipate *novice* performers and follow a basic outline:

*Introduction*—history, kinesthetic and physical aspects, social and recreational values, facilities and equipment, tournament standards.

*Conditioning and Safety*—healthful and physiological effects, personal lifetime fitness considerations and safety procedures.

*Performance*—body mechanics, basic skills and drills, competitive strategy and play.

*Knowledge*—terms and definitions; courtesies and rules of play; officiating, scoring, and timing.

**Aquatics:** swimming.

**Dance:** folk, modern, social, and square.

**Exercise and Fitness:** personal conditioning.

**Individual Sports:** archery, bowling, fencing, golf, and wrestling.

**Personal Health:** first aid and fitness and diet.

**Racket Skills:** badminton, handball, paddleball, racketball, and tennis.

**Sports Officiating:** basketball, football, soccer, softball/baseball, volleyball, and wrestling.

**Team Sports:** basketball, field hockey, lacrosse, soccer, softball/baseball, speedball and volleyball.

**Winter Sports:** curling and skiing.

*Intermediate Level Courses (200):* Participants in these courses should have some previous training or experience in the skill areas selected. Prerequisites or the consent of the instructor are generally required. Knowledges pertaining to physiological aspects, performance strategy, and compliance with the rules are reinforced and enhanced. Emphasis is placed upon the efficient application of body mechanics as the individual seeks to perfect his technique. Increased opportunity for competitive experience seeks to impart the feeling of competence in a skill area.

**Aquatics:** swimming and senior life saving.

**Exercise and Fitness:** weight training.

**Racket Skills:** tennis.

**Tumbling and Gymnastics.**

*Advanced Level Courses (300):* These courses require a rather high degree of personal ability and enrollment is with the consent of the instructor. Individual skills are perfected qualifying the person for a relatively high performance level.

**Aquatics:** water safety instruction (utilizes Red Cross program and standards leading to certification).

## PHYSICS (CES)

**110, 111, 112 Chemistry-Physics 5, 5, 5 cr.**  
(See Chemistry-Physics 110, 111, 112)

**110, 211, 212 Chemistry-Physics 5, 5, 5 cr.**  
(See Chemistry-Physics 110, 211, 212)

**141 Elementary Astronomy**  
(See Ecosystems Analysis 141)

**303 Electromagnetic Radiation 4 cr.**  
(See Ecosystems Analysis 303)



**304 Electricity and Magnetism 4 cr.**

Direct current circuits; alternating current circuits; theory of electric and magnetic fields; electromagnetic induction; magnetic properties of material; dielectric properties of matter; Maxwell's equations and electromagnetic waves. P: Chemistry-Physics 212 and Mathematics 211.

**305 Electronic Aids to Measurement 4 cr.**

Fundamentals of electronics, electronic elements, basic circuits; combinations of these into measurement and control instruments. P: Chemistry-Physics 212.

**306 Biophysics 3 cr.**

(See Ecosystems Analysis 306)

**310 Modern Physics I 3 cr.**

A study of relativity, black-body radiation, atomic structure of matter, atomic and molecular spectra, introduction to quantum theory, x-ray spectra. P: Chemistry-Physics 212.

**312 Modern Physics II 3 cr.**

Continuation of Physics 310. Nuclear structure; radioactivity; experimental techniques using radioactive isotopes; nuclear reactions; mechanical, thermal, electrical, and magnetic properties of solids. P: Physics 310.

**311, 313 Advanced Laboratory Physics 2, 2 cr.**

Experience with important research techniques and apparatus with emphasis on independent work; high vacuum, particle counters, ionization chambers, photoelectricity, x-rays, magnetic resonance, temperature measurement, photographic and emulsion techniques. P: cons inst.

**315 Mechanics 3 cr.**

Origin and development of mathematical physics; mathematical techniques, especially the use of vectors, tensors, Fourier analysis, and generalized coordinates in physical problems; conservation laws and their relationship to mechanical problems; the physical basis of control and feedback; introduction to rigid body dynamics, accelerated coordinate systems, introduction to fluid dynamics, introduction to acoustics.

P: Chemistry-Physics 212 and concurrent registration in Mathematics 308.

**320 Thermodynamics and Kinetic Theory 3 or 4 cr.**

(See Chemistry-Physics 320 and 322)

**332 Fluid Mechanics 3 cr.**

(See Environmental Control 332)

**350 Meteorology 3 cr.**

(See Ecosystems Analysis 350)

**428 Soil Physics 3 cr.**

(See Environmental Control 428)

**POLITICAL SCIENCE (CCS)**

**103 Introduction to Political Analysis 3 cr.**

The nature and function of political science; politics as a cultural phenomenon. P: Community Sciences 102.

**202 State Government and Public Policy 3 cr.**

The federal system; legal bases and behavior of state, intrastate and interstate, county, and local structures; functions of all levels of government. P: soph st.

**204 Comparative Bureaucratic Behavior 3 cr.**

The role and impact of bureaucracies in the development of contemporary political systems. P: soph st.

**213 Urban Politics 3 cr.**

Organization and politics of city government; changing political structures and leadership patterns in urban areas; consideration of urban policy problems. P: soph st.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.



**302 Community Political Behavior 3 cr.**

A description and analysis of major trends in American local politics; behavior of major structures and local associations. Some field experience will be provided. P: jr st.

**303 Elections and Voting Behavior 3 cr.**

Psychological and social elements in voting behavior; current electoral trends; role of voters in the government process. P: jr st.

**304 Comparative Political Systems 3 cr.**

An introduction to comparative political analysis stressing both essential structures and functions. Modes of analysis will be illustrated by reference to the British, French, Russian and other political systems. P: jr st.

**305 Political Systems of the Commonwealth 3 cr.**

An analysis of problems of institutional transfer by specific reference to the experience in systems once a part of the British Empire. Case materials will be drawn from the Canadian, Indian, Nigerian, and other systems. P: jr st.

**306 International Political Systems and Processes 3 cr.**

Analysis of international political systems: balance of power, collective security, deterrence; the major political processes sustaining such systems. P: jr st.

**307 Concepts in Political Theory 3 cr.**

An analysis of the nature of conceptual thought about politics; examination of various problematic concepts of traditional and scientific theory: power, authority, community, justice, and other concepts. P: jr st.

**310 Labor Unions in America 3 cr.**

The history and development of labor unions in private business and in government service; present status of unionization. P: jr st. (Or may be taken as Labor Relations 310.)

**320 Practice of Public Administration 3 cr.**

The management of physical and human resources in the execution of public policy; relationship between policy determination and policy

administration; leadership, control, and accountability. P: jr st. (Or may be taken as Organization and Operations 320.)

**321 Politics of Bureaucratic Responsibility 3 cr.**

A description and analysis of the role of bureaucracies in various political systems, focusing on problems of bureaucratic responsibility. P: jr st.

**350 Political Conflict and Urban Policy 3 cr.**

An analysis of the management of conflict in urban areas. Special emphasis on the relationship between patterns of conflict, management of urban governments and the public services provided by these governments, such as criminal justice, education, welfare, and poverty programs. P: Community Sciences 102 and Political Science 213.

**363 Politics of Developing Systems 3 cr.**

Political processes in contemporary developing systems; problems of nation building; the formulation of cross-national comparisons and emerging patterns of regional cooperation. P: jr st.

**402 Political Values and Ideologies 3 cr.**

A critical examination and analysis of assumptions and characteristics of modern ideologies; application of contemporary philosophical analysis to such systems of belief as are found in communism, fascism, and democracy; the role of values in determining individual and group political behavior. P: jr st and one course in political science or philosophy at the 300 level.

**403 Foundations and Problems of International Politics 3 cr.**

A description and analysis of contemporary international politics stressing the wide variety of approaches to such a study. P: jr st and one political science course at the 300 level.

**404 American Foreign Economic and Military Policies 3 cr.**

Examination of the role of economic and military policies in efforts by the United States to assure security, international stability, and economic



development. P: jr st and one political science course at the 300 level.

**405 American Executive Behavior 3 cr.**

Analysis of the patterns of executive behavior at the local, state, and national levels in the United States; interplay of administration and partisan politics; influence of variations in structural arrangements. P: jr st and one political science course at the 300 level.

**426 American Legislative Process 3 cr.**

Description and analysis of procedures through which American national and state legislatures arrive at legislation; group behavior of representative bodies in the contemporary United States. P: jr st and one political science course at the 300 level.

**450 Political Change 3 cr.**

A critical examination of theories of political change, the relation of political change to changes in economic and social systems with emphasis on patterns of change, resistance to change, and change producing agencies and processes. P: sr st.

**472 Parties and Pressure Groups 3 cr.**

Description and analysis of the role of parties and pressure groups in the American political system; techniques employed in advancing their interests. P: jr st and one political science course at the 300 level.

**496, 497, 498, 499 Contemporary Problems in Political Science 1-4 cr.**

Senior seminar or tutorial on selected topics and current issues in political science related to modernization processes, regional analysis, and urban analysis; applications and limitations of political research to community problems. Integrative individual projects will be developed for student reading, research, and reports. P: pursuit of political science option. May be repeated for credit.

**POPULATION DYNAMICS (CHB)**

**204 Fertility, Reproduction, and Family Planning 2 cr.**

Historical, cultural, and contemporary methods of control of fertility. Philosophy and organization of family planning programs.

**310 Introduction to Human Genetics 3 cr.**

Principles of human genetics, genetics of populations. P: Biology 202.

**320 Introduction to Population Dynamics 3 cr.**

Factors controlling the size of animal and human populations, their density, and their composition; population cycles; concepts of population genetics; migration, hybridization and assortative mating.

**342 Human Evolution 3 cr.**

The origin, evolution, and dispersion of the species *Homo sapiens*. P: Anthropology 203 or Biology 203.

**402 Population Biology 3 cr.**

The concept of the biological population density-dependent and density-independent factors regulating populations; isolation, hybridization, and migration in populations; populations as the adaptive element of the ecosystem. P: Environmental Sciences 302.

**410 Principles of Human Ecology 3 cr.**

Application of principles of animal ecology to human biology; elements of habitat, development and individuality of man; morphological adaptations and physiological, behavioral, and social adjustments to environment; regulation of populations and control of environmental factors. P: Earth Science 202 and Environmental Sciences 302.

**421 Problems in Population Regulation 3 cr.**

Consideration of biological, cultural, and political problems in regulating human populations. P: Population Dynamics 320.



**450 Current Topics in Population Dynamics 2 cr.**

A senior seminar course. Review and analysis of current literature in population dynamics. Students present seminars and prepare written reports on topics selected from current issues. P: sr st in the concentration in population dynamics.

**460 Principles of Demography 3 cr.**

The principles of demography are presented as a systematic discipline. Students assemble and formulate generalizations which are consistent with demographic principles. Discussion of prediction methods and control. P: jr st.

**PSYCHOLOGY (CCS)**

**102 The Behavior and Experiences of Man 3 cr.**

Introduction to general psychology and the psychology of individual differences; examination of basic and complex processes; problems in systematic study of objective and subjective data. P: Community Sciences 102.

**202 Introduction to Social Psychology 3 cr.**

Introduction to social psychology, including attitude formation and attitude change; group processes, communication, roles, multiple group membership, social prejudice. P: soph st.

**205 Psychology of Human Adjustment 3 cr.**

Personality adjustment and maladjustment in normal persons; need, frustration, and conflict; adjustive techniques; analysis and rehabilitation. P: soph st.

**206 Experimental Psychology 3 cr.**

Experimental designs applied to psychological problems; individual and group projects. P: soph st.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

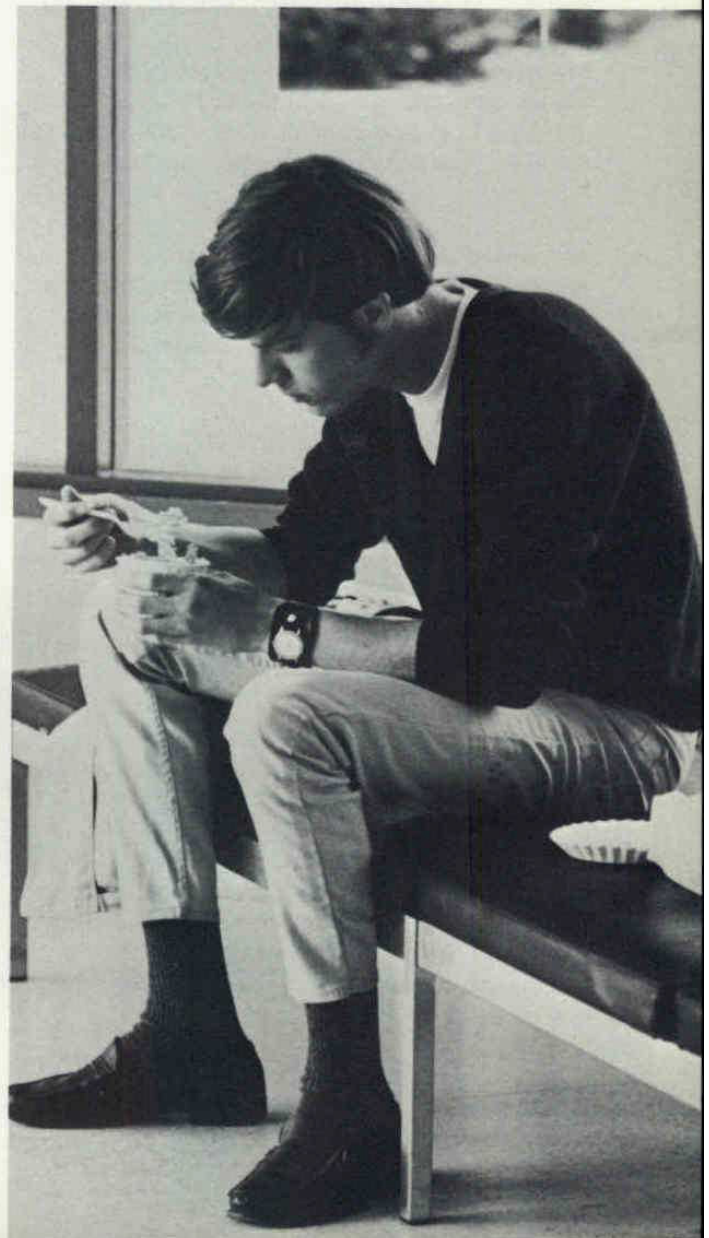
A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**306 Psychology of Perception 3 cr.**

Nature of perceptual processes and their functional relationships to environmental, behavioral, and central factors such as motivation, learning, and personality. P: jr st.

**309 Psychology of Motivation 3 cr.**

Development of motives in childhood; group attractions and pressures; special problems of motivation in industry and advertising; general problems of physiological basis of motives; changing of motives and conflict. P: jr st.





**314 Industrial Psychology 3 cr.**

Human personality, behavior organization, and human relations in terms of the nature of work and its evolution in society; analysis of biosocial evolution of man in work. P: jr st.

**320 Personnel Psychology 3 cr.**

Selection, classification, and placement procedures; techniques of employment interviewing, rating methods, industrial tests (mechanical, clerical, trade), job analysis, and occupational description; lecture and laboratory work. P: jr st.

**335 Psychology of Attitudes and Public Opinion 3 cr.**

Analysis of attitudes; social factors in the formation and change of attitudes; expression of attitudes in public opinion, voting and consumer behavior; polling techniques and problems. P: jr st.

**337 Social Behavior Dynamics 3 cr.**

Important factors in social behavior, roles, multiple group membership, cognitive processes, motivation, aggression, social prejudice. P: jr st and Psychology 202.

**338 Psychology of Learning 3 cr.**

Basic principles of conditioning and learning; functional relationships between salient variables related to rate of acquisition and degree of retention, transfer effects and related phenomena. P: jr st and Psychology 102 or cons inst.

**415 Organization Psychology 3 cr.**

Relation between social structure and psychological behavior, problems of bureaucracy, leadership styles, communication networks, decision-making processes, group productivity. P: sr st.

**416 Psychology of Intergroup Relations 3 cr.**

The psychology of conflict and cooperation, cleavage, and integration; principles and applications in industrial organizations, cross-generation adjustments, race relations, and international relations. P: sr st.

**417 Thinking and Problem Solving 3 cr.**

Methodological problems and experimental results in concept formation, language, thinking, and problem solving. P: sr st and Psychology 206.

**438 Group Dynamics 3 cr.**

Psychological principles as they apply to the individual in social groups, experimental analyses of group formation, maintenance, morale, and productivity. P: sr st and Psychology 202.

**496, 497, 498, 499 Contemporary Problems in Psychology 1-4 cr.**

Senior seminar or tutorial on selected topics and current issues in psychology related to concerns with psychological theory; industrial psychology and social psychology; values, uses, and limitations of psychological concepts in community problems. Integrative individual projects will be developed for student reading, research, and reports. P: pursuit of psychology option. May be repeated for credit.

For developmental psychology, see: **Growth and Development.**

**REGIONAL ANALYSIS (CCS)**

**320 Introduction to Regional Analysis 3 cr.**

Study of the community sciences through an identification of the physical, economic, political, and cultural interactions and problems of regions; concepts for identifying or defining regions; evaluation of selected problems and opportunities of regions, contrasting the Northern Great Lakes region with other relevant regions. P: soph st.

**496, 497, 498, 499 Contemporary Issues in Regional Analysis 1-4 cr.**

Seminar or tutorial on selected contemporary issues and topics in regional analysis. Directed readings and individual projects may be taken relating to particular problems or processes encountered in regional analysis. Emphasis on integration of insights through individual and/or collective research effort.



**SOCIAL SERVICES (SPS)**

**202 Introduction to Social Service 3 cr.**

The role of social change in modern society; field methods, principles, scope of the social services. P: soph st.

**203 Social Service Programs of the National, State and Local Government 3 cr.**

Nature, development and administration of social insurance, public assistance, categorical aids, poverty programs, and urban redevelopment. P: soph st.

**302 Methods of Public Welfare Investigation 3 cr.**

The role of the social agent in understanding and helping clients; techniques of interviewing; analyses of cases (individuals and groups); agency policy and the choice of suitable social services. P: Social Services 202 or 203 and jr st.

**310 Child Welfare 3 cr.**

Problems of dependent, neglected, and delinquent children; methods of study and treatment policies by private agencies, and by federal, state, and local governments. P: Social Services 202 or 203 and jr st.

**402 Field Experience in a Social Service Agency 3 cr.**

Actual social service work through placement in a social service agency; weekly seminar meetings and written reports. P: Social Services 302 and sr st.

**405 Probation and Parole 3 cr.**

The history and theory of probation and parole; methods for treating offenders; investigation for probation; eligibility, selection, supervision, and termination of parole. P: Social Services 302 and sr st.

**410 Social Programs of the Aged and Infirm 3 cr.**

An historical consideration of the role of old and infirm people in society; the changing position of the underprivileged in American society; problems of the aged and infirm and methods of administration and change. P: Social Services 302 and sr st.

**496, 497, 498, 499 Special Readings in Social Services 1-4 cr.**

A readings course adapted to the individual's particular interests in the field of social services. P: jr st and cons inst.

**SOCIOLOGY (CCS)**

**202 Introduction to Sociological Analysis 3 cr.**

Introduction to major sociological theories and their application to contemporary problems of society. P: soph st.

**203 Problems of American Minority Groups 3 cr.**

Character of racial, religious, and ethnic minority groups; social and economic adjustments in American society; the roles of private and public agencies. P: soph st.

**208 Marriage and Family 3 cr.**

Nature of the family; processes of courtship and marriage interaction; correlation of physiological, psychological, economic, and sociological contributions to marriage and family life. P: soph st.

**296, 297, 298, 299 Reading and Research 1-4 cr.**

A program of selected reading and research planned in consultation with a faculty member in the subject matter area of the student's special interests. A report or equivalent must be submitted for evaluation for credit approval. A short title descriptive of the program must be submitted for entry on the transcript. P: cons inst.

**302 Social Stratification 3 cr.**

Occupation, class, and status as determinants of group interests, ideologies, and struggles; selected international comparisons. P: Sociology 202 or cons inst.

**303 Theories of Societal Development and Change 3 cr.**

Analysis of theories of social change with reference to contemporary patterns in developing areas of the world. P: Sociology 202 or cons inst.

**304, 305 Processes of Deviant Behavior 3, 3 cr.**

Factors and conditions which underlie disagreement about fundamental values; relation of



values to personal and social maladjustment; evaluation of various theories of deviant behavior; deviant behavior in different societies; group approaches to social reintegration. P: Sociology 202 or cons inst. May be taken in sequence, in reverse order, or independently.

**306, 307 Concepts of Social Analysis 3, 3 cr.**

Survey and analysis of theories concerning society; forms of sociological analysis. Second semester is devoted to 20th century thinkers and ideas. P: Sociology 202 or cons inst. May be taken in sequence, in reverse order, or independently.

**309 The City 3 cr.**

Introduction to social systems through a focus on problems of urbanization. P: Sociology 202 or cons inst.

**310 Philosophy and Sociology of Leisure 3 cr.**

The impact of increasing leisure on society and its sub-cultures; attitudes and values which have influenced the development of leisure services in organizational and institutional settings; emergence and development of leisure service professions. P: Sociology 202 or cons inst. (Or may be taken as Leisure Sciences 302.)

**311 Collective Behavior 3 cr.**

Analysis of the dynamics of social movements, mobs, crowds, masses; voluntary and compulsory associations; power structure; group responses to varieties of leadership. P: Sociology 202 or cons inst.

**312 Social Change 3 cr.**

Social change in community and society with emphasis upon the rate, direction, mechanisms, and planning of change in modern and emerging nations. P: Sociology 202 or cons inst.

**402 World Population 3 cr.**

Population size, distribution, composition, and processes; social and economic determinants and consequences of demographic variations. P: jr st and one course in sociology at the 300 level.

**403 Demographic Characteristics of the Upper Great Lakes Region 3 cr.**

Description and analysis of population characteristics of the Upper Great Lakes region; past aspects and future trends in relation to resources and potential. P: jr st and one course in sociology at the 300 level.

**404 Criminology 3 cr.**

Crime as a form of deviant behavior; its relation to societal values and social structure; behavior systems and types of criminal behavior; theories of treatment and control. P: jr st and one sociology course at the 300 level.

**405 Rural-Urban Interaction 3 cr.**

Relationships between rural and urban social patterns; problems of adjustment to city life. P: jr st and one course in sociology at the 300 level.

**406 Comparative Social Systems 3 cr.**

Contemporary social systems; distinctions and broad cross-cultural comparisons between Western and non-Western systems. P: jr st and one sociology course at the 300 level.

**407 Complex Organization 3 cr.**

Major theories relating to structures and processes of large-scale formal organizations; consideration of industrial-commercial, governmental, religious, military, political, and educational organizations. P: jr st and one sociology course at the 300 level.

**446 Juvenile Delinquency 3 cr.**

Characteristics of delinquency; explanatory theories; programs for prevention and control; role of police, courts, correctional schools, community agencies. P: jr st and one sociology course at the 300 level.

**496, 497, 498, 499 Contemporary Problems in Sociology 1-4 cr.**

Senior seminar or tutorial on selected topics and current issues in sociology; demography, deviant behavior, social organization, social theory; applications and limitations of sociological



research to community problems; integrative individual projects. P: pursuit of sociology option. May be repeated for credit.

### URBAN ANALYSIS (CCS)

#### 340 Introduction to Urban Analysis 3 cr.

An examination of the physical, economic, political, social, and cultural interactions within urban and urbanizing areas; concepts for evaluation of selected problems and opportunities of urban and urbanizing areas. P: jr st.

#### 350 The City as Habitat 3 cr.

An examination of the physical aspects of the city, focusing on its demographic, spatial, and resource systems. The contemporary American city is viewed in historical and cross-cultural context. P: Urban Analysis 340.

#### 440 Social Dynamics of Urban Life 3 cr.

An examination of the urban community as a set of ideas, norms, and structures created by, and, in turn, affecting the urban dweller. P: sr st and Urban Analysis 350.

#### 450 Senior Seminar 3 cr.

Special emphasis on synthesizing insights from prior academic work in urban problems of particular concern to the student. Each student prepares a paper to be defended before his faculty and his peers. P: sr st and Urban Analysis 440.

#### 490 Seminar on Contemporary Urban Topics 3 cr.

Interdisciplinary seminar on topics of concern to urban analysis students and faculty which are not specifically covered in depth by courses in the curriculum. Proposals for specific seminar topics reflect student and faculty interests and focus on the execution of a research project. P: sr st in urban analysis concentration and cons inst.

#### 496, 497, 498, 499 Directed Readings in Urban Analysis 1-4 cr.

Opportunity to pursue independent study project—directed readings, field research, tutorials,

etc.—with members of the urban analysis faculty. P: Urban Analysis 340 and cons inst.

### VISUAL ARTS (CCC)

#### 100 Man's Visual Images I 3 cr.

An examination of the more expressive contemporary visual arts (painting, sculpture, graphic arts, and popular arts) from the standpoint of the creative artist. There is a special emphasis on the interpretations that the creative artist makes of the sociological concepts of his time. Basic aesthetic principles are also stressed.

#### 101 Man's Visual Images II 3 cr.

An examination of the functional contemporary visual arts, community-planning and architecture, interior design, product development, and communication design, with special emphasis on the study of these arts in relation to the creative artist and his times. Basic aesthetic and technological concepts are stressed.

#### 102 Design and Drawing Studio I 3 cr.

Basic structure of art with emphasis on visual perception through studio work in two-dimensional design and drawing.

#### 103 Design and Drawing Studio II 3 cr.

Basic structure of art with emphasis on visual perception through studio work in two and three-dimensional design and drawing in black and white and color.

#### 104 Advanced Design and Drawing Studio 3 cr.

Advanced problems of art with emphasis on visual perception through work in three-dimensional design. P: Art 103.

#### 201 Introduction to Painting 3 cr.

Investigation of painting media; oil, watercolor and acrylics and their inherent expressive qualities and characteristics. P: Art 102, 103.

#### 202 Introduction to Ceramics 3 cr.

Investigation of ceramics media and their inherent expressive qualities. P: Art 104.



**203 Introduction to Sculpture 3 cr.**

Investigation of sculpture media and their inherent expressive qualities. P: Art 104.

**211, 212 Arts of Western Man I, II 3, 3 cr.**

The student of art history studies the relationship of familiar to unfamiliar forms, and the relationship of modern to traditional art. Every form is placed in a setting of time, environment, culture, and the total awareness of the individual artist's or builder's works. This interpretation of the major visual arts of Western Europe, in which our own art heritage has its roots, establishes for the student a premise upon which an understanding of the art, which surrounds him, takes place.

**303, 304 Watercolor Painting 3 cr.**

Creative approach to water color techniques; cultivation of personal expression and development of imaginative concepts. P: Art 201.

**305, 306 Graphic Arts: Relief Printing 3, 3 cr.**

Aspects of relief printing: woodcut, collage print, and linoleum cut; relief printing in full color. P: Art 201.

**307, 308 Graphic Arts: Intaglio Printing 3, 3 cr.**

Studio work in intaglio techniques, including dry point, engraving, and various etching procedures. Various color printing techniques are taught and the development of a personal concept encouraged. P: Art 201.

**311, 312 Oil Painting 3, 3 cr.**

Cultivation of techniques for personal expression; composition and development of imaginative concepts in oil paint and allied media. P: Art 201.

**321, 322 Sculpture 3, 3 cr.**

Studio course with an emphasis in the use of clay, plaster, and other media. Traditional and innovative methods will be investigated giving the student a fundamental understanding of sculptural form. P: Art 203.

**331, 332 Ceramics 3, 3 cr.**

Laboratory course introducing basic methods of forming clay, including pitch, coil, and slab methods and throwing on the wheel. A study of ceramic chemicals and glaze calculations; glaze application; stacking and firing kilns. P: Art 202.

**351, 352 Art Metal and Jewelry Design 3, 3 cr.**

Studio work in art metal design and jewelry processes, techniques, and media. Emphasis is directed toward the designing and creation of quality handcrafted, aesthetic forms in metal. P: Art 104.

**361, 362 Life Drawing and Anatomy 3, 3 cr.**

The skeletal structure as well as the muscular articulation of the human and animal forms as a basis for artistic interpretation. P: Art 102, 103.

**409 Materials Workshop for the Designer 3 cr.**

Investigation of various materials of the designer and techniques of fabrication with these materials. P: 6 cr in design.

**410 Materials Workshop for the Painter 3 cr.**

Investigation and demonstration of painting media; the chemistry of paint; framemaking; preparation of painting grounds; underpainting, glazing. P: Art 102, 103 and a course in painting.

**411 Materials Workshop for the Sculptor 3 cr.**

Study of techniques and equipment; construction of tools; investigation of materials, traditional and innovative, as related to needs and aesthetic considerations of the sculptor. P: 6 cr in sculpture.

**480, 481 Introduction to Environmental Design 3, 3 cr.**

Investigation of environmental content in three-dimensional art; various relationships between man and form in terms of scale, texture, light, and other design phenomena. P: Art 409.

**496, 497, 498, 499 Problems in Visual Expression 1-4 cr.**

Problems of special interest to the advanced student in the visual arts. P: Selection of visual arts option.

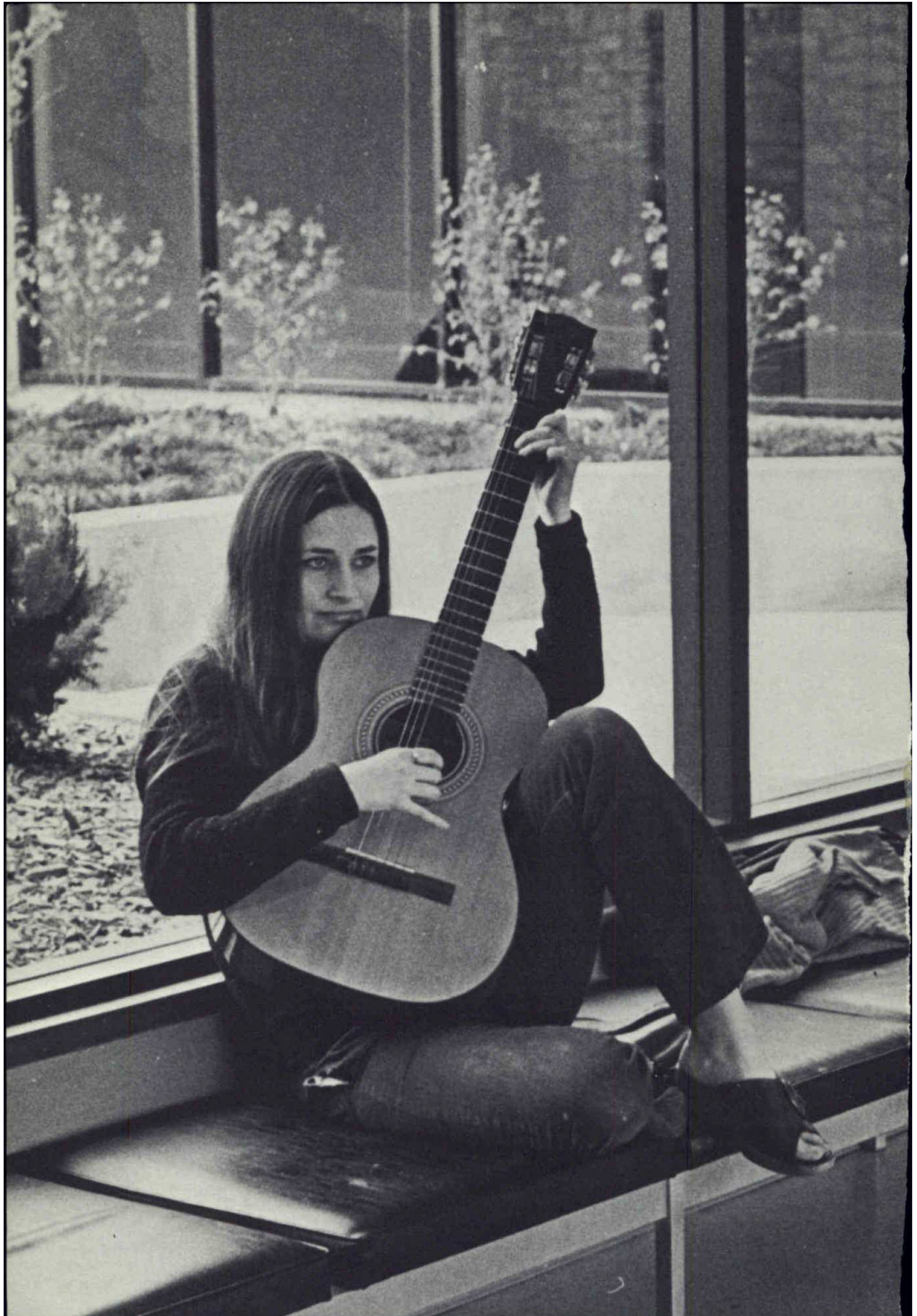


the university  
of wisconsin  
green bay



**University Directory**







# University Directory

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- Ave'Lallemant, Judith M.**, Instructor in Analysis-Synthesis; B.S., St. Louis; M.A., Minnesota.
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- Barger, John E.**, Assistant Professor of Analysis-Synthesis; B.S., Washington; M.S., UW-Madison.
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- Byrne, Frank E.**, Secretary of the Faculty and Professor of Community Sciences; B.S., Ph.D., Chicago.
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- Clidakis, Harry C.**, Instructor in Creative Communication; A.B., Washington Square; A.M., New York University.
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