THE NEW COLLEGE OF TECHNOLOGY

A new College of Technology, designed to provide both baccalaureate degree and graduate programs in technology to fill an existing gap between two-year technician training offered at community colleges and the specialized mathematical and theoretical training offered by engineering programs at some other universities, was approved by the EMU Board of Regents at its regular monthly meeting March 19, 1980.

The new college will utilize an interdisciplinary approach, drawing upon numerous departments at the University and using existing personnel as much as possible.

The programs of the new college are aimed to meet the following needs:

— The University's immediate service area has an identifiable need for more technology graduates.
— No other college or university is meeting this need in southeastern Michigan.
— Current student demand for more technology programs is high.
— Changing technologies demand increasing numbers of technology graduates.
— Placement of graduates of the new college seems almost certain.
— Heavy reliance upon existing University programs and personnel and an inter-disciplinary approach to technology education makes it possible for the college to go into immediate operation.
— Eastern has been at the forefront in industrial education and industrial technology, and the creation of the new college will have a beneficial effect upon its teacher training program and the applied technology programs.
— Formation of the new EMU college also was based upon information gathered during a survey of 575 Michigan manufacturers to determine the areas of greatest need for trained technologists and possible interest in hiring future graduates of the College of Technology.

The focus of Eastern's technology education programs will be to provide a broad-based four-year education in science and technology with basic education in mathematics, business management and intergovernmental and human relations. The technological education received by EMU students will be practical and "applied in nature" with "a generous amount of laboratory and on-the-job experiences."

Graduates of the program will be educated for middle-level positions in production, management and marketing.

The organizational plan for the new college includes a dean and four department heads. Initially, the College of Technology will include a Department of Military Science, a Department of Industrial Technology, a Department of Industrial Education and interdisciplinary technology programs.

Proposed interdisciplinary programs to be offered by each of the four departments vary. The Department of Military Science will offer courses in defense technology. The Department of Industrial Technology will offer programs in manufacturing, construction, industrial technology, electrical/electronic technology, transportation and computer aided design.

The Department of Industrial Education will include programs in industrial arts, industrial vocational education, in-plant industrial training programs, technology transfer and occupational safety education.

Proposed interdisciplinary programs to be offered by the college include chemical technology, plastics technology, metallurgical technology, environmental science and technology, energy technology, communications technology, fermentation technology and technology assessment.

TO THE STUDENT

Within the Graduate Catalog that you have in hand you will find a great deal of information about the programs and services that Eastern Michigan University offers to you, as well as the policies and procedures that you need to know about in order to make your educational experience at the University a more productive one. In addition, you will find that consultation of the catalog is usually an excellent source of reference for additional information requests that you may need to make.

Finally, we want you to know that the Graduate Office takes a personal interest in your welfare and we are always ready to answer the questions that you may have or to offer you an extended consultation if your concerns require considerable attention.

One of the hallmarks of a top quality graduate program is the comprehensiveness of the services that are offered. As you can judge from yourself in reviewing this catalog, Eastern Michigan University offers not only a full range of graduate programs, research facilities, and extensive opportunities for practical applications, internships, hands-on, in-service and on-the-job experiences, but also special services such as affiliation with one of our institutes or centers, travel, study, and research abroad, day care facilities, health and counseling services, graduate assistantships and other kinds of financial aid, and highly attentive career planning and placement services. Our philosophy at Eastern is that in order to serve our society, our State of Michigan, and our students (as a comprehensive, publicly supported institution), we must not rest until we have assessed the educational needs of our citizens, developed with all academic excellence and precision the graduate programs to meet those needs, and finally, ensured that each and every one of our students has been properly placed upon graduation.

Another index of graduate excellence is the judgments of the recent graduates of our academic programs. The Graduate School, in its constant effort to monitor and improve our mission, periodically polls our recent graduates. We are pleased to note that in our last poll (distributed 1980) that in each instance, 85% or more of our graduates indicated that they were pleased with their professional growth, their intellectual growth, the effectiveness and knowledge of their professors, the interest of their graduate instructors in their student needs, and the quality of the Graduate School's procedures and services. In addition 68.3% of our polled graduates indicated that they were highly to mildly satisfied with the increases in their salaries that were attributable to their graduate education at Eastern. Finally, a total of 37% of our polled graduates told us that they had received a promotion that was attributable in the main or in part to successful completion of a graduate program at Eastern. That is a record
that we are very proud of, and which we intend to maintain and even enhance.

The Graduate Office is always open to you. Do not hesitate to contact us with your needs, problems, or suggestions. We wish you a very productive and pleasant academic experience at Eastern Michigan University.

Gary D. Keller, Dean

Susan O. Burt, Assistant Dean

Ruby L. Meis, Assistant to the Dean

Esther Williams, Secretary to the Dean

Bette H. Frank, Secretary to the Assistant Dean

Connie Gowen, Secretary to the Assistant to the Dean; International Students Admissions

Sandra Tanner, Senior Records Verifier

Rebecca Shreckengost, Senior Admissions Clerk

Joyce Deck, Graduate Records Clerk
DIRECTIONS FOR CORRESPONDENCE

Please address specific inquiries to the following offices:

DEAN OF THE COLLEGE OF ARTS AND SCIENCES
411 Pray-Harrold  487-4344

DEAN OF THE COLLEGE OF BUSINESS
508 Pray-Harrold  487-4140

DEAN OF THE COLLEGE OF EDUCATION
117 Boone  487-1414

DEAN OF THE COLLEGE OF HUMAN SERVICES
220 King Hall  487-0077

DEAN OF THE COLLEGE OF TECHNOLOGY
122 Sill  487-4330

DEAN, GRADUATE SCHOOL
166 Pierce Hall  487-0042

DEAN, DIVISION OF CONTINUING EDUCATION
323 Goodison  487-0407
  Off-campus and in-service courses; speakers for special occasions; adult education; consultation services to schools

DEAN OF STUDENTS
214 Goodison  487-3116
  General welfare of individual students

DIRECTOR OF ACADEMIC RECORDS AND CERTIFICATION
5 Pierce Hall  481-4111
  Certification requirements and transcripts

DIRECTOR OF ADMISSIONS(undergraduate)
214 Pierce Hall  487-3060

DIRECTOR OF CAREER PLANNING & PLACEMENT CENTER
420 W. Forest  487-0400
  Teaching vacancies; registration of applicants for teaching, business and industrial positions; opportunities for earning a portion of University expenses

DIRECTOR OF FINANCIAL AID
212 Pierce Hall  487-0455
  Loans and grants-in-aid; Graduate Assistantships funded by College Work-Study

DIRECTOR OF ON AND OFF-CAMPUS HOUSING
Basement-Dining Commons #1  487-1300

DIRECTOR OF REGISTRATION
Briggs Hall  487-2300
  Registration of students for on/off campus classes

ALUMNI RELATIONS OFFICE
202 McKenny Union  487-0250

ATHLETICS OFFICE
200 Bowen Field House  487-0351
  Athletic information and tickets

CAMPUS LIFE, OFFICE OF
117 Goodison  487-3045
  Student Government, Residence Hall Association, University Judicial Board, Eastern Echo, Aurora

CENTER OF EDUCATIONAL RESOURCES (Library)  487-0020

CHILD CARE CENTER
Snow Basement  487-1126
  Child care for preschool children of students

GRADUATE SCHOOL OFFICE
116 Pierce Hall
  Gary D. Keller, Dean  487-0042
  Susan O. Burt, Assistant Dean  487-0048
  Graduate Admissions  487-3400
  Graduate Records  487-0093
  Graduate Advising. See page 00 for Coordinators of Advising listed by program area.

INTERNATIONAL STUDIES
330 Goodison  487-2424

MINORITY AFFAIRS, OFFICE OF
224-226 Goodison  487-0267
  Information, counseling, tutoring, assistance with grievance procedures for minority students

PARKING CONTROL
Parking Structure  487-3450

PUBLIC SAFETY, DEPARTMENT OF
Parking Structure  487-1222
  Police and fire

SNOW HEALTH CENTER
487-1122
  Physician and nursing services; professional counseling, TB testing

STUDENT ACCOUNTING
Briggs Hall  487-3335
  University fees and financial aids

UNIVERSITY BOOKSTORE
McKenny Union Basement  487-1000
  Textbooks, educational materials, class rings

VETERAN'S AFFAIRS OFFICE
217 Goodison  487-0025
  Veteran's affairs and education benefits
# TABLE OF CONTENTS

- Catalog Abbreviations ........................................ 5
- **The Instructional Year** ..................................... 7
- **Government of the University** .............................. 7
- **The University** .................................................. 8
- **Graduate School Policies and Information** .................. 9
  - Organization .................................................... 9
  - Objectives ..................................................... 9
  - Programs ....................................................... 9
  - Admission ..................................................... 10
  - Requirements .................................................. 10
  - Degree Admission ............................................. 11
  - Special Student Status ....................................... 11
  - Teacher Certification Admission ............................ 11
  - Guest Admission ............................................... 11
  - Second Bachelor's ............................................ 11
  - Procedures ................................................... 11
  - International Students ...................................... 11
- **Graduation Requirements** ........................................ 12
  - Graduation Fee ................................................. 12
  - Application for Graduation ................................... 12
  - Grade Point Average Requirements for Graduation .......... 12
  - Credit Requirements ......................................... 12
  - Residency Requirement ....................................... 13
  - Time Limitations ............................................. 13
- **General Regulations** ........................................... 13
  - Advising ........................................................ 13
  - Coordinators of Advising by Program Area .................... 13
  - Registration Information ..................................... 14
  - Permit to Register ............................................ 14
  - Registration .................................................. 14
  - Adviser's Signature on Enrollment Plan ....................... 14
  - Registration Undergraduate Classes .......................... 14
  - Academic Load ................................................ 14
  - Auditing Courses ............................................. 15
  - Repeating Courses ............................................ 15
  - Withdrawal ................................................... 15
  - Grading System ................................................ 15
  - Credit/No Credit .............................................. 15
  - "I" and "W" Grades ............................................ 15
  - Academic Probation and Dismissal ............................ 15
  - Transfer of Credits .......................................... 16
  - Course Numbering System ..................................... 16
  - Regarding Certification ..................................... 16
  - Enrollment in Graduate Courses by Seniors .................. 17
  - Independent Studies ......................................... 18
  - Thesis .......................................................... 18
- **General Policies and Information** .............................. 19
  - Informational Brochures ..................................... 19
  - Major Buildings .............................................. 19
Departments of Instruction

College of Human Services
College of Technology
College of Education
College of Business
College of Arts and Sciences

Tuition and fees
University Computing
The following is a list of abbreviations
Administration
Center of Educational
Child Care Center
Women’s Studies
Career Planning and Closed Circuit Television
Financial Assistance
University Housing! Children and Families
Civil Rights Policy
Fields and Outdoor Facilities
Graduate Programs in ECO
Sociology
Psychology
Political Science
Physics and Astronomy
Mathematics
Geography and Geology
History and Philosophy
Mathematics
Music
Biological Studies
English Literature
Foreign Languages and Bilingual Studies

Other Information
Alumni Association
Alumni Relations, Office of
Research Development, Office of
International Projects, Office of
Institute for the Study of Children and Families
Institute for Community and Regional Development
Closed Circuit Television

Graduate Faculty

List of Catalog Abbreviations

The following is a list of abbreviations which appear in the Graduate Catalog:

ACC Accounting
ADS Administrative Services
AMU Applied Music
ANT Anthropology
AST Astronomy
ATGSB Admission Test for Graduate Study in Business
ATH Athletic
BED Business Education
BIO Biology
BOT Botany
CASC Certificate of Advanced Studies in Curriculum and Instruction
CEN Courses in English
CHM Chemistry
CLEP College Level Examination Program
CUR Curriculum
CWS College Work Study
DAN Dance
ECO Economics
EDL Educational Leadership
EDM Educational Media
EDP Educational Psychology
ELI English Language Institute
EMU Eastern Michigan University
ENG English
ESL English as a Second Language
FA Fine Art
FCSS Family and Children’s Services Specialty
FIN Finance
FLA Foreign Language
FRN French
G&C Guidance and Counseling
GEO Geography
GMAT Graduate Management Admission Test
GPA Grade Point Average
GRE Graduate Record Examination
HEC Home Economics
HED Health Education
HIS History
HPER&D Health, Physical Education, Recreation and Dance
I Incomplete
ICARD Institute for Community and Regional Development
IE Industrial Education
IT Industrial Technology
KATS Campus Antenna Television System
KI KITS Campus Instructional Television System
MA Master of Arts
MAT Miller Analogies Test
MBA Master of Business Administration
MBE Master of Business Education
MFA Master of Fine Arts
MGT Management
MKT Marketing
MPA Master of Public Administration
MS Master of Science
MSA Master of Science in Accounting
MSIS Master of Science in Computer-Based Information Systems
MSOD Master of Science in Organizational Behavior and Development
MTH Mathematics
MUS Music
NDSL National Direct Student Loan Program
ORD Office of Research Development
ORI Operations Research and Information Systems
PED Physical Education
PHI Philosophy
PHY Physics
PLS Political Science
Prereq Prerequisite
PSY Psychology
RDG Reading
REC Recreation
SEI Special Education-
Sem Semester
SFD Social Foundations
SGN Special Education-General Courses
SHI Special Education-Hearing Impaired
SLD Special Education-Learning Disabilities
SLI Special Education-Speech & Language Impaired
SMI Special Education-Mentally Impaired

University Computing Services
Tuition and fees

Departments of Instruction

College of Arts and Sciences

College of Business

College of Education

College of Human Services

Graduate Programs in ECO

Graduate Faculty

List of Catalog Abbreviations

ACC Accounting
ADS Administrative Services
AMU Applied Music
ANT Anthropology
AST Astronomy
ATGSB Admission Test for Graduate Study in Business
ATH Athletic
BED Business Education
BIO Biology
BOT Botany
CASC Certificate of Advanced Studies in Curriculum and Instruction
CEN Courses in English
CHM Chemistry
CLEP College Level Examination Program
CUR Curriculum
CWS College Work Study
DAN Dance
ECO Economics
EDL Educational Leadership
EDM Educational Media
EDP Educational Psychology
ELI English Language Institute
EMU Eastern Michigan University
ENG English
ESL English as a Second Language
FA Fine Art
FCSS Family and Children’s Services Specialty
FIN Finance
FLA Foreign Language
FRN French
G&C Guidance and Counseling
GEO Geography
GMAT Graduate Management Admission Test
GPA Grade Point Average
GRE Graduate Record Examination
HEC Home Economics
HED Health Education
HIS History
HPER&D Health, Physical Education, Recreation and Dance
I Incomplete
ICARD Institute for Community and Regional Development
IE Industrial Education
IT Industrial Technology
KATS Campus Antenna Television System
KI KITS Campus Instructional Television System
MA Master of Arts
MAT Miller Analogies Test
MBA Master of Business Administration
MBE Master of Business Education
MFA Master of Fine Arts
MGT Management
MKT Marketing
MPA Master of Public Administration
MS Master of Science
MSA Master of Science in Accounting
MSIS Master of Science in Computer-Based Information Systems
MSOD Master of Science in Organizational Behavior and Development
MTH Mathematics
MUS Music
NDSL National Direct Student Loan Program
ORD Office of Research Development
ORI Operations Research and Information Systems
PED Physical Education
PHI Philosophy
PHY Physics
PLS Political Science
Prereq Prerequisite
PSY Psychology
RDG Reading
REC Recreation
SEI Special Education-
Sem Semester
SFD Social Foundations
SGN Special Education-General Courses
SHI Special Education-Hearing Impaired
SLD Special Education-Learning Disabilities
SLI Special Education-Speech & Language Impaired
SMI Special Education-Mentally Impaired
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPA</td>
<td>Specialist in Arts</td>
</tr>
<tr>
<td>SPH</td>
<td>Speech</td>
</tr>
<tr>
<td>SPI</td>
<td>Special Education-Physically and Otherwise Health Impaired</td>
</tr>
<tr>
<td>SPN</td>
<td>Spanish</td>
</tr>
<tr>
<td>SOC</td>
<td>Sociology</td>
</tr>
<tr>
<td>TESOL</td>
<td>Teaching English as a Second Language</td>
</tr>
<tr>
<td>TOEFL</td>
<td>Test of English as a Foreign Language</td>
</tr>
<tr>
<td>TV</td>
<td>Television</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
</tr>
<tr>
<td>ZOO</td>
<td>Zoology</td>
</tr>
</tbody>
</table>
EASTERN MICHIGAN UNIVERSITY

Ypsilanti, Michigan 48197

THE INSTRUCTIONAL YEAR

The instructional year is divided into two semesters of fifteen weeks each, a spring session of seven and one-half weeks and a summer session which offers both six week and seven and one-half week courses. In addition, workshops of one to three weeks duration are offered. Students who have satisfied admission requirements may enroll at the beginning of any semester or session.

GRADUATE SCHOOL CALENDAR

Winter Semester, 1981

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>January 5</td>
</tr>
<tr>
<td>Winter recess</td>
<td>March 1-8</td>
</tr>
<tr>
<td>Easter recess</td>
<td>April 17-19</td>
</tr>
<tr>
<td>Commencement</td>
<td>April 25</td>
</tr>
<tr>
<td>Winter semester closes</td>
<td>April 25</td>
</tr>
</tbody>
</table>

Spring Session, 1981

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>May 4</td>
</tr>
<tr>
<td>Memorial Day (no classes)</td>
<td>May 25</td>
</tr>
<tr>
<td>Spring session closes</td>
<td>June 24</td>
</tr>
<tr>
<td>Graduation date</td>
<td>June 24</td>
</tr>
</tbody>
</table>

(no commencement exercises)

Summer Session, 1981

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>June 29</td>
</tr>
<tr>
<td>Independence Day recess</td>
<td>July 3</td>
</tr>
<tr>
<td>Six week session closes</td>
<td>August 7</td>
</tr>
<tr>
<td>Summer session closes</td>
<td>August 21</td>
</tr>
<tr>
<td>Graduation date</td>
<td>August 21</td>
</tr>
</tbody>
</table>

(no commencement exercises)

Fall Semester, 1981

Calendar in progress

(Consult class schedule for dates)

ACCREDITATION

Eastern Michigan University is accredited by the North Central Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education, the American Chemical Society, American Assembly of Collegiate Schools of Business, National Association of Schools of Music, the Council on Social Work Education, the American Speech and Hearing Association and the National League for Nursing. The Specialist's Degree is the highest degree approved.

GOVERNMENT OF THE UNIVERSITY

The 1963 constitution of the State of Michigan places Eastern Michigan University under a separate board consisting of eight members appointed by the Governor. It is known as the Board of Regents of Eastern Michigan University. Financial support for the University comes from tax monies paid by the people of Michigan and student tuition and fees.

BOARD OF REGENTS

Richard N. Robb, Chairman and Presiding Officer
Beth Wharton Milford, Vice-Chairperson
James T. Barnes, Jr., Grosse Pointe Woods
Linda D. Bernard, Detroit
Warren L. Board, Kalamazoo
Timothy J. Dyer, Wayne
Dolores A. Kinzel, Lansing
Carleton K. Rush, Romulus

Gary D. Hawks, Secretary
Robert J. Romkema, Treasurer

EXECUTIVE OFFICERS

John W. Porter, President
Anthony H. Evans Provost and Vice President for Academic Affairs
Carolyn D. Spatta Vice President for Administration
Robert J. Romkema Vice President for Business and Finance
Laurence N. Smith Vice President for Student Affairs
Gary D. Hawks Vice President for University Relations

ADMINISTRATIVE OFFICERS

Ronald W. Collins Associate Vice President for Academic Affairs
Suzanne M. Fleming Assistant Vice President for Academic Affairs
Gary D. Keller Dean, Graduate School
Donald F. Drummond Dean, College of Arts and Science
Joe Kent Kerby Dean, College of Business
Robert McCoy (Acting) Associate Dean, College of Business
W. Scott Westerman Dean, College of Education
Mary A. Green (Acting) Associate Dean, College of Education
Peter A. Dual Dean, College of Human Services
Alvin E. Rudisill Dean, College of Technology
George Melican Dean, Division of Continuing Education
Bette White Dean of Students
DEPARTMENT HEADS

College of Arts and Sciences
- Art (Acting) John E. Van Haren
- Biology Herbert H. Caswell, Jr.
- Chemistry (Acting) O. Bertrand Ramsay
- Economics Young-Iob Chung
- English Language and Literature Milton P. Foster
- Foreign Languages and Bilingual Studies (Acting) John R. Hubbard
- Geography and Geology Elwood J. C. Kureth
- History and Philosophy Ira M. Wheatley
- Mathematics James H. Northev
- Music James B. Hause
- Physics and Astronomy Robert Silver
- Political Science Leonas Sabaliunas
- Psychology Barry A. Fish
- Sociology Marcello Truzzi
- Speech and Dramatic Arts Thomas J. Murray

College of Business
- Accounting and Finance Elton A. Devine
- Administrative Services and Business Education Rosetta Wingo
- Management Floyd A. Patrick
- Marketing Robert J. Williams
- Operations Research and Information Systems (Acting) Clayton Long

College of Education
- Educational Leadership Jack D. Minzey
- Educational Psychology Wilbur A. Williams
- Guidance and Counseling John G. Pappas
- Health, Physical Education, Recreation and Dance Patrick L. Cavanaugh
- Special Education Norman Niesen
- Teacher Education (Acting) Leah Adams

College of Human Services
- Home Economics Billie Lou Sands

College of Technology
- Industrial Education H. James Rokusek
- Industrial Technology (Acting) John A. Weeks

THE UNIVERSITY

Eastern Michigan University was founded by the State Legislature in 1849. While originally established to train teachers, its major purpose was always broadly interpreted and gave special emphasis to instruction in the liberal arts, the sciences and other areas vital to the background of well-qualified educators.

The University's emphasis on the liberal arts, social and natural sciences, business and applied science was formally recognized by legislative action in 1959 when Eastern was designated to be a multi-purpose university. Accredited undergraduate and graduate degree programs are offered by the College of Arts and Sciences, the College of Business, the College of Education, the College of Human Services, and by the College of Technology.

Graduate education was inaugurated in 1938 when programs were conducted in cooperation with the University of Michigan. In 1953 Eastern gained approval to offer its own graduate programs.

Eastern Michigan University continues to establish new graduate programs in order to meet the developing needs of students and society. Currently the Graduate School offers more than forty graduate programs leading to a master's degree. The University has also been cognizant of its educational responsibilities beyond the master's degree. Specialist in Arts degree programs have been established in a number of areas to provide advanced graduate study for persons seeking professional careers in educational institutions.

Eastern Michigan University is located in Ypsilanti, near the Detroit metropolitan area which places it in one of the world's great industrial centers.

Detroit Metropolitan Airport is fifteen miles from campus. Major east-west and north-south expressways provide easy access to the University from any point within Michigan and the Midwest.

Students wishing to extend their social, cultural and recreational experiences beyond the campus will find extensive opportunities for doing so in Detroit—a forty-five minute drive from campus. The resources of the University of Michigan at Ann Arbor are only eight miles away. Scenic lakes are also within easy driving distance.

The University provides all of the resources of a growing multi-purpose university. Faculty, staff, physical plant and related facilities are available to accommodate an enrollment of approximately 20,000 students. A highly professional faculty provides excellent classroom instruction. On-campus housing for almost 5,200 persons is provided in residence halls and both single and married student apartments.

The central campus of the University is located adjacent to the Huron River. The west campus, a tract of 182 acres, provides modern facilities for athletics and physical education, physical plant and other service functions and fine living accommodations for married students.
GRADUATE
SCHOOL
POLICIES AND
INFORMATION

ORGANIZATION

The Graduate School administers all graduate education at Eastern Michigan University. The dean serves as the chief executive officer and is charged with providing leadership for development of graduate education, the responsibility for adherence to educational policies and standards and for the effective operation of the Graduate School.

The Graduate School reserves the right to make modifications or changes in the curriculum pattern, admission standards, course content, degree requirements, tuition or fees at any time without prior notice. The information contained in this catalog is not to be considered as a binding contract between the Graduate School and the student.

The Graduate Council, with a membership of twenty-four persons, serves as a policy recommending body and engages in planning for the orderly development of graduate education. It consists largely of faculty, both elected and appointed, and four graduate students. A current roster may be obtained from the Graduate Dean's Office.

OBJECTIVES

The Graduate School at Eastern Michigan University desires to encourage graduate education that establishes or upgrades professional competence by providing programs designed to train students for careers in areas such as teaching, school administration, counseling, business, etc.; that prepares individuals for more advanced academic work, particularly in the academic disciplines; that provides students the knowledge of research techniques and the opportunity for practicing research pertinent to their specific disciplines; and that serves the unique needs of students by providing post-baccalaureate educational opportunities for individuals and groups at convenient geographic locations and in special or individualized modes.

Faculties within all colleges and departments continually strive to meet the educational needs of graduate students. A variety of programs has been authorized and accredited, and others are in the process of development. Although formal graduate study programs have been established in many academic areas, there is sufficient flexibility in each program to enhance the professional goal of each individual student.

PROGRAMS

The University offers graduate work leading to several types of degrees, including the Master of Arts, Master of Science, Master of Business Administration, Master of Public Administration, Master of Fine Arts and Specialist in Arts. Programs leading to these degrees are administered by the departments in the respective colleges. Departments which offer more than one option within their degree programs are identified.

MASTER'S DEGREE

College of Arts and Sciences
- Art
  - Education
  - Studio
  - Biology
  - General Biology
  - Aquatic Biology
  - Community College Teaching
  - Physiology
  - Chemistry
  - Chemistry Education
  - Criminology and Criminal Justice
- Economics
- English
  - Literature
  - English Language and Composition
  - Children's Literature
- Fine Arts (MFA)
- General Science
- Geography
  - Environmental Studies
  - Land Use Analysis
  - Man & His Works
  - Physical Geography
  - Historic Preservation
- General
- Planning
- Administration
- History
- Language and International Trade
- Mathematics

College of Business
- Accounting
- Business Administration
- Accounting
- Finance
- Computer-Based Information Systems
- Management
- Marketing
- General Business
- Business Education
- Computer-Based Information Systems
- Computer Systems
- Management Science
- Organizational Behavior and Development

College of Education
- Early Childhood Education
- Educational Leadership
- Educational Psychology
  - Development and Personality
  - Research and Technology
- Elementary Education
- Children with Special Needs
- General Elementary
- Language Arts
- Open Education
- Educational Media
- Guidance and Counseling
- School Counselor Endorsement
- College and Community Personnel
- K-12 Curriculum
- Middle School Education
- Physical Education
- Reading
- Secondary School Teaching
- Social Foundations
Individualized Studies

Master's Degree Program in Individualized Studies in Curriculum and Instruction

Educational goals are not met by other Specialist's Degree programs offered at Eastern Michigan University. This Individualized Studies program is designed to serve the needs and interests of students whose occupational, vocational or educational goals are not met by other graduate level courses. The resulting proposal and program of study are submitted to a Supervising Committee composed of members of the graduate faculty for review and recommendation. Applicants interested in this program must apply at least six months prior to the enrollment period in which they wish to begin their studies.

For additional information regarding the master's degree program in Individualized Studies, please contact the Graduate School Office, 116 Pierce Hall.

College of Human Services

Home Economics
- General Home Economics
- Clothing, Textiles and Related Arts
- Family and Child Development
- Foods and Nutrition
- Consumer Affairs
- Housing, Interiors & Equipment

College of Technology

Industrial Education
- Industrial Arts
- Industrial-Vocational
- Industrial Technology
- Construction
- Manufacturing

Individualized Studies

Certificate of Advanced Studies in Curriculum and Instruction (CASIC)

The Certificate of Advanced Studies in Curriculum and Instruction (CASIC), a thirty hour post-master's program, offers an opportunity for post-master's teachers to select study experiences which are specifically related to their current professional needs. There are no pre-determined course requirements. Advisers approve program choices which teachers make in accordance with their individual desires for professional growth.

CASIC is offered in response to the need for relevant, flexible, individualized programs which will enable career teachers to keep abreast of new developments and to respond to the professional challenges in their classrooms and in their school districts. A teaching certificate, a master's degree from an accredited university and a minimum of one year's teaching experience are prerequisites to acceptance in the program.

The Certificate of Advanced Studies in Curriculum and Instruction (CASIC)

REQUIREMENTS

Master's Degree

Degree admission requires that the applicant hold a bachelor's degree from an accredited college or university and possess a minimum undergraduate grade point average of 2.5 or 2.75 in the last half of the undergraduate program. Applicants who do not meet these criteria may be considered for admission into some programs in accordance with a procedure called alternate admission which requires the completion of either six ten or twelve hours of selected graduate work at EMU and the achievement of a grade point average of 3.3 (B+). At least six of the hours must be taken in the department in which the admission is sought and must be approved by the departmental coordinator of advising. Applicants who do not possess a 2.50 minimum and wish to pursue degree admission through this alternate route should contact the Graduate School Office. The Graduate School will provide application forms for this purpose as well as a list of those departments having alternate admission.
Specialist's Degree

A minimum grade point average of 3.3 (B+) in the master's degree program is required for admission to the specialist's degree. For those departments admitting students into the specialist's degree directly from the bachelor's degree, a minimum undergraduate grade point average of 2.75 is required. Departments may establish standards higher than this minimum.

Special Student

Special Students may enroll under this status for any of the semesters or sessions (fall, winter, spring or summer) and there is no limit to the number of hours a Special Student may earn. However, students will be subject to course prerequisites. Also, a student can not earn a degree with Special Student status. Students can transfer from Special Student status to degree status if they meet departmental and Graduate School requirements (see Transfer of Credit to Degree Programs from Special Student, page 16). Policy states that a student must complete a minimum of ten semester hours after admission to the degree program. Special Students can earn a graduate certificate in such programs as Historic Preservation Planning and Social Work. However, for the purpose of teacher certification and for professional licensing, the submission of official transcripts is necessary.

Credits earned do not automatically apply on a degree program but are dependent upon admission to the Graduate School, the requirements of the program, recommendation by an adviser and the approval of the Graduate School.

Teacher Certification

Students interested in taking graduate courses for the purpose of teacher certification may do so as Special Students (described below).

Guest Students

Students who wish to earn graduate credit at Eastern for transfer to the parent institution may do so as Special Students (described below).

Second Bachelor's

Students who wish to earn a second bachelor's degree may do so as a Special Student.

PROCEDURES FOR GRADUATE ADMISSION

Degree Status

Complete the application form.

Submit official transcripts of all undergraduate and graduate credit at each institution attended.

Where necessary, have official scores from national examinations submitted. (Departments requiring test scores state this in the Graduate Catalog.)

All application materials should be received by the Graduate School 30 days prior to the beginning of the semester or session in which enrollment is anticipated. All documents and supporting data required for admittance become the property of the Graduate School and will not be returned.

Applicants are not officially admitted to matriculation until they have been notified of acceptance by the Dean of the Graduate School in writing.

Special Student Status

Provided that they present acceptable proof of a baccalaureate degree (such as a student copy of transcripts, a diploma, teaching certificate or membership in a professional organization where the baccalaureate is required), students may enroll for as many enrollment periods as they wish with Special Student status.

International Students

The Graduate school considers an applicant an international student if either or both of the following are true:

- applicant received baccalaureate degree from an institution outside the United States;
- applicant currently holds or will hold F-1 (student) or J-1 (exchange visitor) visa status;
- For admission, international students must:
  - meet the minimum academic requirements for admission to the Graduate School (e.g., a bachelor's degree or its equivalent from an accredited institution);
  - submit evidence of proficiency in the English language;
  - present a statement of financial responsibility;
  - provide two letters of recommendation from administrators or professors in the college or university from which the applicant holds a bachelor's degree; and
  - submit official scores in a standardized test if required for admission to the select degree program.

The Graduate School requires that all International Students applying for admission and residing in this country or abroad demonstrate proficiency in the use of the English language. This may be done one of two ways:

1. Taking the Test of English as a Foreign Language (TOEFL); interpretation of scores for TOEFL:
   - 390 to 450*—requires the student to take twelve hours of elementary English (no additional academic courses permitted)
   - 450 to 500—requires the student to take six hours of intermediate English (one additional academic course may be taken)
   - 500 and above—no additional English is required, but review courses are available for those in need of additional practice

2. Taking the English Language Institute (ELI) test (E.L.I. test or Michigan Test) at the University of Michigan, Ann Arbor, Michigan; interpretation of scores for E.L.I.:
   - 60 to 75*—requires the student to take twelve hours of elementary English (no additional academic courses permitted)
   - 75 to 80—requires the student to take six hours of intermediate English (one additional academic course may be taken)
   - 80 or above—no additional English is required, but review courses are available for those in need of additional practice

*Students required to enroll for twelve hours of English will be required to take six hours of intermediate English to complete the sequence.
For information on these two tests, write or telephone:

Test of English as a Foreign Language
Educational Testing Service
Princeton, New Jersey 08540

Telephone 1-609-921-9000

English Language Institute
University of Michigan
Ann Arbor, Michigan 48104

Telephone: 1-313-764-2416

The scores received on the TOEFL or the E.L.I. test must be submitted to the Graduate School Office before consideration can be given to the student’s application.

GRADUATION REQUIREMENTS

Before receiving a diploma, certain requirements must be fulfilled and it is the student’s responsibility to see that all are met.

GRADUATION FEE

A non-refundable graduation fee is to be paid when a student makes application for graduation.

APPLICATION FOR GRADUATION

Candidates for graduation must submit to the Graduate School Office, a Diploma Application at the time of registration for the semester or session in which they plan to complete requirements for a graduate degree.

Fall registration for December graduation
Winter registration for April graduation
Spring registration for June graduation
Summer registration for August and October graduation

Diploma applications may be obtained in the Graduate School Office. The completed application, together with the application fee, should be turned in at the Cashier’s Office, Briggs Hall. Failure to apply for graduation will result in a delay in receiving the degree.

A candidate for graduation who enrolls at another college or university for credit to be transferred to Eastern Michigan University and applied toward meeting degree requirements must submit an official transcript of such credit not later than one month prior to the closing date of the semester in which the degree is to be awarded. Delay of at least one enrollment period in granting the degree will result if transfer credit has not been received by that time. Grade reports and/or letters from instructors will not be accepted in lieu of official transcripts.

 Students completing their degree work at the close of the summer session should expect to receive their DEGREE VERIFICATION letter two or three weeks after the close of the session. SPECIAL REQUESTS FOR ADVANCE VERIFICATION CANNOT BE HONORED. The student’s degree recommendation letter documents the University’s degree verification process and can be used to inform any employer of the date when the student’s degree verification can be expected.

GRADE POINT AVERAGE REQUIREMENTS FOR GRADUATION

No student will be recommended and approved for a master’s degree unless the student has achieved a grade point of 3.0 (B grade). Some specialist’s degree programs require a 3.3 or B+ average for graduation. See Grading System, page 15.

The grade point average requirement for graduation applies to:

all graduate credit earned at Eastern Michigan University; and
all graduate credit included in the area of specialization.

Only grades received in courses taken for graduate credit at Eastern Michigan University are used in computing a student’s grade point average. Grades received in courses accepted as transfer credits are not included in the grade point average.

With the revised grade point scale that was instituted in fall 1979, most students graduating in the near future will have grade points on the permanent record and averages consisting of a mix of the old A=8.0 and the new A=4.0 systems. Questions with respect to calculation and interpretation should be directed to the records supervisor in the Graduate School Office, 116 Pierce Hall.

CREDIT REQUIREMENTS

The minimum credit requirement for a master’s degree is thirty hours, while thirty-two hours beyond the master’s is required for a specialist’s degree.

Some programs have credit requirements in excess of these Graduate School minimums.

A program of study must be on file in the Graduate School Office before a student can graduate.

COGNATE REQUIREMENT

Cognates are defined as those supportive and complementary courses which are related to the area of
concentration and are outside the department and/or college in which the degree is to be earned. Each program of study should include cognates. The number of hours associated with this component (usually six) is determined by each department.

For the cognate requirement associated with the specific degree program(s) of interest, see program description and graduation requirement.

**RESIDENCY REQUIREMENT**

For a master's degree, at least six hours of graduate credit used on a degree program must be earned on campus at Ypsilanti. This requirement may also be met by enrollment in travel-study tours sponsored by Eastern Michigan University and at the facilities at the Kresge Environmental Center.

For the specialist's degree, at least 16 hours of credit must be earned on the campus at Ypsilanti. It is also expected that one semester or two summer sessions will be spent in full-time work on the campus.

**TIME LIMITATIONS**

Graduate credit earned more than six years prior to the date on which the degree is to be granted may not be applied to meet graduation requirements. It is possible, however, that out-of-date credit may be validated by examination, subject to departmental and Graduate School approval.

**GENERAL REGULATIONS**

Once degree admission to the Graduate School has been granted, but prior to graduation, various policies and procedures regulate the pathway to the degree.

**ADVISING**

In an effort to provide guidance for a student granted admission to a graduate degree program, a system of advising has been established. Upon notification of admission to a degree program by the Graduate School Office, the student is given the name, office address and telephone number of the designated adviser. The advising program assists in the exploration of degree requirements, evaluation of applications for admission to a degree program, preparation of a plan of study, approval of program changes and when applying for a diploma.

Each prospective degree student is therefore encouraged to make use of this service since a program of study is valid only when properly authorized by a designated adviser and when it conforms with the minimum requirements of the Graduate School. Students who desire advising prior to making a decision on a degree program should contact the assistant dean of the Graduate School.

Students who are interested in completing a Provisional or Continuing Certificate should contact the Office of Academic Records and Certification for specific requirements.

Because credits earned to satisfy certification do not apply automatically to a degree program, students seeking certification are also urged to contact a degree adviser if the completion of a master's program is contemplated for a later date.

**COORDINATORS OF ADVISING BY PROGRAM AREA**

**College of Arts and Sciences**

M.A. Art Education:
Charles Fensch  
15 Sill Hall, (487-0258)

MFA; M.A. (Studio):
David Sharp  
116 Sill Hall, (487-0392)

Biology:
Howard D. Booth  
308 Mark Jefferson, (487-0392)

Chemistry:
John M. Sullivan  
239-B Mark Jefferson, (487-2057)

Criminology and Criminal Justice:
S. Joseph Fauman  
712-C Pray-Harrold, (487-2330)

Economics:
Raouf S. Hanna  
703-D Pray-Harrold, (487-0600)

English:
Donald A. Lawniczak  
613-B Pray-Harrold, (487-0135)

General Science:
Daniel Trochet  
302 Strong Hall, (487-4144)

Geography:
Robert Ward  
213 Strong Hall, (487-3140)

C. Nicholas Raphael  
118 Strong Hall, (487-0218)

Historic Preservation Planning:
Marshall McLeinnan  
219 Strong Hall, (487-0218)

History and Philosophy:
Louis B. Gimelli  
702-H Pray-Harrold, (487-0347)

Language and International Trade:
Raymond E. Schaub  
204 Ford Hall, (487-4448)

Mathematics:
Enoch Tse  
601-T Pray-Harrold, (487-2140)

Music:
Mary I. Yost  
204 Alexander, (487-1314)

Physics:
Walter Gessert  
333 Strong Hall, (487-4144)

Physics Education:
Walter Gessert  
333 Strong Hall, (487-4144)

Public Administration  
Lewis G. Bender  
714-Q Pray-Harrold, (487-0063)

Psychology, Clinical/General:
Francis Canter  
537-N Mark Jefferson, (487-0044)

School Psychology:
Robert L. Anderson  
537-R Mark Jefferson, (487-0047)

Social Science:
Louis B. Gimelli  
702-H Pray-Harrold, (487-0347)

Sociology:
Ronald Westrum  
712-S Pray-Harrold, (487-1073)

Spanish (Bilingual-Bicultural Education):
Raymond Padilla  
106 Ford Hall, (487-1035)

Speech and Dramatic Arts:
Parker R. Zellers  
102 Quirk, (487-1152)

TESOL (Teaching English as a Foreign Language):
JoAnn Aebersold  
239 Ford Hall, (487-0433)
College of Business

Accounting and Finance:
Tribhowan N. Jain
516-D Pray-Harrold, (487-1261)

Business Administration:
Charles F. Hoitash
517 Pray-Harrold, (487-4444)

Business Education:
Charles Duncan
515-B Pray-Harrold, (487-0121)

Computer-Based Information Systems:
Clayton Long
511-A Pray-Harrold, (487-2454)

Organizational Behavior and Development:
Gregory E. Huszco
504-J Pray-Harrold, (487-0141)

College of Education

Elementary Education, Early Childhood Education, K-12 Curriculum, Middle School Education, Reading, Secondary School Teaching, Social Foundations
Robert Tibbals
305 Pierce Hall, (487-4441)

Certificate of Advanced Studies in Curriculum & Instruction:
Leah Adams
325 Pierce Hall, (487-3260)

Educational Leadership:
Bruce K. Nelson
101-C Boone Hall, (487-0255)

Educational Psychology:
N. Kishor Wahi
228-G Boone Hall, (487-0219)

Guidance and Counseling:
Benjamin W. Van Riper
13 Boone Hall, (487-3270)

Physical Education:
John E. Sheard
233 Warner, (487-0090)

Special Education, General:
Nancy Halmhuber
230 Rackham, (487-3302)

Special Education, Speech and Language Impaired:
C. Wayne Fulton
231-A Rackham, (487-4413)

Special Education, Hearing Impaired:
Garl E. Garber
121 Rackham, (487-4412)

College of Human Services

Home Economics:
Pending
206 Roosevelt, (487-2490)

College of Technology

Industrial Education:
Delmar Larsen
122 Sill Hall, (487-4330)

Industrial Technology:
Clois Kicklighter
122 Sill Hall, (487-4330)

REGISTRATION INFORMATION

Students may not attend classes unless they are properly registered and have paid appropriate fees.

Permit to Register—New students who have satisfied all admission requirements, and returning students who have not been enrolled during one of the four preceding enrollment periods, must obtain a Permit to Register from the Graduate School Office before attempting to register.

Registration—Graduate students register for on- and off-campus classes in the Registration Office, Briggs Hall, at times and in such manner as provided for in the class schedules issued each semester or session.

Adviser's Signature on the Enrollment Plan—An adviser's signature is required for students in degree programs in business, economics, geography, hearing impaired, history, industrial education, industrial technology, mathematics, music, psychology, public administration, social foundations, sociology, speech and language impaired. Other students enrolling in either business or industrial education courses also must obtain departmental adviser's signature before registering. Students on degree programs who do not obtain the adviser's signature assume full responsibility for their registrations. Courses that do not satisfy requirements on the student's program of study will not be applied toward the degree. Any course substitutions made in a degree program must be approved by the adviser. Written notification of course substitutions must be placed on file in the Graduate School Office.

Registration in Undergraduate Courses—Some upper division 400 level undergraduate courses are identified in this catalog as available for graduate credit. Graduate School authorization for graduate credit must be obtained by the student before enrolling in these courses. Selected 300 level courses also are available for graduate credit. See Graduate Office.

Some departments make no provision for the use of upper division courses on a graduate degree program; others make only limited use. In no case, however, may that number exceed 15 semester hours.

Students should consult their department regarding its policy before seeking Graduate School authorization to enroll in upper division courses for graduate credit.

ACADEMIC LOAD

Twelve hours of graduate credit for the fall or winter semester is the usual full-time load. The usual full-time load for the spring or summer session is six hours. The coordinator of advising and the dean of the Graduate School approve programs in excess of this load.

The usual academic load for a graduate student who is employed in remunerative work on a full time basis is six credit hours per semester. Special permission for a program in excess of this is obtained from their adviser and the dean of the Graduate School.

Since graduate assistantships are granted for the support of students making substantial academic progress, each person holding an assistantship is expected to enroll for a minimum of six credit hours per semester during the period of appointment. For the spring/summer session, two or three hours per session are required.

For National Direct Student Loans and for Veterans' Benefits purposes, the following formula is used:

Fall and Winter semesters
maximum load: 12 sem hours
full-time student: 8-12 hours
half-time student: 4-6 hours
less than half-time student: less than 4 hours

Spring sessions (7 1/2 weeks):
maximum load: 8 sem hours
full-time student: 6 hours
half-time student: 4 and 5 hours
less than half-time student: less than 4 hours

Summer sessions (6 1/2 & 7 weeks):
maximum load: 6 sem hours
full-time student: 4-6 hours
half-time student: 3 hours
less than half-time student: less than 3 hours
AUDITING COURSES

Graduate students who wish to audit a course must register for audit status and pay the same tuition and fees as for academic credit. No student may receive academic credit for audited courses.

REPEATING COURSES

For a variety of reasons, students sometimes find it desirable to repeat a course. When this occurs, the grade received in the second attempt is substituted for the first in the computation of the student's grade point average. However, the first grade remains on the record. A course may be repeated only once, and then only those courses in which grades of E, C-, C, C+ or B- were received the first time.

WITHDRAWAL

Policy and procedures have been established for withdrawal from the University and from individual classes. Because of this, appropriate procedures must be followed and non-attendance and/or non-payment of tuition does not absolve one of academic and financial responsibility nor does it constitute withdrawal.

WITHDRAWAL FROM INDIVIDUAL CLASS(ES)

First Three Weeks—Students who find it necessary to reduce their academic load do so through the Registration Office as part of the registration adjustment process.

Fourth through Tenth Week—During this period a student completes a Request for Withdrawal from Class form in the Graduate School Office. The student will receive a grade of "W" in each course if officially withdrawn during this period.

Beginning with the Eleventh Week—Students may withdraw from individual classes with a grade of "W" for any reason up to one week before the end of the semester, providing the academic performance of each graduate student is acceptable. Withdrawal forms are obtained from the Graduate School Office. Prior to considering withdrawal, a student should consult with the instructor(s). Policies governing the refund of tuition and fees are to be found in another section of this catalog.

The spring and summer class schedules should be consulted for the calendar regulating withdrawals during these enrollment periods.

See page 24 for tuition and fee information.

WITHDRAWAL FROM ALL CLASSES

Students may withdraw from all classes (withdraw from the University) for a given enrollment period for any reason up to one week before the end of the semester and receive grades of "W" for all courses in which they are enrolled.

GRADE POINT PER SEMESTER HOUR

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B</td>
<td>3.3</td>
</tr>
<tr>
<td>B+</td>
<td>3.0</td>
</tr>
<tr>
<td>C</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C-</td>
<td>2.0</td>
</tr>
<tr>
<td>E</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Credit/No Credit—These grades are given by some departments in specified courses such as Thesis, Practicum, and Internship.

"I"—Incomplete—An "I" grade is awarded when these conditions prevail: illness or extenuating circumstances beyond the control of the student have prevented completion of the required components of the course; academic performance for the completed portion of the course was equivalent to a grade of B or better.

In such cases, the instructor will provide the student and the department head with a statement of the reason or reasons for the "I" grade and will specify the amount and nature of the work required in order to remove the incomplete.

An "I" grade must be removed within one calendar year from the end of the semester or session in which that grade was given. The time for removal of an "I" may be extended upon written recommendation of the instructor and department head, and approval of the graduate dean. Such an extension will be granted only under unusual circumstances. THE INITIATIVE FOR CONVERSION OF AN "I" TO A LETTER GRADE RESTS WITH THE STUDENT. If not converted to a letter grade by the end of the one year period, the "I" will remain as a permanent part of the student's academic record.

Incompletes received in thesis type courses are not governed by these regulations.

"W"—Denotes Withdrawal—The grade of "W" will be assigned only when the previously described withdrawal process has been completed. If a student stops attending a class without officially withdrawing, the grade of "E" will be assigned for the course.

ACADEMIC PROBATION AND DISMISSAL

A graduate student will be placed on academic probation when the cumulative grade point average in courses taken for graduate credit at Eastern Michigan University is less than 3.0 (B average). Grades in courses taken for undergraduate credit and in courses accepted as transfer credit from other institutions are not used in computing the grade point average.

While there is no dismissal from Graduate School for academic reasons, the Graduate School does monitor the academic performance of each graduate student and transmits a list of students who are on probation each semester or session to each department and program. Consult the Graduate coordinator of advising for information concerning the program or departmental dismissal policy in your area of study.
TRANSFER OF CREDITS TO DEGREE PROGRAMS

From Other Institutions
Of the total number of credits required on a master’s degree program, a minimum of 18 semester hours must be taken at Eastern Michigan University; for specialist’s degree programs (the 32 hours required beyond the master’s) a minimum of 24 hours must be taken at this University. Any graduate credit transferred must:

- be applicable to the degree program;
- have associated with each course a grade of B or higher;
- be viable in terms of the six year time limitation for completion of degree requirements;
- be on an official graduate transcript from an accredited degree granting institution;
- be upon recommendation of the adviser and the approval of the Graduate School.

Such credits are recorded on the student’s permanent record card only when a program of study is on file in the Graduate School office.

From Special Student Status
Students admitted to Special Student status may apply for admission to a degree program after meeting all special entrance requirements of the academic area of specialization selected. Program Transfer Request forms are available in the Graduate School office and must be submitted to that office at least two months prior to the semester or session that transfer is contemplated. A request for admission to a degree program will be approved only upon written recommendation of the coordinator of advising in the area of specialization.

Credits earned while on Special Student status do not apply automatically to the requirements of a degree program. Transfer of credits depends upon the requirements of the program, the recommendation of the adviser, and the approval of the Graduate School office. A student transferring from Special Student status must complete a minimum of ten graduate hours after admission to a degree program.

From a Previous Master’s Degree
On occasion, individuals may wish to obtain another master’s degree. Appropriate credit from a previous master’s degree may be applied to the second program under these conditions:

- the degree be in a discipline different from the previous master’s degree;
- not more than six (6) semester hours of appropriate credit may be applied.

COURSE NUMBERING SYSTEM

300: Some departments have selected junior level courses for graduate credit. The Graduate Office or the department’s coordinator of advising may be contacted for information.

400–500: For advanced undergraduates and graduate students. Lists of senior level courses available for graduate credit are to be found towards the end of the departmental sections in this catalog. The 500 numbered courses are open to qualified seniors under existing policies; see page 14.

600: For graduate students only.

700: Courses that are utilized on specialist’s degree programs and other advanced level graduate work as well as the master’s in fine arts.

REGARDING CERTIFICATION

Most questions regarding teacher certification should be directed to:

For Provisional Certificate:
Office of Academic Records and Certification
Room 5, Pierce Hall
Ypsilanti, Michigan 48197
Dial (313) 487-4111
For Continuing or Renewal Certificate:
Nancy L. Dahl, Associate Director
Academic Records and Certification
Room 5, Pierce Hall
Ypsilanti, Michigan 48197
Dial (313) 487-4111

In some unusual circumstance it may be desirable to seek information from the state office. In those cases, write to:
Michigan State Department of Education
Teacher Education and Certification Section
Box 30008
Lansing, Michigan 48909

PROVISIONAL CERTIFICATE
(Students who hold a bachelor’s degree)
Graduates of Michigan institutions:
A graduate of a Michigan institution must be recommended for certification by a Michigan teacher training institution. The certificate will usually be recommended by the institution offering the professional education program. When part of the professional education courses were completed at the degree granting institution, it may be advantageous to ask that institution to make the recommendation and approve the balance of requirements being completed at Eastern Michigan University.

Graduates of approved out-of-state teacher training institution:
1. Persons with an earned bachelor’s degree who hold a currently valid
teaching certificate in another state based on the completion of an approved teacher education program in that state may apply to the State Department of Education for a Michigan Provisional Certificate. Application forms are available in the Academic Records and Certification Office, Room 5, Pierce Hall.

2. Persons who have completed 12 or more hours on an education program at a regionally accredited out-of-state institution approved for teacher training may apply to the State Department of Education for an evaluation of their credentials to ascertain what courses they will need to take to qualify for a Michigan Provisional Certificate. Application forms are available in the Academic Records and Certification Office.

The student then applies for admission to the Graduate School and submits a copy of the plan of work prepared by the State Department of Education to the Graduate Office.

3. Graduates who do not fit category one or two must be recommended for certification by a Michigan teacher training institution. Although requirements vary depending upon the curriculum pursued, the basic minimum requirement for recommendation for certification is normally 30 semester hours work with Eastern Michigan University. Information about the specific requirements for certification may be obtained from the Academic Records and Certification Office. A written plan of work will be provided on request, following admission to the Graduate School.

Additional elementary provisional or secondary provisional certificate:

Persons seeking to qualify for an additional provisional certificate must complete a minimum of 12 semester hours of credit following the first certificate which includes the appropriate methods courses and three (3) hours of student teaching or proof of two (2) years teaching experience appropriate to the level of certification sought. A written plan of work will be provided by the Academic Records Office on request, following admission to the Graduate School. A copy of the plan of work must be placed on file in the Graduate Office.

Additional teaching majors and/or minors:

Persons who seek to broaden their teaching qualifications by the addition of majors and minors do so by completing the course work required.

1. Minor—a minimum of 20 hours in courses appropriate to the pure minor or 24 hours in a group minor.

2. Additional teaching majors and/or minors:

Persons seeking middle school endorsements should contact the Office of Academic Records and Certification for more information. A copy of the approved plan of work must be placed on file in the Academic Records Office and the Graduate School Office.

CONTINUING CERTIFICATION

Persons may apply for the Continuing Certificate upon completion of three (3) years of successful teaching and 18 semester hours of credit earned on a planned program after the date of issuance of the state provisional certificate. The recommendation must be made by the Michigan teacher training institution which approved the 18 semester hour planned program and where the majority of 18 semester hours was earned.

Students on master's degree programs appropriate to K-12 education may apply the first 18 hours of degree program toward this requirement. For this reason, applicants seeking continuing certification are strongly urged to seek admission to a degree program.

All other students who wish to be recommended for continuing certification by Eastern Michigan University must have a plan of work approved by the director of academic records and teacher certification on file in the Graduate Office before classes are begun.

Use of Credit

Undergraduate credit earned to satisfy the requirements for a provisional certificate cannot apply to a graduate degree.

Graduate credit earned for a Provisional Certificate cannot apply to the requirements for a Continuing Certificate.

Graduate credit earned for a Continuing Certificate may apply to a graduate degree only if it meets the requirements of a degree program, the recommendation of the adviser and the approval of the Graduate School Office.

ENROLLMENT IN GRADUATE COURSES BY SENIORS

A student of senior standing at Eastern Michigan University may register for specified graduate courses if
recommended by the adviser and
approved by the dean of the Graduate
School. Credit so earned may be used
for only one of two purposes:

to meet the requirements of the
baccalaureate degree, thus receive
undergraduate credit;
to apply towards a master's degree,
thus receive graduate credit.

A student may not use graduate
courses for both.
To be eligible for either, a student
must have undergraduate admission at
Eastern, have acquired 85 hours or more
of undergraduate credit and have a
cumulative grade point average of 2.50
or better in all course work completed at
the University. Senior students who
hold guest or special admission in the
undergraduate school are not eligible to
enroll in graduate courses.

Permission to enroll in graduate
courses as a senior should not prolong
the completion of the undergraduate
degree requirements.
The maximum number of graduate
hours that can be taken as a senior is
ten. See Course Numbering System,
page 16, for courses available to
advanced undergraduates.

There are several restrictions on the
use of credit earned in graduate courses
by seniors:

Permission to take graduate courses
does not represent degree admission
to the Graduate School.
Students desiring to continue graduate
study and utilize the graduate credit
earned in courses taken as a senior
must apply and meet all requirements
for admission to the Graduate School
and degree program.

Graduate courses taken for either
undergraduate or graduate credit and
taken prior to receipt of a Provisional
Teaching Certificate cannot be used to
satisfy any requirement of the
Continuing Certificate.

INDEPENDENT STUDIES

Independent Study is designed to
enable graduate students to pursue
academic interests beyond those
normally covered in conventional
courses. Independent Study is structured
on a tutorial basis, affording opportunity
for student and faculty interaction on a
project of joint interest.

Expectations Regarding Instructional
Requirements
A clearly defined proposal for the
study is presented by a student and
approved by a professor before
enrollment.

Regular student/faculty meetings to
monitor progress and to provide
assistance.
Evaluation established on the basis of
the completed product.

THESIS

Aside from independent studies, more
opportunity for the degree student to
demonstrate individual initiative and
creativity is provided by a number of
departments where the writing of the
thesis is offered either as an option or as
a requirement. Taken toward the end of
a student's program of study, it serves
as a capstone experience affording an
opportunity for the integration of one's
specialized subject matter.

Guidelines and requirements
governing this activity are available
through the departments or the
Graduate School office.
GENERAL POLICIES AND INFORMATION

INFORMATIONAL BROCHURES

The Graduate School has published the following brochures which describe various services available to graduate students, and which are available at the Graduate Office, 116 Pierce Hall:

- University Services for Graduate Students
- Financing Graduate Study at Eastern
- Career Perspectives on Graduate Education at Eastern
- Graduate Assistantships at Eastern Michigan University
- Minority Graduate Assistantships

In addition, specific brochures or fact sheets are available about each of the graduate programs that the University offers and are available upon request either from the appropriate department or the Graduate Office, 116 Pierce Hall.

MAJOR BUILDINGS AND OTHER FACILITIES

FREDERICK ALEXANDER MUSIC HALL

This building, completed in 1980, houses the Department of Music offices, practice studios and large rehearsal halls.

RICHARD G. BOONE BUILDING

Built in 1914 as an administration building, the Boone Building now houses the College of Education offices and classrooms, and a post office substation.

WILBUR P. BOWEN FIELD HOUSE

The field house was completed in December 1955, and was named for the founder and long-time head of the Department of Physical Education. The complete field house floor has been hard surfaced and the eight-lap-to-a-mile track has been surfaced with Grasstex, providing one of the finest indoor tracks found anywhere. This facility also has a basketball court, three tennis courts, eight badminton and three volleyball courts in the infield. The present seating capacity for basketball is 5,500.

WALTER O. BRIGGS BUILDING

Originally constructed as a first unit of a field house, the Briggs building was first converted to classroom use and has recently been converted to house the Office of Registration and Student Accounting and Cashiers for the payment of tuition and room and board.

CAREER PLANNING AND PLACEMENT CENTER

Formerly the D'Ooge residence, this facility, located on the corner of Forest and Lowell, provides offices, records, and interview rooms for career planning, student part-time and summer employment, and career placement for graduating seniors and alumni.

CENTER OF EDUCATIONAL RESOURCES

The University Library, which opened at the beginning of the spring semester, 1967, provides more than five times the floor space and double the book capacity of the old Mark Jefferson Library. The seating capacity is 1,800, and there are more than 800,000 items available for use, including books, bound periodicals, documents and microforms. Most materials are on open shelves and are readily available for home or library use when not on reserve. The Audiovisual Center complements the library collection with non-book materials and a listening center.

R. CLYDE FORD HALL

The former Mark Jefferson Library, renamed R. Clyde Ford Hall, has been remodeled to provide office and classroom space for the Television Center and Foreign Languages and Bilingual Studies departments. The building originally was opened in 1929 and was remodeled in 1967.

BERTHA M. GOODISON HALL

This building at present houses the offices of Associate Vice-President for Student Affairs, Dean of Students,

MARY GODDARD HALL

This building, erected in 1955, is primarily a residence hall but, in addition, houses the University Computing Center, and classroom space for Industrial Education.

J.M. HOVER LABORATORY

The building, completed in 1941, houses laboratories of the Department of Biology, also a greenhouse and plant laboratory, and the Bio-career Center.

MARK JEFFERSON HALL

This building, completed in the fall of 1970, houses the Departments of Chemistry, Biology and Psychology. The new building has completely equipped modern laboratories for these departments and greatly enhances their preparing of students in these fields of study.

JULIA ANN KING HALL

Renovated in 1971 for the Music Department, this building houses the head of the department, music practice rooms and faculty; also, the Nursing Edcuation Program, the Dean of the College of Human Services, Occupational Therapy, the Medical Technology Program, the Social Work Program, and the University radio station, WEMU.

CHARLES McKENNY HALL

Charles McKenny Hall, named after a former president of the University, is the student union and social center of the University.

The facility was completely remodeled in 1964–65 and a large addition added, doubling its original size. It now houses cafeteria and dining services, snack bar, University book store, bowling alley, billiard room, offices for student organizations, lounges, meeting rooms, a large ballroom, and the offices of Development and of Alumni Relations.

PARKING STRUCTURE

A structure to house 800 cars has been built west of Bowen Field House. The structure has direct access to Washtenaw off Oakwood Avenue. This also houses the University Safety Department.

FREDERIC H. PEASE AUDITORIUM

This building, completed in 1914 and named for Frederic H. Pease, long time head of the Conservatory of Music, houses part of the Department of Music activities. The auditorium seats 1,700 and is the center for many University and civic activities. In the auditorium is the $100,000 Frederick Alexander Memorial Organ.

JOHN D. PIERCE HALL

Completed in 1948, this building replaced the original building of the University, which for a century honored the name of John D. Pierce, first superintendent of public instruction in the State of Michigan. The main administrative offices of the University are in this building.

PRAY-HARROLD CLASSROOM BUILDING

The Pray-Harrold Classroom Building houses the Departments of English Language and Literature, History and Philosophy, Mathematics and the College of Business. Located north of the University Library, the building was completed in June, 1969.

DANIEL L. QUIRK JR. DRAMATIC ARTS BUILDING

Opened in 1959, this modern drama facility contains an instructional theatre seating 381, a flexible laboratory theatre, scene and costume shops, radio facilities, an outdoor amphitheater, and classrooms and offices housing drama and speech activities of the Department of Speech and Dramatic Arts.

A classroom and office wing was added in the spring of 1966 to accommodate the increased needs in speech, drama, radio and TV broadcasting, and film.

HORACE H. RACKHAM SCHOOL OF SPECIAL EDUCATION

This building houses both a school for impaired children and the Department of Special Education. It contains a new speech and hearing clinic, a diagnostic prescriptive clinic for learning-disabled children and their families, a pool and other facilities for physical therapy. It was constructed in 1938.

ROOSEVELT BUILDING

The former Roosevelt Laboratory School has been remodeled to house the Departments of Home Economics, Military Science and Health Administration.

SCULPTURE STUDIO

Located on the north campus is the sculpture studio for the Art Department.

WILLIAM H. SHERZER HALL

This building, erected in 1903, houses industrial education, art and dance classrooms.

J.M.B. SILL BUILDING

J.M.B. Sill Building houses classrooms and offices for the Departments of Fine Arts and Industrial Technology and Industrial Education, art galleries and large lecture halls used for classes in speech, social work, political science and special education.

GLENADINE C. SNOW HEALTH CENTER

This modern health service facility includes a pharmacy, medical laboratory, X-ray department, physicians’ clinical offices, nurses’ consulting rooms, and examination and treatment areas. In addition, this building houses the offices of Information Services, Research Development, and the University Child Care Center.

MARY ANN STARKWEATHER HALL

This building, the gift of Mrs. Mary Ann Starkweather, was erected in 1897 and was remodeled and modernized in 1961. Starkweather Hall is the home of
Campus Interact Center, which provides services for the University community and visitors. Interact programs include the Parent's Association, EMU Candids, Information Center, campus visitations and tours.

EDWIN A. STRONG PHYSICAL SCIENCE BUILDING

This building, opened in the fall of 1957, houses the Departments of Physics and Astronomy and of Geography and Geology. Now in operation are the laboratory and lecture hall units. The building is named after Edwin A. Strong, head of the Physical Science Department between 1885–1916.

JOSEPH E. WARNER PHYSICAL EDUCATION BUILDING

This facility, completed in 1964 and immediately adjacent to Bowen Field House, provides an athletic and physical education plant. Housed in this building are gymsnasiums, classrooms, offices, special-purpose rooms, a swimming pool and the Human Performance Laboratory.

ADONIJAH S. WELCH HALL

The first section of Welch Hall was erected in 1896. It is named for Adonijah S. Welch, first head of the University, and was originally used as the University laboratory school. It now houses University business offices. In the University Business Office area are the departments of Accounting, Budget, Fiscal Analysis, Staff Benefits, Payroll, Personnel and Purchasing.

FIELDS AND OUTDOOR FACILITIES

KRESGE ENVIRONMENTAL EDUCATION CENTER AT FISH LAKE

This property, purchased in 1965, is being developed primarily as a center for experimentation in and dissemination of environmental education programs. Another major role is as a site for resident field study in various disciplines of biology and other environmentally focused subjects.

The Center is located in Mayfield Township of Lapeer County and has a wide variety of topography and habitat. A natural lake, a man-made impoundment and a bog offer diversity for aquatic studies.

The site is 241 acres in area, and is surrounded on three sides by 4,000 acres of the Lapeer State Game Area. Present facilities include a dormitory which houses 64, a dining commons which can feed 200, a remodeled one-room school house and four modular units which house the Center office and provide staff housing and an additional lab-classroom.

CLARENCE M. LOESSELL FIELD LABORATORY

Located west of the campus, this tract of about 21 acres was dedicated in 1958 to the memory of Clarence M. Loesell, longtime head of the Natural Science Department (present Biology Department). It includes a considerable variety of habitat and wildlife and is used in the teaching and research program of the department.

MAIN CAMPUS

On the main campus there are 16 tennis courts, five large play fields suitable for field hockey, football, practice baseball diamonds and women's sports. Recently constructed is the equivalent of four softball diamonds or two football fields—all under light for night-time use. They are used by the physical education classes, by the intramural program and for general recreational purposes. The main campus consists of 217 acres.

WEST CAMPUS

An area of 142 acres was purchased in 1965 and an additional 40 acres purchased in 1967 to allow expansion of the academic campus into the site of athletic areas on the main campus. The new site contains a baseball stadium, football stadium, all weather running track, six intramural fields, two practice football fields and room for future expansion and growth of similar facilities.

RYNEARSON STADIUM

This facility was ready for the 1969 fall football season and contains 12,500 permanent seats on the west side of the field allowing for temporary bleachers which expand the seating on the east side of the field to 22,000. Also included are complete press box and locker room facilities.

BRIGGS FIELD

This facility is a baseball field with a grandstand seating 2,500 people under cover. First used in the spring of 1968, it is among the finest baseball facilities in intercollegiate competition.

Civil Rights Policy

"Eastern Michigan University shall not discriminate against any person because of race, color, religion, creed, sex, national origin or ancestry. Further, the University shall work for the elimination of improper discrimination in the areas listed above (1) in organizations recognized by the University, and (2) from non-University sources where students and employees of the University are involved."

Family Educational Rights and Privacy Act

In compliance with the Family Education Rights and Privacy Act, Eastern Michigan University assures that any person who is or has been in attendance as a student at EMU has access to his/her educational records. Furthermore, such individual's rights to privacy was assured by limiting the transferability of records without the student's consent.

The following are matters of public record and may be included in publications or disclosed upon request without consent: the student’s name, address, telephone listing, date and place of birth, major field of study, participation in recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

Registration documents or student organizations which contain the names
and addresses of the officers and the statement of purpose of the organization are also considered public information. These documents are available in the Campus Life Office, 117 Goodison Hall. EMU reserves the right to make directory information public unless a student's written objection (specifying the category of information not to be made public without prior consent) is filed at the Office of the Dean of Students within fourteen (14) days after each term begins.

All questions or requests for access to files are also processed through that office, 214 Goodison Hall.

Division of Continuing Education

Today, more than ever before, Eastern Michigan University is realizing its responsibility to offer its services and facilities to the community at large and to the non-traditional student. For many years, the Office of Continuing Education, formerly the Division of Field Services, at Eastern Michigan University, has maintained extensive in-service programs for students unable to complete their education on Eastern's campus and for employed teachers desiring to further their education. The program is expanding greatly at this time. In addition, the campus is open to the public for conferences, both academic and non-academic, for adult education courses, for lecture series and other trained personnel are available for training programs. Faculty members and other trained personnel are available for lectures and consultation services to clubs, organizations and school systems.

The Office of Continuing Education welcomes inquiries about its program as well as suggestions for other services it might offer. Interested persons should write to the dean of Continuing Education, 319 Goodison Hall, Eastern Michigan University, Ypsilanti (487-0407).

IN-SERVICE COURSES

The Office of Continuing Education offers credit courses at 17 centers in 14 counties throughout southeastern Michigan. These classes are undergraduate and graduate courses conducted usually by regular instructors of Eastern Michigan University. At present, the classes are in virtually all fields connected with education, but an increasing number of courses in other disciplines are being offered to meet students' needs. A list of the courses offered for fall and winter semesters, spring and summer sessions may be obtained from the Office of Continuing Education.

Students who hold a bachelor's degree register in off-campus classes under one of the following categories:

**Eastern Michigan University Degree Student** status (see page 10), or **Special Student** status (see page 11).

University Housing/ Food Service

University Housing and Food Service offers a variety of housing and dining accommodations to both married and single graduate students.

Student families will find that the apartment style living offered in the University's three family housing communities is convenient, low cost, and offers an environment that shares an appreciation of the basic needs of the married student. One and two bedroom apartments are available, as are a limited number of unfurnished units. Rates for 1980-81 range from $165 to $200 per month including basic utilities.

Unmarried graduate students are welcome in any residence hall facility which appropriately meets their life-style needs. Most, however, reside in Hill Hall where the population is predominantly over 21. The Phelps International Center also caters to the older student.

Students may reside in the residence halls in single or double room accommodations to maximize either privacy or interaction. Rates for 1980-81 are $950 per academic year for a double room. Room and board packages for two semesters are available as follows: 20 meals/week—$1762; 15 meals/week—$1732; 13 meals/week—$1732; 10 meals/week—$1702. Single room premium rates are $240 additional per term.

Graduate students desiring to purchase meals may purchase meals individually, or at a discounted non-resident board plan. Prices are available through the University Food Service Office.

The unmarried graduate student interested in apartment style living will be particularly pleased with the Brown Munson apartments. These furnished one, two, and three bedroom units, located in the heart of campus, rent from approximately $145–$395 a month, depending on apartment size and number of occupants. All apartments are carpeted, air-conditioned, include basic utilities, and have security monitors for the exterior doors.

Applications and information may be obtained from University Housing/Food Service (313-487-1300).

Financial Assistance

There are several sources of financial assistance available to graduate students at Eastern Michigan University. **Assistantships** are available through academic departments, and are awarded on the basis of the qualifications of the applicant. Each appointment requires considerable research time and precludes other employment. The academic year stipend ranges from about $3,150–$3,350. In addition, the University pays full tuition for 16 credit hours for each fiscal year of the assistantship, as well as registration and health service fees. The total package approximates $4,800, depending on whether you are a resident or non-resident of Michigan. Graduate students interested in applying for such positions should write to their major area department head.

A limited number of assistantships are funded through the College Work-Study program. Interested students should contact their major area department head. Students need to submit the normal graduate assistantship application materials, as well as the financial aid application materials for the College Work-Study program.

**Residence Hall Grants** are available through the Housing Office, Dining Commons 1, 487-1300. Graduate students may be considered for the grant after one term in residence halls at Eastern Michigan. The grants pay from $50–$850 per year toward residence hall costs. Awards are made on the basis of demonstrated financial need. Students must complete the Family Financial Statement or Financial Aid Form. Final awards are made by the Housing Office.
Residence Hall Leadership Awards are available from the Housing Office, Dining Commons 1, 487-1300. Graduate students may be considered for awards after one term at Eastern Michigan University in residence hall. The awards pay up to $850 per year toward residence hall costs. Awards are made by a committee which considers evidence of leadership ability. Award recipients are expected to provide leadership in the residence hall program.

College Work-Study (CWS) is an employment program which allows students demonstrating financial need to work up to 20 hours per week on-campus or at participating off-campus agencies. Student wages are paid 80% from federal funds and 20% from University funds. Hourly pay generally ranges from $3.35 to $4.10 for graduate students. Applications are available from the Office of Financial Aid.

Student Employment listings for on and off-campus employment are maintained by the Eastern Michigan University Student Employment Office, Career Planning and Placement Center. Many non-College Work-Study jobs are available. Students do not have to demonstrate financial need to work at non-College Work-study jobs.

National Direct Student Loans (NDSL) are long-term educational loans funded by 90% federal and 10% University contributions made to students demonstrating financial need. Graduate students may borrow up to $2500 per academic year. Repayment of the loan at 3% simple annual interest begins 9 months after the student leaves school. Loan repayment terms (minimum of $90 every three months beginning one year after the student leaves school) must be arranged with the Student Loan Accounting Office before the student leaves Eastern Michigan University. Applications are available from the Office of Financial Aid.

Michigan Guaranteed Student Loans (GSL) up to $5,000 per year at 7% interest are available for graduate students from banks, savings and loan associations, and credit unions for full-time and half-time students. Interest payments are made by the federal government while student is in school.

Applications are available from participating lenders. Normal application processing time is 10 to 12 weeks. Other states have similar loan programs. Further information is available from the Office of Financial Aid.

Michigan State Direct Loans (SDL) are available for Michigan residents who cannot get guaranteed loans from commercial lenders and obtain a letter of denial. Graduate students can borrow up to $5,000 or one-half of costs (whichever is less). Applications and further information are available from the Office of Financial Aid. Normal application processing is 14–16 weeks.

Career Planning and Placement Center

Eastern Michigan University offers a centralized service for career planning, student employment, and career placement for its students and alumni. The center, located at 420 West Forest, assists students and graduates with their career planning and employment needs from the time they are enrolled at EMU through their alumni years.

CAREER PLANNING

The Career Planning Office provides assistance in helping students to assess occupational interests, skills, and values. Individual counseling and testing, Life/Work/Career Planning workshops, and the Career Resource Center with materials on hundreds of occupations are among the services available to those involved in making important life decisions.

The Career Planning telephone number is 487-1074.

STUDENT AND SUMMER EMPLOYMENT

Annually thousands of students obtain part-time positions through the Student Employment Office. While the majority of these positions are on-campus, a large number are in the surrounding community. They range from odd jobs and babysitting to extended part-time, highly skilled positions. Student Employment attempts to match positions to student’s interests, skills, class schedule, etc., whenever possible.

Summer employment opportunities are available with camps, resorts, recreation, businesses and industries, governmental agencies, etc. Such employment opportunities start to be listed about Christmas time. Many summer employers schedule on-campus interviews through the Student Employment Office.

All students must make application with Student Employment in order to be placed in part-time positions with the University. On-campus employment is limited to twenty hours per week. Students who are eligible for the College Work-Study Program first gain approval in the Office of Financial Aid, 212 Pierce Hall.

The Student Employment telephone number is 487-4040.

CAREER PLACEMENT

The center offers active assistance to graduates and alumni in securing employment after graduation and in obtaining professional advancement throughout their career. Career opportunities are provided in business, industry, government, health and human services, and education from pre-school through university level.

Such assistance includes 1) credential reference services, 2) “launch your job seeking campaign” seminars, 3) resume and letter of application assistance, 4) interview preparation and technique, 5) Placement Bulletin listing current vacancies, employers’ addresses and method of contact, 6) on-campus interview appointments with employer representatives, and 7) employer career literature, directories and job description materials.

It is recommended that each graduate register at the Career Planning and Placement Center and develop a credential file for future reference use.

The telephone numbers for Career Placement are: Business and Industry, 487-0316; Education Placement, 487-0400; Credential Office, 487-0275.

Veterans Information

Veterans eligible for educational benefits under the G.I. Bill should supply the Veterans Affairs Office at the University with their Certificate of Eligibility prior to the start of classes. For information regarding payment of
Women’s Studies

The program was designed primarily for women to help the returning woman student adjust to college life and the changing roles of women in society. The Adult Returning Students Association was developed under the aegis of Women’s Studies and Academic Advising. ARS offers social supports to students who are new to the campus. The Women Studies coordinator is available to assist women and men who have professional and personal concerns in women’s issues. Approximately eight academic courses are taught each semester in various departments that offer women’s studies classes. A monthly lecture series is scheduled during fall and winter semesters.

Women’s Studies Week is an annual November event. Call 487-1177 for further information.

EMU Child Care Center

The EMU Child Care Center was opened in September 1979 as a service to students with preschool children. It aims to provide a warm, supportive and stimulating program for children while their parents are attending class, studying and working.

The Center is located on the ground floor of Snow Health Center at the east end of the building. It includes a large play yard outside, four well-equipped rooms for children inside and a room for parents.

The Center is licensed for children aged 2½ through 5 years. It is open from 7:45 a.m. to 5:15 p.m. Various blocks of time are available for parents to choose among and combine as needed. Children attend on a regular basis for the whole semester or term. An hourly fee is charged for each hour that the child is scheduled to attend.

Center of Educational Resources

The Center of Educational Resources includes the University Library, Audiovisual Center, and Television Center.

The University Library serves the graduate student by offering a wide variety of research materials and special services. A modern air-conditioned building, organized on an open-stack divisional basis, provides a pleasant environment for research. Collections and services are divided among the divisions of Education and Psychology, Science and Technology, Humanities and Social Sciences.

The collection numbers more than 400,000 volumes of books, bound periodicals and documents, and some 200,000 microforms. Special collections include a large Instructional Materials Center in the Education and Psychology Division, a Map Library in the Science and Technology Division, the University Archives and a collection of United States Government Documents in the Social Sciences Division. Special facilities are available for the use of microform materials, study in small groups and typing of papers. Interlibrary loan services are located in the Science and Technology Division.

The Audio-visual Center, located in the library, and the Television Center, in Ford Hall, comprise Media Services. All types of audio-visual, television and film equipment, materials and services are available for individual or group use. There are film, filmstrip, audio tape, record and videotape collections.

Professional librarians and media specialists are available to assist graduate students in the use of the collections.

University Computing Services

Under an executive director of University Computing, access to a large IBM and a large DEC-machine is available. Both batch and timesharing systems are permitted by faculty, students and administrative offices.

Low to high speed printers, cathode ray tubes and graphics terminals are placed at strategic points around campus. Optical scanning equipment is also used for tests, course evaluations and research.

Students may develop proficiencies in Computer Programming or major in the area both at the undergraduate and graduate program.

Tuition and Fees

FEES SUBJECT TO REVISION

All University fees and assessments are subject to change by action of the Board of Regents.

OFFICIAL REGISTRATION DAY

The official registration day each semester for each student for purposes of payment of the registration fee and assessment of tuition is the day the student completes the initial registration for the semester or session.

REGISTRATION FEE

A registration fee of $20.00 for each of the fall and winter semesters, and of $15.00 for each of the spring and summer sessions, is charged to each student.

This fee is assessed and collected at the time the student registers for the semester or session and is non-refundable.

TUITION SCHEDULE

Tuition will be assessed for all credit hours for which the student is registered. Off-campus tuition rates are the same as on-campus tuition rates.
Regardless of student class level, undergraduate tuition will be assessed for all 100 through 400 level courses. Graduate tuition will be assessed for all 500, 600 and 700 level courses. Tuition rates per credit hour for 1980-81 are:

**Michigan Resident**

Undergraduate Courses
- (100-400 level) ............... $30.00
- (500-700 level) ............... $42.00

Graduate Courses
- (100-400 level) ............... $75.00
- (500-700 level) ............... $105.00

**Non-Resident**

Undergraduate Courses
- (100-400 level) ............... $75.00
- (500-700 level) ............... $105.00

It is the duty of any student prior to registration, if there are any questions as to his right to be registered as a student with a status of Michigan resident, to raise such questions in the Student Accounting Office in Briggs Hall.

**QUALIFICATIONS FOR MICHIGAN RESIDENCE**

**Eligibility**

In order to be eligible for the resident tuition rate at Eastern Michigan University, it must be demonstrated that a student is already a resident of the State of Michigan or that he/she is coming to the University from outside of the state for reasons primarily other than to attend the University. In order to determine the residence of a student, the following policies will be utilized:

I. **Minors**

The residence of a student who is not yet 18 years of age follows that of the student’s parents or legal guardian. If that student’s parents or legal guardian would qualify in accordance with the criteria listed in VI. **Criteria for Determining Intent**, that student shall be considered a Michigan resident for tuition purposes.

II. **Non-Dependent Students**

A student 18 years of age or older shall be eligible for classification as a Michigan resident for tuition purposes if he/she qualified in accordance with the criteria listed in VI. **Criteria for Determining Intent**.

III. **Spouse of Eligible Person**

The residence of a student who otherwise would be classified as a non-resident for tuition purposes will follow that of the student’s spouse, if the spouse is eligible for classification as a Michigan resident for tuition purposes. (Applicable only to U.S. citizens or to aliens admitted for permanent residence in the United States who have obtained a permanent or diplomatic visa.)

IV. **Aliens**

An alien (non-citizen) shall be eligible for classification as a Michigan resident for tuition purposes only if the student is lawfully admitted for permanent residence in the United States, has received a permanent or diplomatic visa, and qualifies in accordance with the criteria listed in VI. **Criteria for Determining Intent**.

V. **Migrants**

Migrant status is one factor considered when determining if a student is domiciled in Michigan for tuition purposes. Michigan migrants are defined as individuals who have made their livelihood in seasonal work in the State of Michigan, and have traveled interstate for this purpose. Migrant students shall be considered Michigan residents for tuition purposes if they or their parents or legal guardian were employed in Michigan for at least two months during each of three of the preceding five years. Verification of employment as migrant workers should be secured from the Michigan Farm Labor and Rural Manpower Services Office. Other appropriate evidence may also be used by migrant workers to establish their status.

VI. **Criteria for Determining Intent**

Students from outside the state and for whom the above policies are not applicable shall be considered non-resident students unless it can be determined that their primary purpose in coming to Michigan is to establish residence in the state, rather than to attend a university. For the purpose of determining intent in such cases, the following criteria shall be applied. It is recognized that no one of the following criteria shall, standing alone, necessarily be controlling. It shall be the responsibility of the administration to apply the criteria in a fair and consistent manner and in the spirit of the intent of this policy.

a. High school or previous college attendance in Michigan.
b. Reliance upon Michigan sources for financial support.
c. Residence in Michigan of family, guardian, or other relatives or persons legally responsible for the student.
d. Former residence in Michigan and maintenance of significant connections therein while absent.
e. Continuous presence in Michigan during periods when not enrolled as a student.
f. Long-term military commitments in Michigan.
g. Acceptance of an offer of permanent employment in Michigan and source, length, and continuity of employment.
h. Traditional considerations made in determining legal residence; i.e., voter registration, ownership of real estate, source of driver’s and vehicle licenses, taxpayer status, self-supporting or, dependency on others whether residents of Michigan or elsewhere.

**Determination of Residence**

A student’s residence status shall be determined at the time of his/her initial admission to the University. This status may be reviewed at each subsequent registration. If a student’s circumstances should change to the extent that he/she would no longer be considered a Michigan resident for tuition purposes, as herein described, that student shall be reclassified as a non-resident for tuition purposes six months thereafter.

NOTE: It shall be the responsibility of all students, prior to registration, to raise questions in the Student Accounting Office regarding their right to be registered as a Michigan resident student. The administration is authorized to establish procedures and delegate authority for determining the domicile of students for tuition purposes and to make exceptions within the spirit of this policy.

**TUITION RECIPROCITY AGREEMENT WITH OHIO**

Ohio residents may now attend Eastern Michigan university at Michigan resident tuition rates, and Michigan residents of Monroe County can attend the University of Toledo at Ohio resident tuition rates.

The tuition reciprocity agreement was entered into by the Michigan State Board of Education and the Ohio Board of Regents. The agreement was effective with the fall semester, 1978.
AUDITING FEES

Tuition and registration rates for auditing classes are the same as for credit.

WORKSHOP SESSIONS

Several two and three week workshop sessions are offered during the spring and summer sessions. Tuition and registration fees apply to workshop sessions at the same rates as for regular class sessions. However, a student enrolled in other coursework during a session will not be assessed an additional registration fee for enrolling in a workshop during the same session.

1. An adjustment of 100% of the tuition assessment will be made to those students who withdraw prior to the close of business (5:00 P.M.) on the first day of the session.
2. No other adjustment or refund will be granted.

FINANCIAL OBLIGATIONS

Having fulfilled all other requirements, a student is eligible for registration or graduation only if all financial obligations to the University have been met at the time of graduation or at the close of the semester or session. Credits or other statements of record will be withheld and the student will be ineligible for further registration (fall advance registration excepted) at EMU until all obligations have been fulfilled.

PAYMENT OF TUITION

The exact due date for tuition and other University fees is printed on the invoice from Student Accounting and is published in the Class Schedule Bulletin for each semester. To insure a correct billing address, it is the responsibility of the student to inform the University of any address changes by completing a change of address form in the Registration Office.

Registration for the fall semester begins in late March and continues until the first day of classes. For this semester only, students may register at any time up to the registration verification date, which is approximately 30 business days prior to the first day of classes, by paying the $20.00 registration fee. Payment of previously incurred University obligations will not be required for registration prior to the registration verification date. Students will, however, be required to pay all previously incurred University obligations, and to make payment of at least 50% of all fall semester costs, including housing charges, by the registration verification date or their registrations will be automatically cancelled; their registration fees will be forfeited; and those classes will be made available to other students. Students whose registrations have been cancelled by this process may re-register upon payment of another registration fee of $20.00, all past-due accounts, and at least 50% of all fall semester costs.

For those students who prefer to make installment payments, the University provides an optional installment payment plan for the fall and winter semesters only. The installment payment plan applies only to tuition and room and board. It consists of a minimum initial payment of 50% of the room and board and tuition assessments for the semester, and payment of all remaining charges in a second installment due during the eighth (8th) week of the semester. Specific due dates are published in the Class Schedule Bulletin for each semester.

Students who register after the registration verification date for fall semester are required to pay 50% of assessed tuition, room and board, and all of any miscellaneous fees at the time of registration.

An installment payment service fee of $5.00 is collected with the second installment payment.

Winter semester registration procedures require that students will pay as a minimum the $20 registration fee, 50% of all assessed tuition, room and board, and all of any miscellaneous fees at the time of registration.

Spring and summer session registration procedures require that students pay, for each session the $15 registration fee and all assessed tuition, board, room and miscellaneous fees at the time of registration. There is no provision for installment payment for spring or summer sessions.

Eastern Michigan University accepts BankAmericard/VISA and Master Charge credit cards in payment of tuition, fees, room and board and bookstore purchases.

A late payment fee of $6.00 is assessed if the second payment is not received by the due date.

If a student’s account is past due for a current semester, enrollment, University housing and other University services (such as release of grades or certified transcript) are subject to suspension until the account is brought into current status. Payment of assessments for a current semester does not relieve the student of the obligation for payment of any balance from a prior semester. The privilege of using the installment payment plan for payment of tuition and room and board is denied to students whose University account has been in arrears in amounts exceeding $100.00 for periods beyond thirty days at any time after September 1, 1979.

PROGRAM ADJUSTMENT FEE

For three (3) to five (5) days prior to the beginning of classes, program adjustments may be made with no assessment of an adjustment fee. During this period, each academic department will maintain a station at one central location to assist in program planning and solving scheduling conflicts. At least 50% of the increased tuition, resulting from adjustments, must be paid at the time of adjustment.

During the first five (5) class days of the semester, a program adjustment fee of $10.00 per transaction will be assessed for each student-initiated program adjustment. For the purpose of determining the program adjustment fee, one drop accompanied simultaneously by one add will be considered as one transaction. Individual adds or individual drops will be considered as individual transactions, and will be assessed $10.00 each. At least 50% of the increased tuition, resulting from adjustments, must be paid at the time of adjustment.

No program adjustment fees will be assessed for changes required as a result of University actions.

LATE REGISTRATION FEE

A late registration fee of $30.00 is charged to those students who, for any cause, do not complete registration prior to the official first day of classes each semester. Checks returned by a bank constitute late registration, and the late registration fee is charged.
CANCELATION OF REGISTRATION

After students have registered, if they should decide before classes begin not to return to Eastern, they must initiate a cancellation of registration form in person or by letter through the Registration Office, Briggs Hall. If students have applied for University housing, they must also cancel the contract in the Housing Office. This is necessary for cancellation of tuition and room and board assessments.

WITHDRAWAL FROM THE UNIVERSITY

To be eligible for any adjustment of tuition or housing assessment after classes have begun, a withdrawal from the University must be initiated in person or by letter through the Registration Office, Briggs Hall. The date the request is made to the Registration Office or the postmark date will be used in determining the amount of any assessment adjustment.

1. A credit adjustment of 100% of the tuition assessment for the fall and winter semesters, less a late withdrawal fee of $10.00, will be made to those students who cancel their registration or withdraw from the University prior to the sixth (6th) class day. For the spring and summer sessions, a 100% credit adjustment will be made during the fourth (4th) through seventh (7th) class days of the session. Actual dates are printed in the Class Schedule for each semester and session.

2. A credit adjustment of 50% of the tuition assessment for the fall and winter semesters will be made to those students who decrease their academic load between the sixth (6th) and 15th class day. For the spring and summer sessions, a 50% credit adjustment will be made during the fourth (4th) through seventh (7th) class days of the session. Actual dates are printed in the Class Schedule for each semester and session.

3. No credit adjustments will be made after the above stipulated dates.

ACCOUNT ADJUSTMENTS AND REFUNDS

An appeals process exists for students or parents who feel that individual circumstances warrant exceptions from published policy, as stated within those sections under “Withdrawal from the University” and “Decrease in Academic Load.” The appeals process is as follows:

First Step:—Contact Gary Reffitt, Assistant to Accounting, Briggs Hall (313-487-3325). Explain your extraordinary circumstances, and request an appropriate resolution. If request is denied, you may then:

Second Step:—Contact Robert J. Romkema, Vice President for Business and Finance, 137 Pierce Hall (313-487-2031) for final decision and resolution.

GRADUATION FEE

A graduation fee is charged to each student who makes application for graduation. The fee is non-refundable and is assessed only once for each degree. Master's and Specialist's degrees $15.00

HEALTH SERVICE FEES

All undergraduate and graduate students registering for a total of seven (7) or more credit hours in the fall or winter semesters, and all undergraduate students registering for a total of five (5) or more credit hours in the spring or summer sessions will be charged a non-refundable health service participation fee of $13.50 per semester for fall and winters, and $5.00 per session for the spring and summer sessions. Payment of this fee will entitle participants to Health Center services at reduced rates.

Undergraduate students registering for less than the aforementioned number of credit hours, graduate students, student spouses, faculty and staff, and their spouses may avail themselves of the Health Center services, but at somewhat higher rates. These persons may, at their option, also pay the participation fee at Snow Health Center and thereby become eligible for the reduced rates. The complete schedule of health service fees is available at Snow Health Center.

APPLIED MUSIC FEE

All students accepted for private music lessons will be assessed an applied music fee. Applied music fee rates for 1980–81 are:

Music majors:
$60.00 per semester for all instruction.

Other University students:
$60.00 per semester for one-hour lesson.
$30.00 per semester for half-hour lesson.

Students from public schools, the community and EMU staff and families:
$90.00 per semester for one-hour lesson.
$45.00 per semester for half-hour lesson.

Lessons are arranged through the Music Department.

The applied music fee is assessed to each student’s account at the close of the program adjustment period. This fee is not refundable after the first lesson.
OTHER COURSE FEES

Fees are assessed at the close of the program adjustment period to cover extra costs and materials involved with certain courses. At present, these courses carry special fee assessments:
- Fine Art: Multi-media, printmaking, textiles, ceramics, jewelry, sculpture, 3-D design.
- HPER&D: Snow skiing, trap and skeet shooting, recreational shooting, bowling.
- Business Education: Typing courses, calculator applications.

PLACEMENT BULLETIN

A charge of $10.00 is made for each annual subscription to the University Placement Bulletin Service. Subscriptions are available on an annual basis only.

TRANSCRIPT FEE

Each student is furnished one official transcript at the time of graduation without charge.
A charge of $2.00 is made for each additional transcript.

VEHICLE OPERATION AND PARKING

All students, meeting the requirements of the law, and who live in University housing or are defined as commuting students, are eligible to maintain and operate a motor vehicle on campus. Motor vehicles are required to be operated within the provisions of the Traffic, Parking and Pedestrian Ordinance of the University.
Registration of motor vehicles used by commuter students is not required. Parking for commuter vehicles is available at several locations on campus. An entry or meter charge is required at several of these locations. For student parking in the central campus area (south of the railroad) or in the parking structure, the rate is 25¢ per entry or exit. Further details are printed in the Ordinance and in the Parking and Traffic Regulation brochure.

FEES SUBJECT TO REVISION

All University fees and charges are subject to change by action of the Board of Regents.

DEPARTMENTS OF INSTRUCTION

The courses here listed are those which have been authorized in accordance with policies approved by the Graduate Council. Class schedules must be consulted for courses to be offered during a given semester or term since the frequency of offering of each course is determined by the department as program needs dictate, with no assurance that a given course will be offered every year. The requirements as stated in the departmental summaries are designed to serve as a guide to program planning and are subject to specific determination and consultation with the department adviser.
COLLEGE OF ARTS AND SCIENCES

DEAN: Donald F. Drummond

DEPARTMENTS

Art
Biology
Chemistry
Economics
English Language and Literature
Foreign Languages and Bilingual Studies
Geography and Geology
History and Philosophy
Mathematics
Music
Physics and Astronomy
Political Science
Psychology
Sociology
Speech and Dramatic Arts

ART

John E. Van Haren
Department Head
118 Sill Hall,
487-1268

Charles Fensch
Coordinator of Advising
M.A. (Art Education)
15 Sill Hall,
487-0258

David Sharp
Coordinator of Advising
M.F.A.; M.A. (Studio)
116 Sill Hall,
487-0392

The Art Department offers three programs leading to the master's degree; the Master of Fine Arts, the Master of Arts (Art Education), and the Master of Arts (Studio).

ADMISSION REQUIREMENTS

Master of Fine Arts

As a prerequisite for admission, the Master of Fine Arts degree applicant must have an undergraduate degree, with a major in art, from an accredited institution and must meet degree admission standards of the Graduate School. Application for entering the M.F.A. program involves the following three steps:

1. Send an application for admission to graduate status, supported by transcripts of all undergraduate and graduate credit at each institution attended to Graduate School Admissions, Eastern Michigan University, Ypsilanti, Michigan 48197.

2. Send an application for admission to the M.F.A. program to: Coordinator, M.F.A. Program, Art Department.

3. Arrange to have three letters of reference sent to coordinator, and send a portfolio of 10–15 color slides and/or photographs of recent work. (Applicants in three-dimensional disciplines may submit multiple views of examples).

Applications received by March 15 for fall semester and by November 1 for winter semester will be given priority. Late applications are acceptable and will be considered as studio space permits.

Master of Arts (Art Education)

Application for graduate work in art education should be made to the Graduate School, 116 Pierce Hall, Eastern Michigan University. The requirements are a minimum of 34 semester hours of art education and studio art with a 2.8 grade point average in these classes. In addition each student will be evaluated on the basis of a portfolio submitted to the Art Department. The portfolio will be in the form of at least ten slides, presented in a clear plastic holder. All slides should be individually labeled and identified. Applicants should also submit a letter of purpose outlining their aspirations in graduate work. Each applicant is expected to hold a teaching certificate for the teaching of art.

Master of Arts (Studio)

Designed for those seeking an advanced degree in studio art; teaching certificate not required.

Applications for admission to the program in studio art should be sent to the Graduate School, 116, Pierce Hall, Eastern Michigan University. An undergraduate degree with a major in art is required, with a minimum grade point average of 2.8 in art classes. A portfolio of 10–15 slides and/or photographs is required. Send portfolio...
include FA 428 Seminar in Modern Art for graduate credit. (A written thesis is optional; two hours credit given with adviser's approval.)

COMPLETION OF THE DEGREE

The student should follow closely the Graduate School requirements for "Application for Diploma."

If the degree program includes a final exhibition of work, it is necessary to apply for gallery space one semester prior to the proposed exhibition.

Further information about these programs may be obtained from the Art Department.

COURSE DESCRIPTIONS

FA 501 Art Education (Formerly Art Education Workshop). Two sem hours

This course is primarily designed for the classroom teacher. A variety of media, applicable to classroom utilization, will be employed with an emphasis in innovative selections such as filmmaking, batik, weaving and other three dimensional activities. Special problems and independent research may be arranged within the format of the class. Not open to students who have a major in art.

FA 504 Elementary Art Studio. Two sem hours

Elective course specifically designed for candidates for the Master of Arts degree who are interested in elementary art. Project-oriented. New materials stressed. The problems will be tailored to individual student's needs and related to public school teaching. Art majors only.

FA 505, 506 Two-D Studio (Formerly Two-D Media Workshop). Four sem hours each

Required course in two dimensional art work for candidates for the Master of Arts degree. Project-oriented. New media and materials stressed. The problems will be tailored to individual student's needs and related to public school teaching. Art majors only.

FA 507, 508 Crafts Studio (Formerly Crafts Workshop). Four sem hours each

Crafts Workshop will afford the student an opportunity to explore a variety of media in the crafts. The problems will

DEGREE REQUIREMENTS

The graduate adviser will meet with each student to construct a program of study. The Master of Fine Arts program will contain a minimum of 48 semester hours beyond the bachelor's degree and the Master of Arts (Art Education) program will contain a minimum of 30 semester hours beyond the bachelor's degree. The Master of Arts (Studio), will contain a minimum of 30 semester hours beyond the bachelor's degree. The Art Department offers concentrations in drawing, painting, printmaking, photography, sculpture, ceramics, jewelry, textiles, and multimedia.

Master of Fine Arts

1. Two years of residence is required.
2. At the end of the first year the work of each M.F.A. student will be reviewed by the M.F.A. Committee. The student is either allowed to continue or is formally asked to withdraw from the program.
3. Course requirements:
   - FA 630 Graduate Studio (8)
   - FA 631 Graduate Studio (8)
   - FA 695 Seminar in Contemporary Ideas in Art (3)
   - FA 696 Seminar in Contemporary Ideas in Art (3)
   - FA 732 Graduate Studio (8)
   - FA 733 M.F.A. Exhibition (9)
   - Electives in Art (3)
   - Cognate courses (6) (Chosen in consultation with the adviser; Maximum of six credit hours transferable.
   - Total (48)

Master of Arts (Art Education)

M.A. degree designed for those currently teaching; teaching certificate required.

- FA 694 Seminar in Art Education (2)
- FA 505 Two-D Studio (4)
- FA 507 Crafts Studio (4)
- FA 504 Elementary Studio (2)
  (Required for elementary art teachers)
- Fine Arts Courses (12–14)
- Cognate Courses (6)
  - Selected from art and/or other areas in consultation with the adviser.
  - Total (30)

Master of Arts (Studio)

Course Requirements: (30)

- Fine Arts courses (24)
  - Minimum of 14 hours in an area of concentration (major).
  - Minimum of ten hours outside major area (may be grouped to form a minor with adviser's approval)
- Cognate courses (6)
  - Selected from art and/or other areas in consultation with the adviser. Must
be tailored to the individual student's needs and related to public school teaching. Art majors only.

FA 510 Ceramics. Two sem hours
Studio course in ceramics. Art majors only.

FA 520 Drawing. Two sem hours
Advanced studio course in drawing. Art majors only.

FA 530 Art History. Two sem hours
Advanced course in art history. Art majors only.

FA 540 Jewelry. Two sem hours
Advanced studio course in jewelry. Art majors only.

FA 550 Printmaking. Two sem hours
Advanced studio course in printmaking. Art majors only.

FA 555 Textiles. Two sem hours
Advanced studio course in textiles. Art majors only.

FA 560 Watercolor. Two sem hours
Advanced studio course in watercolor. Art majors only.

FA 570 Sculpture. Two sem hours
Advanced studio course in sculpture. Art majors only.

FA 580 Painting. Two sem hours
Advanced studio course in oil painting. Art majors only.

FA 596 Workshop in Art. Three sem hours (Formerly FA 595)
A workshop in art history focusing on personal observation of the visual arts of a particular area.
Prereq: Department permission.

FA 610, 611, 612 Ceramics. One, two and three sem hours
Advanced studio courses in ceramics. Based on background and need of the student. Open only to graduate majors.

FA 620, 621, 622 Drawing. One, two and three sem hours
Advanced studio courses in drawing. Based on background and need of the student. Open only to graduate majors.

FA 630 Graduate Studio. Eight sem hours
The first of the four graduate studio courses leading to the MFA degree. Course is conducted on a one to one basis. Instructor is selected for the student for this first course upon his acceptance into the program by the Graduate Acceptance Committee.
Prereq: Department permission.

FA 631 Graduate Studio. Eight sem hours
The second of the four graduate studio courses leading to the MFA degree. Instructor to be selected by the student from the MFA faculty.
Prereq: Department permission.

FA 640, 641, 642 Jewelry. One, two and three sem hours
Advanced studio courses in jewelry. Based on background and need of the student. Open only to graduate majors.

FA 650, 651, 652 Printmaking. One, two and three sem hours
Advanced studio courses in printmaking. Based on background and need of the student. Open only to graduate majors.

FA 655, 656, 657 Textiles. One, two, and three sem hours
Advanced studio course in textiles. Based on background and need of students.
Prereq: Open only to graduate majors.

FA 660, 661, 662 Watercolor. One, two, and three sem hours
Advanced studio courses in watercolor. Based on background and need of the student. Open only to graduate majors.

FA 665, 666, 667, 668 Painting. One, two, three and four sem hours (Formerly FA 680, 681, 682)
Advanced studio courses in oil painting. Based on background and need of the student. Open only to graduate majors.

FA 670, 671, 672 Sculpture. One, two and three sem hours
Advanced studio courses in sculpture. Based on background and need of student. Open only to graduate majors.

FA 679, 680, 681 Special Topics. One, two and three sem hours

FA 694 Seminar in Art Education. Two sem hours (Formerly FA 596)
Art Education seminar will be concerned with the literature and research in art education.
Prereq: Department permission.

FA 695, 696 Seminar in Contemporary Ideas. Three sem hours each (Formerly FA 634, 635)
A two semester seminar sequence for all Master of Fine Arts degree candidates dealing with in-depth questions and problems in twentieth-century art. Discussions will be supplemented with slides, films and the presentation of papers. Limited to MFA students only.
Prereq: Department permission.

FA 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly FA 597, 598, 599)
Prereq: Written permission.

FA 732 Graduate Studio. Eight sem hours (Formerly FA 632)
The third of the four graduate studio courses leading to the MFA degree. Instructor to be selected by the student from the MFA faculty.
Prereq: Department permission.

FA 733 Graduate Thesis and Exhibition. Nine sem hours (Formerly FA 633)
A culmination of the three sequential Graduate Studio courses. The ideas developed in these courses result in a body of work which comprises the graduate exhibition. A written thesis is optional. An oral defense of the ideas presented in the exhibition is required: The University reserves the right to retain work from the graduate exhibition to be added to the EMU collection. A set of 35 mm. slides of all the works in the exhibition will be taken by the MFA candidate and will become part of the Art Department files.
Prereq: Departmental permission.

OTHER COURSES

These upper division undergraduate courses may also be taken for graduate credit and applied on the department's degree program. See the Undergraduate Catalog for course descriptions.

406 Printmaking. (3)
408 Ceramics. (3)
409 Seminar: Issues in Photography. (3)
410 Metal Casting Techniques. (3)
412 Sculpture. (3)
413 Painting. (3)
414 Painting-Watercolor. (2)
419 Life Drawing. (3)
420 History of Primitive Art. (3)
421 History of Oriental Art. (3)
422 Chinese and Japanese Art History. (3)
423 Painting-Watercolor II. (2)
424 Painting-Watercolor III. (2)
426 Medieval Art History. (3)
427 Baroque Art. (3)
428 Seminar Modern Art. (2)
429 History of American Architecture. (3)
431 Multi-Media Workshop. (3)
432 Drawing III. (3)
436 Women in Art. (3)
441 Studies in Clays and Glazes. (3)
480 Painting. (3)

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 504</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA 505</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FA 507</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA 630</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FA 631</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FA 694</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FA 695</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FA 696</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA 732</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FA 733</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
DEGREE PROGRAMS OFFERED

The Biology Department offers a Master of Science degree program with concentrations in general biology, aquatic biology, physiology, and community college biology teaching.

Graduate assistantships are usually available. All applicants for admission to the biology master of science program are encouraged to apply for an assistantship. The department believes that the experience in teaching and research gained as a graduate assistant is a valuable part of the graduate program in biology for those whom we can accommodate in these positions.

Not offered by the Biology Department but including some work in biology is the Master of Science in general science administered by the Physics Department (see page 79).

ADMISSION REQUIREMENTS

All concentrations on the biology master’s program share the same general admission requirements:
1. Bachelor’s degree.
2. 20 semester hours in biology including seven hours in botany and seven hours in zoology.
3. One year of college chemistry.
4. An academic record of B (3.0) or better during the junior and senior years.
5. Meet Graduate School degree admission requirements.
6. Submit to the Biology Department, a completed departmental admission form and two recommendations.

Students deficient in one or more of the above admission requirements may be granted conditional admission subject to removing deficiencies while beginning a graduate program. Hours earned in deficiency courses may not apply toward degree requirements.

Special admission requirements in some areas of concentration are included under the objectives of that area of concentration.

DEGREE PROGRAM DESCRIPTION

The Master of Science in biology program is designed to provide all students with a broad background of knowledge, scientific skills and attitudes. At the same time, the Department of Biology recognizes an obligation to provide for the needs of different career orientations and different student objectives in taking our graduate program. To accommodate such diverse needs as research experience, internships and specialized course work, each student is required, by the end of the first semester after admission to the degree program, to develop a personalized program of studies in consultation with the student’s own faculty Guidance Committee.

A minimum of 30 credit hours of graduate work is required on this program. The program must specify at least 24 hours of course work in the Biology Department and five or six hours of cognate credits to be taken outside the department. Courses on the program must be so distributed as to ensure that the combined undergraduate and graduate experiences of the student will include a minimum of 12 hours in biology, ten hours in zoology and ten hours in botany. At least two credit hours in independent study courses, including a written report, and at least two credit hours in biology department seminar courses are required on all programs. The program has to be approved by the Guidance Committee and be filed with the graduate coordinator of the Biology Department. Requests for changes to the approved program must be submitted to the graduate coordinator with the written approval of the student’s Guidance Committee.

Two alternative plans are available for completion of Graduation Requirements, Plan A, with thesis, or Plan B, by comprehensive examination.

Plan A: In addition to the requirements common to both plans, as described above, candidates must successfully complete an original investigation with approval of, and supervision by, their Guidance Committee. They must submit a report on this research, written in a manner suitable for publication and approved in detail by their Guidance Committee, and must successfully defend this thesis in an oral final examination. A maximum of four credit hours may be earned for thesis research.

The Guidance Committee for Plan A students will include three faculty members of the Biology Department. The chairperson is usually selected by the student. The other two members are then chosen by the chairperson in consultation with the student. Additional members may be added from inside or outside the department by agreement between the chairperson and the student.

Plan B: In addition to the requirements common to both plans, candidates, after completion of the required courses on their approved programs (those required in the area of concentration), and at least 80% of the total course work in the Biology Department, must successfully pass a comprehensive written examination over all the fields of biology included in their graduate programs and the principles covered in general biology.

The Guidance Committee for all Plan B students will consist of the principal graduate adviser for the student’s chosen area of concentration as chairperson, and two other faculty members named by
the Departmental Graduate Committee as a Plan B advising committee. Initial advising: Students, at the time of their admission to the Biology Program, will be given temporary advising by the principal adviser in their selected area of concentration, or in the General Biology Concentration if they do not specify otherwise, and the Plan B advisory committee. Courses approved for the first semester by this temporary committee must be accepted as part of the student's program by the permanent Guidance Committee. Beyond the first semester, the temporary approval is not binding on the Guidance Committee. Students are responsible for forming a permanent committee and developing a permanent program approved by that committee before registering for their second semester.

AREAS OF CONCENTRATION, OBJECTIVES AND GRADUATION REQUIREMENTS

GENERAL BIOLOGY:
This program is designed to provide the additional background in biology appropriate for secondary teachers, for students entering a variety of doctoral programs in biology, and for those wishing further training in microbiology. Principal adviser: Dr. Howard D. Booth.

Graduation Requirements: see Degree Program Description above. In addition to the general requirements, the combined undergraduate and graduate coursework must include: genetics, physiology, ecology or limnology and one taxonomic field course.

AQUATIC BIOLOGY:
The graduate program in aquatic biology at Eastern Michigan University is designed to provide broadly trained research personnel to industries, private consulting firms and governmental institutions. Emphasis is placed on the development of taxonomic expertise, field and laboratory methods, skill in organizing and analyzing data and writing skills. Additional admission requirements: one course in physiology.

Graduation Requirements: In addition to the general requirements, the combined undergraduate and graduate course work must include general biology, botany, zoology, physiology, biometry, aquatic tracheophyta or freshwater algae, an aquatic zoology taxonomic field course, limnology, limnological methods, graduate practicum in aquatic biology and accompanying one hour Independent Study, (others to be approved by adviser). In addition both seminars must be in aquatic biology. For those selecting Plan B, three hours of Independent Study will be required. Principal adviser: Dr. Dale C. Wallace.

COMMUNITY COLLEGE BIOLOGY:
This program is designed to prepare students specifically for the professional teaching of biology at the community college level.

Graduation Requirements: In addition to the general requirements the undergraduate and graduate course work must include general biology, botany, zoology, plant anatomy, comparative anatomy, botany field course, zoology field course, biometry, limnology, ecology, invertebrate zoology or morphology of algae and fungi, general, cell, plant or vertebrate physiology, embryology, microbiology or morphology of vascular plants, internship (in place of Independent Study program), orientation seminar (in place of Seminar I and II). (Cognate: EDL 613 Philosophy and Purposes of the Community College.) Principal Adviser: Dr. Dale C. Wallace.

PHYSIOLOGY:
This program is designed to prepare students for technical, teaching, clinical or research careers in physiology. Individually prepared programs of study are designed to provide, in conjunction with the undergraduate background, a balance of physiological concepts and analytical methods at both the cellular and organismal levels as demonstrated in at least two of the following areas: vertebrate physiology, invertebrate physiology, plant physiology, and microbial physiology.

Additional admission requirements: One course in physiology and one year of college physics.

Graduation Requirements: In addition to the general requirements, the combined undergraduate and graduate course work must include: one year physics; general biology; botany; zoology; general or cell physiology; two of the following: vertebrate physiology, plant physiology, microbial physiology; (others approved by physiology adviser). Total must include a minimum of 12 hours of 500 and 600 level physiology courses. Principal adviser: Dr. Merlyn C. Minick.

FACILITIES
The Biology Department shares the Mark Jefferson Science Building with the Departments of Chemistry and Psychology. This building provides modern teaching laboratories and classrooms and such specialized facilities as an electron microscopy and photomicrography suite, controlled environment chambers, a walk-in cold room, aquarium rooms, animal rooms, photographic darkrooms, space for work in radiation biology, a radio frequency screened area, herbarium and teaching museums with plant and animal collections, including the G.W. Prescott algal collection and a vertebrate skull collection. A greenhouse and the Loesell Field Laboratory complete the on-campus resources of the department. The adjacent Huron River, and nearby state game and recreation areas as well as the Kresge Environmental Education Center at Lapeer, Michigan, are also available for field work. Vans and boats are available for class and research use.

COURSES FOR THE BIOLOGY DEGREE PROGRAM
Intended primarily for students on the biology degree program, these courses usually presuppose the equivalent of an undergraduate major or minor in some field of biology.

BIOLOGY

BIO 509 Biometry. Three sem hours
A general course designed to study statistical methodology and the practical application of such statistics in biology. Prepr: A course in college algebra, 15 hours in biology.
BIO 518 History of Biology. Two sem hours
Development of major concepts in biology from the Greek natural philosophers to the present.
Prereq: At least two courses in biology.

BIO 522 (410) Limnology. Three sem hours
A lecture, laboratory and field course dealing with physicochemical and biological interrelationships in lakes and streams. Field course.
Prereq: 221 General Botany, 222 General Zoology and one taxonomic field course or consent of the department.

BIO 523 (411) Limnological methods. Two sem hours
Field and laboratory techniques in limnology.
Prereq or Coreq: Biology 522 (410) Limnology.

BIO 524 (420) Ecology. Three sem hours
Interrelationships of plant and animal populations and their physical environment; biological principles in terrestrial adaptations. Individual student field problems will be required. Field course.
Prereq: 221 General Botany, 222 General Zoology and one taxonomic field course or permission of the department.

BIO 525 Conservation. Two sem hours
A survey of the natural resources of Michigan; its land, water, minerals, forests, grasslands, wildlife and human powers. Some of the current problems in conservation peculiar to Michigan on the basis of its history, its present resource utilization and its future possibilities. Not open to students with credit in BIO 224.

BIO 526 Immunobiology. Two sem hours
The properties and behavior of antisera to foreign antigenic substances such as bacteria, viruses and toxins; the rationales and procedures of antigen-antibody reaction in vitro; and the mechanism of immunity to infectious diseases. Application of such reactions in identification and classification of microbes in clinical work and in biological research. Lecture, but provision of time should be made for laboratory experimental work.

Prereq: MIC 329 General Microbiology (formerly BOT 331); biochemistry desirable.

BIO 528 (428) Tropical Ecology. Three sem hours
Important biotic communities of the tropics. Investigation in both marine and terrestrial environments; lectures, laboratory and field work. Field course.
Prereq: Botany, zoology, some concept of ecological principles and some familiarity with use of taxonomic keys. Offered only on demand and when appropriate arrangements can be made for visiting tropical laboratories and/or field stations.

BIO 529 Water Pollution Biology. Three sem hours
A study of the physiological and ecological consequences of water pollution as bases for defining water quality criteria and setting water quality standards.
Prereq: A taxonomic field course or department permission.

BIO 590, 591, 592 Special Topics in Biology. One, two and three sem hours (Formerly BIO 537, 538, 539)
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied.
Prereq: Approval by the department.

BIO 594, 595, 596 Workshop in Biology. One, two and three sem hours (Formerly BIO 593, 594, 595)
Potential candidates for electron microscopy should sign up and interview with the instructor early in the preceding semester.
Prereq: Twenty hours of biology and consent of the department.

BIO 679, 680, 681 Special Topics in Advanced Biology. One, two and three sem hours

BIO 682, 683, 684 Workshop in Advanced Biology. One, two and three sem hours (Formerly BIO 695)

BIO 686, 687, 688 Practicum in Biology. One, two and three sem hours (Formerly BIO 590, 591, 592)
Practical experience in a particular field study, with each student responsible for the experimental design and the collection, analysis and interpretation of field data for a specific area within a broader problem under group investigation.
Prereq: Departmental permission, based on appropriate qualification.

BIO 689 Internship in Community College Biology Teaching. Six sem hours (Formerly BIO 697)
An intensive internship experience consisting of supervised participation in teaching biology at the community college level. The intern will participate in all department and professional activities at a community college and will conduct specific courses.
Prereq: Departmental permission.

BIO 690, 691, 692 Thesis. One, two and three sem hours
Offered on Credit/No Credit basis.

BIO 693 Seminar in Biology. One sem hour (Formerly BIO 596)
Presentation of special reports and group discussions of selected topics.
Offered on Credit/No Credit basis.
Prereq: Twenty hours of credit in biology, including botany and zoology.

BIO 696 Seminar in Biology; Laboratory Instruction. One sem hour
Analysis and discussion of the special problems of laboratory instruction in biology in college. Offered on Credit/No Credit basis.
Prereq: Appointment to a graduate assistantship.
BIO 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly BIO 597, 598, 599)

An intensive study of a problem or group of problems under the direction of a University faculty member.

Prereq: Departmental permission.

BOTANY

BOT 530 Plant Products in Industry. Two sem hours

The various ways in which plants and plant products are utilized in modern industry; plants as the source technical raw materials; the dependence of man upon the plant kingdom. Not open to students who have credit in 215 Economic Botany.

BOT 543 Plant Pathology. Three sem hours

A study of plant diseases caused by fungi, bacteria, viruses, nematodes, phanerogams and environmental stress, with emphasis on the biology of the causal organisms, principles of pathogenesis, practical techniques of applied plant pathology and disease control.

Prereq: 442 Plant Physiology desirable.

BOT 550 (302) Systematic Botany. Three sem hours

Collection, identification and classification of flowering plants. Familiarity with the major plant groups through lecture and herbarium study and field experience in varied habitats.

Counts as a taxonomic field course.

Prereq: 221 General Botany.

BOT 551 (451) Freshwater Algae. Three sem hours

A survey of the freshwater algae divisions; their morphology, taxonomy, ecology and economic importances. Lectures will emphasize an evolutionary approach. Laboratory work will stress the identification of representative algal taxa. A class field study will be required. Counts as a taxonomic field course.

Prereq: 221 General Botany or equivalent.

BOT 552 (450) Aquatic Tracheophyta. Three sem hours

Identification in the laboratory and field of herbaceous and shrubby vascular plants growing in aquatic habitats and in both vegetative and reproductive phases.

Counts as a taxonomic field course.

Prereq: 221 General Botany or equivalent.

BOT 553 (453) Taxonomy and Ecology of Diatoms. Three sem hours

A taxonomic field course on the collection, preservation and identification of freshwater diatoms; includes familiarity with the more significant world literature. Collection required.

Prereq: 451/551 Freshwater Algae or permission of department.

BOT 554 (354) Trees and Shrubs. Three sem hours

A taxonomic field course on identification of native trees and shrubs in winter and spring condition.

Prereq: 221 General Botany or 205 Field Biology.

BOT 590, 591, 592 Special Topics in Botany. One, two and three sem hours (Formerly BOT 537, 538, 539)

An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied.

Prereq: Approval by the department.
BOT 594, 595, 596 Workshop in Botany. One, two and three sem hours (Formerly BOT 593, 594, 595)

BOT 620 Virology. Two sem hours
The biological, physical and chemical nature and pathological activities of virions as found in bacteria, insects, plants and animals. Laboratory methods for propagation of virion and identification; selective inhibition of viral reproduction by chemicals in vitro; and immunity to viral diseases.
Prereq: Fifteen hours of credit in biology, including microbiology and biochemistry.

BOT 640 Plant Cell Physiology. Two sem hours
Selected topics on recent advances in molecular botany.
Prereq: 221 General Botany, laboratory physiology (general, cell, plant or animal) and organic chemistry.

BOT 679, 680, 681 Special Topics in Advanced Botany. One, two and three sem hours

BOT 693 Seminar in Botany. One sem hour (Formerly BOT 596)
Presentation of special reports and group discussions on selected topics. Offered on Credit/No Credit basis.
Prereq: Twenty hours of credit in biology, including botany and zoology.

BOT 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly BOT 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member.

ZOOLOGY

ZOO 570 (300) Natural History of Invertebrates. Three sem hours
A field course in the recognition, collection, identification and preservation of common invertebrates of Michigan, exclusive of the insects; natural history, ecology and economic importance.
Counts as a taxonomic field course.
Prereq: 222 General Zoology.

ZOO 571 (310) Natural History of Vertebrates. Three sem hours
Vertebrates, their adaptations and natural history; the taxonomic classification, identification and distribution of local and other forms.
Field work, sometimes under adverse weather conditions and at night; accurate observation and permanent recording of original data on local species. Counts as a taxonomic field course.
Prereq: 222 General Zoology.

ZOO 572 (422) Ichthyology. Three sem hours
A study of some aspects of the biology, classification, distribution and evolution of fishes. Attention is given to the morphology, physiology, behavior, natural history and ecology of fishes through work in lecture, laboratory and field. Specific experience in the identification of the freshwater fishes of the Great Lakes region is provided in addition to a general survey of some marine fish families. Counts as a taxonomic field course.
Prereq: 222 General Zoology or equivalent.

ZOO 575 (425) Ornithology. Three sem hours
Bird biology for the secondary teacher and for students with an advanced interest in biology; field identification and census methods of summer and fall bird populations, behavior, and ecology.
A survey in the laboratory of major North American bird families. A student field project is required. Counts as a taxonomic field course.
Prereq: 222 General Zoology or consent of the department.

ZOO 580 Advanced Field Ornithology. Two sem hours
Field study and identification of all migratory birds and the spring migration as a biological phenomenon.
Prereq: 575 (425) Ornithology, or some experience in field identification of birds and approval of department.

ZOO 582 (482) Aquatic Entomology. Three sem hours
Aquatic insect families and some common genera; ecology, including adaptations to the aquatic environment, life histories and taxonomy. A collection of the common insect families of this area is required. Counts as a taxonomic field course.
Prereq: 585 (421) Entomology recommended.

ZOO 583 Field Parasitology. Three sem hours
The helminth, protozoan and arthropod parasites of animals, both vertebrate and invertebrate; collection, preparation and identification of parasites of local animals. A collection and a project is required.
Prereq: 222 General Zoology; 462 Parasitology; 430 Invertebrate Zoology or 300 (570) Natural History of Invertebrates; and 310 (571) Natural History of Vertebrates or 324 Comparative Anatomy. Department permission required.

ZOO 584 (480) Protozoology. Three sem hours
Survey of the protozoa, both free living and parasitic; their life cycles, morphology and ecology. Techniques of collecting, culturing and preserving protozoans and their identification.
Counts as a taxonomic field course.
Prereq: 222 General Zoology.

ZOO 585 (421) Entomology. Three sem hours
A survey of the world of insects, their structure, function, behavior and ecology; identification and classification of local insects. A field project is required. Counts as a taxonomic field course.
Prereq: 222 General Zoology or consent of department.

ZOO 586 (485) Mammalogy. Three sem hours
Some aspects of the biology of mammals; origin and evolution; anatomy; classification; adaptations and zoogeography. Natural history and ecology are studied in the field, including behavior and population dynamics. A collection of five or more museum study specimens of different species is required of each student. Counts as a taxonomic field course.
Prereq: 222 General Zoology and 310 (571) Natural History of Vertebrates or 420 (524) Ecology or 324 Comparative Anatomy of Vertebrates.

ZOO 590, 591, 592 Special Topics in Zoology. One, two and three sem hours (Formerly ZOO 537, 538, 539)
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied.
Prereq: Approval by the department.
ZOO 594, 595, 596 Workshop in Zoology. One, two and three sem hours (Formerly ZOO 593, 594, 595)

ZOO 670 Animal Behavior. Two sem hours
The behavior of both vertebrates and invertebrates; instinct, learning, sociality, communication and breeding behavior, with emphasis on the ontogenic and adaptive significance of behavior patterns.
Prereq: Two courses in zoology.

ZOO 671 Comparative Vertebrate Physiology. Four sem hours
A study of physiological and biochemical control systems which are utilized to maintain endogenous homeostasis in a series of vertebrate animals.
Prereq: Organic chemistry, vertebrate physiology, or permission of department.

ZOO 672 Endocrinology. Four sem hours
A biological and non-clinical survey of the invertebrate and vertebrate endocrine systems; the histology and function of each of the major endocrine organs, their specific hormones and integrative mechanisms.
Prereq: Organic chemistry and vertebrate physiology, or permission of department.

ZOO 673 Animal Cell Physiology. Two sem hours
A lecture course on animal cell physiology. A study of the physiochemical relationships which are responsible for the properties of cell irritability, conductivity, metabolism, respiration, excretion, growth and reproduction. Lab course is available but not required.
Prereq: 222 General Zoology, laboratory physiology (general, cell, plant or animal) and organic chemistry. Chemistry, biochemistry, elementary physics desirable.

ZOO 674 Animal Cell Physiology Laboratory. One sem hour
A lab course on animal cell physiology. Laboratory study of the physiochemical relationships which are responsible for the properties of cell irritability, conductivity, contractility, metabolism, respiration, excretion, growth and reproduction.
Prereq or coreq: 673 Animal Cell Physiology.

ZOO 679, 680, 681 Special Topics in Advanced Zoology. One, two and three sem hours

ZOO 693 Seminar in Zoology. One sem hour (Formerly ZOO 596)
Presentation of special reports and group discussions on selected topics. Offered on Credit/No Credit basis.
Prereq: Twenty hours of credit in biology, including botany and zoology.

ZOO 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly ZOO 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member.

COURSES FOR NON-SPECIALIZING STUDENTS

The following courses are made available for graduate students who have had little or no previous training in biology or, more specifically, have not had equivalent courses as undergraduates. These courses may be applicable as cognates for other departments within the University. Unless also listed in the preceding section, they are not open to students with an undergraduate major in biology and cannot be applied to the graduate degree program in biology. Since most require no prerequisites, they are especially suited to the general student who would like to become better informed about biology, either for general interest or for better preparation for science teaching in the elementary grades.

BOT 500 Survey of the Plant Kingdom. Two sem hours
The major types of plants from algae to seed plants; emphasis on development of structure. Not open to students who have credit in 205 Field Botany. BIOS 501 Field Zoology. Two sem hours
Animals in their natural habitats; identification, behavior and environmental relations. Field study and observations in woods, fields, ponds and streams; collecting and displaying living and preserved material.

BIO 502 Biology of Man. Two sem hours
Man as a living organism in the world of living organisms, emphasizing his place among, and relationships with, the other organisms of the world; the morphological, physiological, taxonomic and ecological relationships of man. Lectures and laboratory experience.

BOT 503 Plants and Nature. Two sem hours
Plants in their natural environment; identification and classification of local flowering plants, use of hand-lens and plant manuals and methods of collection and preservation. Major plant groups and their climatic and geographic significance.

ZOO 504 Field Zoology. Two sem hours

BIO 525 Conservation. Two sem hours

BIO 530 Plant Products in Industry. Two sem hours
The various ways in which plants and plant products are utilized in modern industry; plants as the source of technical raw materials; the dependence of man upon the plant kingdom. Not open to students who hold credit in 215 Economic Botany.
COURSES DESIGNED FOR TEACHERS

ESC 505 Science in the Elementary School. Two sem hours
A survey of subject matter and grade placement utilizing current science texts and courses of study; reading in current literature; the construction and use of science materials; and supply and equipment needs for elementary science. No credit ESC 302 last five years.

BIO 506 Methods in Teaching Biology. Two sem hours
Salient techniques and methodology in presenting biological principles; text analysis, test construction, course content, planning and equipping a modern high school biology laboratory. Not open to students who hold credit in 403 Methods and Materials for Teaching Biology.

BOT 507 Experimental Plant Physiology for Teachers. Two sem hours
Lecture and laboratory course concentrating on selected experimental physiological studies of seed plants. Offered during the summer session only. Prereq: Fifteen hours in biology; not open to students who have had plant physiology.

BIO 521 Outdoor Science and Land Laboratories. Four sem hours
Using the outdoors effectively in instruction; recognition of instructional resources on school sites and other land laboratories. Basic ecological factors affecting associations of organisms; correlations between physical and social sciences. Field trips.

ESC 594, 595, 596 Workshop in Elementary Science Teaching. One, two and three sem hours

ESC 693, 694 Seminar in Science Education. One and two sem hours. Offered on credit/no credit basis.

OTHER COURSES

These upper division undergraduate courses may also be taken for graduate credit and applied on the department's degree program. See the Undergraduate Catalog for course descriptions.
<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 502</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 506</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 509</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 513</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 518</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 521</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 522</td>
<td>X</td>
<td>†</td>
<td>†</td>
<td>X</td>
</tr>
<tr>
<td>BIO 523</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 524</td>
<td>X</td>
<td>†</td>
<td>†</td>
<td>X</td>
</tr>
<tr>
<td>BIO 525</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 526</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 528</td>
<td>irregular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 610</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 621</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 503</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 507</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 530</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 543</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 550</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 551</td>
<td>†</td>
<td>†</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BOT 552</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 553</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 554</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 620</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOT 640</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESC 505</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 501</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 504</td>
<td>†</td>
<td>†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 570</td>
<td>†</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ZOO 571</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 572</td>
<td>†</td>
<td>†</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ZOO 575</td>
<td>†</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ZOO 580</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 582</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 584</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 585</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 586</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 670</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 671</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 672</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 673</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOO 674</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Courses offered on a two (2) year cycle.
CHEMISTRY

O. Bertrand Ramsay
Acting Department Head
225 Mark Jefferson,
487-0106

John M. Sullivan
Coordinator of Advising
239-B Mark Jefferson,
487-2057

The Chemistry Department offers two degree programs, one designed for individuals wishing to pursue professional careers in chemistry (M.S. in chemistry) and the second for those teaching at the secondary school level (M.S. in chemistry education).

MASTER OF SCIENCE IN CHEMISTRY

Objectives:
1. To provide individually prepared programs of advanced professional training for industrial chemists.
2. To prepare students to enter a doctoral degree program.

Admission Requirements:
1. An undergraduate degree with either a major or a strong minor (approximately 25 semester hours) in chemistry.
2. Credit in advanced undergraduate courses corresponding to CHM 371-3 (Organic), 461-3 (Physical) and 481 (Instrumental Analysis), along with either CHM 432 (Advanced Inorganic) or 451-3 (Biochemistry). Competency in any deficient areas may be established by examination. The graduate coordinator will use the results of these examinations to ascertain advanced standing or the need for remedial work. If deficiencies exist for which competency is not established by examination, a maximum of four semester hours of graduate credit will be allowed for courses taken to correct these deficiencies.
3. One year of college physics (PHY 223, 224) and two years of calculus (MTH 120, 121, 122, 223, 325).
4. An undergraduate record that meets the requirements specified by the Graduate School.

Degree Requirements:
A. Thesis Plan:
1. Course Credit Requirement: satisfactory completion of a minimum of thirty (30) semester hours of graduate credit.
2. Course Distribution Requirements and Options:
   a. Core Course Requirements: any three of the following courses: CHM 561, CHM 571, CHM 632, CHM 641, CHM 655.
   b. Chemical Literature Proficiency Requirement: CHM 610
   c. Seminar Requirement: CHM 693
   d. Cognate Courses: 0–6 credit hours in courses taken outside of the Chemistry Department. These courses must be approved by the Graduate Coordinator.
   e. Research Requirement: 6–10 credit hours from CHM 697, CHM 698, CHM 699 and satisfactory completion of a thesis representing a significant contribution of original research in chemistry. In addition to the written thesis, a formal oral presentation of the research is required either before the chemistry faculty or at a professional meeting.
f. Additional courses to complete the required 30 semester hours of graduate credit from 500–600 level chemistry courses (but excluding 503, 520, 570, 639, 659, 679, 692) or from the following 400 level chemistry courses: 410, 433, 485, 496, 497.

B. Non-Thesis Plan: intended for the part-time student whose professional experience constitutes a reasonable substitute (as determined by the graduate coordinator) for the laboratory research and written thesis requirements of the thesis plan. The requirements are the same as those of the thesis plan except that:

1. In place of research requirement (A.2.e. above) substitute: 10 credit hours of chemistry courses at the 500–600 level (but including 503, 520, 570, 639, 659, 679, 692).
2. Satisfactory performance is required on a comprehensive examination, details on which can be obtained from the graduate coordinator.

Chemistry Courses Applicable to M.S. in Chemistry Degree

CHM 510 Computer Applications in Chemistry. Two sem hours
A first course in computer programming designed for advanced undergraduates and graduate students. The emphasis is on the application of computer-based numerical methods to the solution of complex chemical problems. Prereq: Senior or graduate standing in chemistry; no prior background in computer programming is necessary.

CHM 515 Industrial and Environmental Chemistry. Three sem hours
A three-part course covering selected aspects of industrial organic chemistry, industrial inorganic chemistry, and environmental chemistry. Environmental problems most closely associated with the production aspects of industrial chemistry will be discussed. Prereq: One year of organic chemistry; one course in inorganic chemistry; one course in physical chemistry.

CHM 533 Enzymology. Two sem hours
A lecture course covering the nomenclature, kinetics, mechanism and isolation of enzymes. Prereq: 451 Biochemistry.

CHM 555 Biochemistry (Formerly Biopolymers). Two sem hours
A continuation of the survey of biochemistry begun in 451 and 453. Emphasis is placed on the chemistry, biosynthesis, and physiology of terpenes, steroids, and prostaglandins. Neurochemistry is introduced. Prereq: 453 Biochemistry.

CHM 561 Advanced Physical Chemistry. Three sem hours
A survey course at an advanced level; quantum mechanics, molecular spectroscopy, statistical mechanics and kinetics. Prereq: One year of physical chemistry; at least two years of analytic geometry and calculus; one year of college physics.

CHM 565 Nuclear Chemistry. Three sem hours
The course will cover topics such as radioactive decay, decay systematics, nuclear models and nuclear reactions. Applications of radioactivity to chemical problems will be discussed. Techniques of nuclear chemistry, nuclear processes as chemical probes and other such topics will be covered. A discussion of the preparation and properties of transplutonium elements will be included. Prereq: One year of college chemistry; one course in physical chemistry or modern physics.

CHM 567 Nuclear Chemistry Laboratory. Three sem hours
Laboratory: six hours per week.

CHM 571 Advanced Organic Chemistry. Three sem hours
A lecture course providing intensive coverage of reaction mechanisms. Prereq: One year of organic chemistry.

CHM 572 Spectrometric Organic Structure Determination (Formerly Sterechemistry of Organic Compounds). Three sem hours
The use of infra-red, Raman, ultra-violet, mass and nuclear magnetic resonance spectroscopy in organic structure determination will be discussed. Emphasizes problem-solving and practical applications. Prereq: 372 Organic Chemistry.

CHM 573 Qualitative Organic Chemistry Laboratory. Two sem hours
Organic reactions and instrumental measurements—especially IR, NMR, and mass spectra—will be used to systematically identify organic compounds. Microtechniques are emphasized. Laboratory: six hours per week. Prereq: 373 Organic Chemistry Laboratory. Coreq: 572 Spectrometric Organic Structure Determination.

CHM 574 Advanced Organic Chemistry Topics. Two sem hours
Two or three advanced topics are treated in depth. The topics selected will vary from offering to offering and could include such examples as: stereoechemistry and conformational analysis, natural product chemistry, heterocyclic compounds, orbital symmetry rule applications, and photochemistry. Prereq: 372 Organic Chemistry.

CHM 575 High Polymer Chemistry. Three sem hours.
Macromolecules and the reactions that produce synthetic plastics, elastomers, resins and fibers, as well as physical methods of evaluation and characterization of polymers, and the relation of polymer structure to physical properties will be discussed. Prereq: 372 Organic Chemistry, 373 Organic Chemistry Laboratory, 461 Physical Chemistry or consent of the department.

CHM 591 Special Topics in Chemistry. Two sem hours (Formerly CHM 594)
An in-depth study of a specialized area of chemistry. Not offered on a regular basis, but rather to introduce new courses on a trial basis. Prereq: Graduate standing or permission of the department.

CHM 610 Information Retrieval in Chemistry. One sem hour
A course designed primarily to provide M.S. candidates with a proficiency in locating chemical information by independent study. Exercises are relevant to research and involve both manual and computerized information retrieval. Prereq: Graduate standing.

CHM 632 Structural Inorganic Chemistry. Three sem hours (Formerly CHM 532)
Physical and chemical methods for determining structures of inorganic
substances and the relationship between structure and descriptive chemistry will be covered.

**Prereq:** One year of physical chemistry and one course in advanced inorganic chemistry.

**CHM 641 Analytical Chemistry.**
Three sem hours (Formerly CHM 581)

A course stressing modern methods of analysis, with special emphasis on trace determinations. Optical, x-ray, electrochemical and nuclear methods are examined in detail.

**Prereq:** Instrumental analysis and one year of physical chemistry.

**CHM 655 Advanced Biochemistry Topics.** Three sem hours

Specialized areas of biochemistry are discussed in depth, with an emphasis on recent research developments.

**Prereq:** 453 Biochemistry.

**CHM 693 Seminar in Chemistry.**
One sem hour (Formerly CHM 596)

Discussions of specific topics in chemistry by graduate students. Attendance at all sessions is expected. One enrollment is required for all Master of Science in chemistry candidates. Each student will lead the discussion of two topics per enrollment.

**Prereq:** Graduate standing or permission of the department.

**CHM 697, 698, 699. Research in Chemistry.**
One, two, and three sem hours (Formerly CHM 597, 598, 599)

The student performs original research under direction. Thesis is submitted.

### SCHEDULING PATTERNS FOR M.S. IN CHEMISTRY COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 510</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 515</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 553</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 555</td>
<td></td>
<td></td>
<td>Z</td>
<td></td>
</tr>
<tr>
<td>CHM 561</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 565</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 571</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>CHM 572</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 573</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 574</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 575</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>CHM 610</td>
<td></td>
<td></td>
<td></td>
<td>Z</td>
</tr>
<tr>
<td>CHM 632</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 641</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>CHM 655</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CHM 693</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
</tr>
<tr>
<td>CHM 697</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
</tr>
<tr>
<td>CHM 698</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
</tr>
<tr>
<td>CHM 699</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
</tr>
</tbody>
</table>

Courses designated X or Y are offered on a two year cycle, with X courses offered in one academic year and Y courses in the alternate academic year. Courses designated Z are available every year.

### MASTER OF SCIENCE IN CHEMISTRY EDUCATION

**Objectives**

1. To provide a program of advanced study for previously-certified secondary school teachers who wish to improve their technical background.
2. To provide a program of study incorporating both advanced technical training and the opportunity for certification for those wishing to enter the teaching profession.

**NOTE:** This program is intended primarily for those interested in careers in teaching at the secondary school level. Anyone hoping to teach at the junior or community college level is encouraged to follow the professional M.S. in chemistry program.

**Admission Requirements**

1. The equivalent of at least an undergraduate minor (20 semester hours) in chemistry.
2. One year of college physics.
3. Mathematics through calculus with Analytic Geometry I (MTH 120). A student may be accepted for graduate study in this program with less than this background; however, the deficiencies must be remedied by taking the appropriate courses without graduate credit.
4. An undergraduate academic record that meets the degree admission requirements specified by the Graduate School.

**Degree Requirements.**

1. Successful completion of a minimum of 40 semester hours of chemistry, including both undergraduate and graduate credits.
2. Successful completion of the following 19–20 semester hours of chemistry courses:
   - CHM 361 Fundamentals of Physical Chemistry (3)
   - CHM 362 Physicochemical Measurements (Lab) (1)
   - CHM 639 Inorganic-Analytical Chemistry for Teachers (3)
   - CHM 659 Organic-Biochemistry for Teachers (3)
   - One laboratory course from among 352, 373, 433, or 452. (1–2)
   - For those students entering the M.S. program with prior credit equivalent to any of the above courses, approved 400 and 500 level chemistry courses should be substituted. Further specific course requirements:
     - CHM 503 Modern Approaches to Teaching Chemistry (2)
     - CHM 693 Seminar in Chemistry (two separate enrollments) (2)
     - CHM 692 Independent Study in Chemistry Education (4)

(Satisfactory completion of CHM 692 includes the writing of a comprehensive report summarizing the details of the project and its conclusions.)

3. Successful completion of six semester hours of courses in the College of Education. For students who are seeking teacher certification in conjunction with the M.S. degree, six credits of education courses taken in fulfillment of the requirements for certification may be counted.

4. Successful completion of three-four semester hours of approved electives, either in chemistry or outside the department, bringing the overall total to 30 semester hours beyond the bachelor's degree. The total of 30 semester hours must include at least 15 hours in 500 or 600 numbered courses.
Although certification for teaching is not a formal requirement of this program, all students seeking the M.S. in chemistry education are encouraged to consider acquiring their certificates if they have not already done so. The basic requirements for teacher certification are listed in the undergraduate catalog and further information can be obtained from the Academic Records and Teacher Certification Office.

Chemistry Courses Applicable to M.S. in Chemistry Education Degree

The following courses are applicable only to the M.S. in chemistry education degree and may not be applied toward the M.S. in chemistry degree. However, M.S. in chemistry education candidates should consult courses listed for the M.S. in chemistry degree, since many of these also apply to the M.S. in chemistry education degree.

CHM 503 Modern Approaches to Teaching Chemistry. Two sem hours
A lecture/discussion course covering recent developments in high school chemistry curricula and modern approaches to teaching high school chemistry, including computer-based instructional methods and the effective use of audio-visual materials.
Prereq: Three courses in chemistry.

CHM 520 Introductory Chemistry. Three sem hours
A course designed for teachers in the elementary school. Special emphasis is given to topics that may not be included in the first course in chemistry but which are of general concern to the public. Representative topics include air and water pollution, energy considerations and an introduction to organic and biochemistry.
Prereq: One course in general college chemistry. Not open to junior/senior high school science majors.

CHM 570 Modern Topics in Organic Chemistry. Four sem hours
Modern chemical principles, updated information for students lacking recent instruction in chemistry. For non-majors only.

CHM 639 Inorganic-Analytical Chemistry for Teachers. Three sem hours (Formerly CHM 589)
A course for secondary school teachers which covers two major areas of chemistry: (1) the theory of selected modern analytical techniques, and (2) the descriptive inorganic chemistry of a variety of metals and non-metals. The inorganic portion of the course emphasizes knowledge derived from chemical periodicity and
bonding/structure correlations, as opposed to an encyclopedic approach to knowing the reactions and properties of the elements and their compounds.

Prereq: One year of general chemistry.

CHM 659 Organic-Biochemistry for Teachers. Three sem hours
(Formerly CHM 579)
A lecture course for secondary school teachers covering the properties and reactions of those organic functional groups most relevant to the study of the chemistry of molecules present in living systems; also, the chemistry of selected biomolecules such as carbohydrates and proteins.
Prereq: 270 Organic Chemistry or equivalent.

CHM 679 Special Topics in Chemistry for Elementary Teachers. One sem hour
An experimental course covering subject matter not provided in other department offerings. The content will change from semester to semester. Student may elect this course several times as long as different topics are covered.

CHM 692 Independent Study in Chemistry Education. Four sem hours (Formerly CHM 592)
An independent study experience in which the student plans, conducts, and evaluates a curricular innovation or some new technique for teaching chemistry under the direction of a staff member. An extensive, written report is required.
Prereq: Permission of department.

SCHEDULING PATTERNS FOR M.S. IN CHEMISTRY EDUCATION COURSES
CHM 503 is taught in every summer semester.
CHM 520, 570, 679 are taught no more than once every two years, with the exact scheduling varying with demand.
CHM 639 is taught in fall semester of odd-numbered years (1981, 1983, 1985, etc.)
CHM 659 is taught in fall semester of even-numbered years (1980, 1982, 1984, etc.)
CHM 692 is taught every semester.
For information regarding the Master of Science in general science in which the Chemistry Department participates, see page 79.

OTHER COURSES FOR CREDIT TOWARD THE MASTER'S DEGREE

These upper division undergraduate courses may also be taken for graduate credit and applied on the department's degree program. See the Undergraduate Catalog for course description.

410 Scientific Glassworking. (1)
415 Environmental Chemistry. (3)
432 Advanced Inorganic Chemistry. (3)
433 Inorganic-Organic Synthesis Laboratory. (2)
451 Biochemistry I. (3)
452 Biochemistry Laboratory. (2)
453 Biochemistry. (3)
462 Physical Chemistry Laboratory. (2)
463 Physical Chemistry II. (3)
477, 478 Special Topics in Chemistry. (2)
481 Instrumental Analysis. (4)
485 Radioisotope Techniques in Chemistry and Biology. (3)
491 History of Chemistry. (3)

**No credit given toward the M.S. in chemistry degree.**
ECONOMICS

Young-Iob Chung
Department Head
703 Pray-Harrold,
487-3395

Raouf S. Hanna
Coordinator of Advising
703-D Pray-Harrold,
487-0003

The graduate program in economics leading to the Master of Arts degree is designed to prepare students for responsible positions in business, industry, and government service at the state, local, and federal levels. It also provides training for students desiring to pursue the study of economics at more advanced levels.

DEGREE ADMISSION

Degree admission to the graduate program is available to those meeting the following requirements:
1. Must meet Graduate School degree admission requirements.
2. Have an undergraduate grade point average of at least 2.5.
3. Submit a Graduate Record Examination aptitude test score of at least 900 (verbal plus quantitative).
4. Have the equivalent of at least a minor in economics, including intermediate theory courses.

ALTERNATIVE ADMISSION

Alternative admission may be granted those students not meeting the above standards but who show promise. All students are expected to submit GRE or GMAT scores. Those not meeting the undergraduate minor requirement will be expected to take courses for undergraduate credit. Students who are admitted under alternative admission are required to maintain a B+ grade average to be granted degree admission. A maximum of 12 hours earned as an alternate admission may be applied toward the M.A. degree.

DEGREE REQUIREMENTS

In addition to the general requirements established by the Graduate School, the student shall:
1. Complete a minimum of thirty (30) hours of graduate credit in economics (up to six hours cognates may be substituted upon approval).
2. Demonstrate research ability by successfully completing either:
   a. a master's thesis; or
   b. the graduate research seminar (ECO 504) and one supervised research paper approved by departmental faculty.
   c. the graduate research seminar, one research paper approved by departmental faculty, and an oral examination.
3. Satisfactorily complete the following:
   a. Introduction to Econometrics (ECO 415)
   b. Mathematical Economics (ECO 511)
   c. Macroeconomic Analysis (ECO 601)
   d. Microeconomic Analysis (ECO 602)

No more than nine (9) credits of economic 400 level courses will be approved.

For information regarding the Master of Arts in social science, see page 68.

BASIC COURSES FOR NON-MAJORS

ECO 500 Economics: Principles and Institutions. Three sem hours
Study of major economic institutions, the basic analytic tools of economic theory and their use.
Prereq: Not open to students having had Principles of Economics (ECO 201 and 202 or equivalent).

ECO 502 Microeconomic Theory and Policy. Three sem hours
Analysis of the economic behavior of individuals and firms under various market conditions, the determination of relative prices, the allocation of resources and related problems. This course is designed for graduate students majoring in fields other than economics, primarily those in the College of Business.
Prereq: One course in economics or permission of the department. Not open to students who have had Intermediate Microeconomic Analysis (ECO 302 or equivalent).

ECO 503 Contemporary Economic Problems. Three sem hours
The economic content of one or more current economic issues is analyzed with a goal of better public understanding of the issue implications of policy solutions.
Prereq: One course in economics or permission of the department. Not open to economics majors.

ECO 508 International Economics. Three sem hours
A study of the balance of payments, foreign exchange market, macroeconomic effects of international trade, history of the international monetary system, principle of comparative advantage and economic effects of commercial policies.
Prereq: Macroeconomic Theory and Policy (ECO 501), Microeconomic Theory and Policy (ECO 502) or equivalent or permission of the department.

COURSES FOR DEGREE PROGRAM

ECO 504 Introduction to Research Methods in Economics (Formerly Research Methods Seminar). Three sem hours
A research methods course designed to develop the skills necessary for effective research in economics. This course is to be taken very early in the student's graduate program.
Prereq: Graduate student in economics.

ECO 506 Development of Economic Analysis. Three sem hours
Review of major theories and concepts in the development of economics as a scientific discipline. Emphasis is directed toward changing methods and theories of economic analysis and their implications for economic policy, including Pre-classical, Classical and Neo-classical, Keynesian and Neo-Keynesian thought.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

ECO 510 Applied Economic Statistics. Three sem hours
The application of statistics and quantitative analysis to economic problems using computer techniques.
Prereq: Economic Statistics (ECO 310 or equivalent) or permission of department.

ECO 511 Mathematical Economics. Three sem hours
Study of economic models, matrix algebra and linear economic models, linear programming and game theory, optimization problems and calculus of variations.
Prereq: Calculus (MTH 120 or 119) or Mathematics for Economics (ECO 210) and Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or equivalent.

ECO 515 Econometrics: Theory and Applications. Three sem hours
Development and analysis of econometric models using the tools of statistics for estimation. Treatment of errors in variables and some other problems arising from autocorrelated disturbances, and various other problems such as multicollinearity, heteroscedasticity, lagged variables and dummy variables. Analysis of the simultaneous-equation problems, including identification problems, indirect least squares, two stage least squares, limited-information methods, full-information methods, full-information and three stage least squares.
Prereq: Introduction to Econometrics (ECO 415) or departmental permission.

ECO 522 Collective Bargaining. Two sem hours
Labor and management relations considered from the point of view of the two parties and the public welfare; labor contracts. Traditional and current areas of dispute and methods of settlement.
Prereq: One course in economics or permission of department.

ECO 524 White Collar and Public Employee Unionism. Two sem hours
An analysis of the special characteristics of labor organizations and collective bargaining patterns in public employment and in selected white collar occupations of the private sector of the economy.
Prereq: One course in economics or permission of the department.

ECO 526 Economics of Education. Three sem hours
Identification and measurement of economic value of education and its contribution to economic growth and development.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302).

ECO 534 Regional and Urban Economics. Three sem hours
Examination of problems of economic adjustment and development by regions, including inner city and metropolitan areas. Mass transit, public finance, housing, economic base studies, race relations, health care, income distribution and poverty will be examined.
Prereq: Six hours of economics or permission of department.

ECO 540 Monetary Economics. Three sem hours
The development of monetary and central banking theory; policy applications and limitations in the context of the relationships between money, prices, national income and the balance of payments.
Prereq: Intermediate Macroeconomic Analysis (ECO 301) or equivalent.

ECO 550 Public Finance: Analysis and Policy. Three sem hours
A detailed, theoretical analysis of the problems of budgeting and budget techniques, methods to evaluate expenditures, efficiency and equity considerations in tax policy, problems of stabilization policy and growth policy, evaluation of the impact and importance of national debt.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

ECO 551 State and Local Government Finance. Three sem hours
Economic analysis of expenditures, revenues and debt management of state and local governments.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or permission of the department.

ECO 555 Stabilization Policy. Three sem hours
An examination of monetary and fiscal stabilization policies in the context of the multiple objectives of full employment, price stability and economic growth.
Prereq: Intermediate Macroeconomic Analysis (ECO 301 or equivalent).

ECO 560 Economics of Industrial Organization. Three sem hours
The enterprise sector of a capitalist economy; incidence of competition and monopolistic tendencies in various industries and markets, market structure, conduct and performance, mergers and concentration and public policies.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

47
ECO 561 Economics of Multinational Enterprise. Three sem hours
Economics of international competition and monopoly. Analysis includes studies of direct foreign investment, national economic anti-trust policies, the multinational firm and their relation to trade and economic efficiency. Prereq: International Economics (ECO 480) or Economics of Industrial Organization (ECO 560) or permission of department.

ECO 562 Government and Business. Three sem hours
The political and economic functions of government; business corporations and financial mergers; direct control of business; control versus government ownership of utilities; governmental controls of agriculture and natural resources; the responsibility of government in maintaining employment. Prereq: Intermediate Macroeconomic Analysis (EGO 301 and 302) or equivalent.

ECO 575 The Economics of Socialism. Three sem hours
A survey of the economic thought bases of the various types of socialism followed by a comprehensive study of the planning and operation of modern socialist economies. Prereq: Six hours of economics or equivalent or permission of department.

ECO 580 International Trade: Theory and Policy. Three sem hours
A study of the principle of comparative advantage, the determinants of the commodity composition of trade, international factor movements, and commercial policies. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

ECO 581 The International Monetary System. Three sem hours
Theoretical and empirical examination of international monetary issues including the balance of payments, fixed vs. flexible exchange rates, stabilization policies in an open economy, disturbance transmission mechanisms and interdependence, institutions. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302).

ECO 585 Economic Growth and Development. Three sem hours
Conditions, courses and consequences of growth and development, instruments of expansion and control and important theories and models of growth. Economic growth in both the United States and underdeveloped countries. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

ECO 586 Economic Planning. Three sem hours
A study of the government's economic decision-making apparatus, the formulation of economic plans, the selection of optimal plans from among a feasible set, and the problems of transition from general to sectoral and decentralized plans. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

ECO 587 Case Studies in Economic Development. Three sem hours
A survey of economic development in selected countries or regions with emphasis on development policies, theoretical applications and economic structures of countries or regions surveyed. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

ECO 592 Special Topics. Three sem hours (Formerly ECO 594)
An advanced level course in a specific area of economics. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

ECO 594 Workshop in Economics. Two sem hours (Formerly ECO 595)
Selected principles of economics presented by visiting consultants. Class discussion on phases of contemporary economics.

ECO 596 Workshop in Economics. Two sem hours
Selected principles of economics presented by visiting consultants. Class discussion on phases of contemporary economics.

ECO 597 Case Studies in Economic Development. Three sem hours
A survey of economic development in selected countries or regions with emphasis on development policies, theoretical applications and economic structures of countries or regions surveyed. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302) or departmental permission.

ECO 598 International Trade: Theory and Policy. Three sem hours
A study of the principle of comparative advantage, the determinants of the commodity composition of trade, international factor movements, and commercial policies. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

ECO 599 International Monetary System. Three sem hours
Theoretical and empirical examination of international monetary issues including the balance of payments, fixed vs. flexible exchange rates, stabilization policies in an open economy, disturbance transmission mechanisms and interdependence, institutions. Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302).

ECO 601 Macroeconomic Analysis. Three sem hours
National income accounting as a framework for economic analysis; determinants of consumption, investments and government expenditures; models of underemployment and inflation. Prereq: Twelve hours toward M.A. degree.
ECO 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly ECO 597, 598, 599)

An intensive study of a problem or group of problems under the direction of a member of the economics faculty. Prereq: Permission of the graduate director in economics.

OTHER COURSES

These upper division undergraduate courses may also be taken for graduate credit and applied on the department's degree program providing prior approval has been given by adviser. See the Undergraduate Catalog for course descriptions.

415 Introduction to Econometrics. (3)
420 Comparative Labor Unionism. (3)
422 Union Leadership. (3)
424 Seminar in Labor Issues. (3)
436 Health Economics. (3)
445 Economic Fluctuations and Forecasting. (3)
455 Economic Efficiency in the Public Sector. (3)
471 Case Studies of Developing Economies. (3)
472 Soviet Economy. (3)
480 International Economics. (3)

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 500</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 501</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 502</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 504</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 506</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 508</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 510</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 511</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 515</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 522</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 524</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 534</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 540</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 550</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 551</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 555</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 560</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 561</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 562</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 575</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 580</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 585</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 601</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ECO 602</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 695</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Courses offered on a two (2) year cycle during odd years.
‡ Courses offered on a two (2) year cycle during even years.
Students enrolling in the program for the Master of Arts in English may choose one of three separate concentrations:

1. Literature;
2. English Language and Composition;
3. Children's Literature.

Each of these concentrations is described on the following pages. Candidates for degrees in other departments may elect English Department courses as cognates.

General Requirements:
In addition to the Graduate School degree admission requirements set forth in the early pages of this catalog, the Department of English requires:

1. for admission to the program, at least 24 semester hours of undergraduate English, excluding freshman composition;
2. for the degree, a minimum of 30 semester hours of graduate work (usually 12 hours in an English major, 6 hours in an English minor, 6–12 hours of electives in English and 0–6 hours of cognate study) with grades averaging B or better. A master's thesis is not required.

Language Requirement:
A candidate is expected to possess some knowledge of a foreign language or of early English. This requirement may be fulfilled in one of the following ways:

1. by presenting two years (or the equivalent) of undergraduate foreign language credit;
2. by passing French 616, 617 Reading French for Graduate Students with a grade of B or better (recommended for students planning to do Ph.D. work in English);
3. by taking six hours of graduate work chosen from Old English, Old English Poetry, Old and Middle English Dialects, Chaucer, History of the English Language. (Students with equivalent undergraduate training may be excused by petition).

The director of graduate studies is Professor Donald Lawniczak. Members of the Department Graduate Committee are Professors Nadean Bishop, Walter Brylowski, James Devers, Judith Johnson, George Perkins, and Lawrence Smith. All are available during regular office hours for information or counseling.

THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN LITERATURE

Objectives of the degree:
The M.A. in English with concentration in literature is designed to provide master's level competence in the study of literature through the dual requirements of depth and breadth of approach to the discipline. Candidates achieve depth through the selection of one of four major areas of study:

1. Medieval and Renaissance Literature;
2. Seventeenth and Eighteenth Century British Literature;
3. Nineteenth and Twentieth Century British Literature; or
4. American Literature. Candidates are assured of breadth of approach through the choice of a minor area of study and of electives from the areas of study not selected for the major.

The degree is an appropriate choice for candidates who anticipate teaching on the elementary, high school or community college level. It has also been elected by candidates who anticipate doctoral study in some field of English or American literature. The degree provides a valuable educational background for library careers or for many professions where accuracy and clarity of expression are requisites, such as communications, government, business, editing and publication. It is also useful for professions in which high value is placed on ease of communication and facility of expression, such as counseling, guidance, personnel relations or management.

Major, Minor, and Electives (24 credit hours):
Ordinarily a candidate will complete a major of twelve hours in a field listed below, a minor of six hours in a second field, and electives of six hours chosen from the remaining two fields. The four fields are:

1. Medieval and Renaissance Literature
2. Seventeenth and Eighteenth Century British Literature
3. Nineteenth and Twentieth Century British Literature
4. American Literature

Cognates or Additional Electives (6 credit hours):
Candidates will take up to six hours of cognate courses in other departments or up to six hours of additional electives in the English Department. These cognates or additional electives must be approved by a graduate adviser in the English Department.

Language Requirement:
Candidates are referred to the "Guidelines for Language Requirements for the M.A. in English."

Note:
No more than nine hours of approved undergraduate courses may be applied on this program.
COURSES FOR MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN LITERATURE

MEDIEVAL AND RENAISSANCE LITERATURE

LIT 512 Middle English Literature. Three sem hours
A study of the genres of Middle English Literature (chronicle, dialogue, exemplum, fable, romance, sermon, etc.)
Prereq: Fifteen hours LIT 512 Middle English Literature.

LIT 530 Studies in Chaucer. Three sem hours
Intensive reading of Chaucer's major works and supplementary reading in Chaucerian criticism.
Prereq: Fifteen hours of credit in literature.

LIT 540 Elizabethan Drama. Three sem hours
The plays of Marlowe, Jonson and Webster, considered primarily for their intrinsic literary and dramatic merit and secondarily for the light they throw on Shakespeare's milieu. A greater understanding of the term "Elizabethan Drama." Prereq: Fifteen hours of credit in literature.

LIT 541 Studies in Shakespeare. Three sem hours
Studies in the historical, biographical, textual and critical scholarship relevant to two or three of Shakespeare's plays. Investigations, reports, papers.
Prereq: Fifteen hours of credit in literature, including one course in Shakespeare.

LIT 545 Studies in Renaissance Literature. Three sem hours
A specialized study of major non-dramatic poetry and prose of the English Renaissance (exclusive of the works of John Milton). Specific major authors to be studied may include Shakespeare, More, Sidney, Spenser, Marlowe, Bacon, Jonson, Donne, and Herbert.
Prereq: Fifteen hours of credit in literature.

SEVENTEENTH AND EIGHTEENTH CENTURY BRITISH LITERATURE

LIT 550 Donne, Browne and Others. Three sem hours
The principal works of two or three English authors from the period 1600–1660. Prereq: Fifteen hours of credit in literature.

LIT 551 Studies in Milton. Three sem hours
The complete poetry and selected prose of John Milton, with some attention to his intellectual milieu. Prereq: Fifteen hours of credit in literature.

LIT 560 Dryden, Pope. Three sem hours
A study of the major works of Dryden and Pope, with an introduction to the most important criticism of their writing. Prereq: Fifteen hours of credit in literature.

LIT 562 Boswell and Johnson. Three sem hours
Major writings with attention to the men and times. Prereq: Fifteen hours of credit in literature.

LIT 563 Studies in Eighteenth-Century Fiction. Three sem hours
A specialized study of major authors, genres and themes of eighteenth-century fiction. The fiction studied will include works by such authors as Defoe, Swift, Fielding, Richardson, Sterne, Goldsmith, Walpole, and Smollett. Prereq: Fifteen hours of credit in literature.

LIT 565 Studies in Nineteenth-Century British Fiction. Three sem hours
Specialized study of selected English novelists of the nineteenth-century. Novelists studied may include Austen, Scott, Disraeli, the Brontes, Gaskell, Thackeray, Dickens, Eliot, Trollope, Meredith, Hardy, and others. Prereq: Fifteen hours of credit in literature.

NINETEENTH AND TWENTIETH CENTURY BRITISH LITERATURE

LIT 566 Studies in Twentieth-Century British Fiction. Three sem hours
Specialized study of the work of two or three major twentieth-century British novelists such as Conrad, Lawrence, Ford, Woolf, Forster, Huxley, Cary, Durrell, and Greene. Prereq: Fifteen hours of credit in literature.

LIT 567 Studies in Twentieth-Century Irish Literature. Three sem hours
Specialized study in prose, poetry, and drama of twentieth-century Irish literature with attention to such major figures as Yeats, Shaw, Joyce, Synge, O'Casey, O'Faolain, Beckett, Kavanagh. Prereq: Fifteen hours of credit in literature.

LIT 570 Studies in Romantic Literature (Formerly Wordsworth). Three sem hours
An intensive study of the poetry and nonfictional prose of at least two of the poets and essayists from the Romantic period (e.g., Blake, Wordsworth, Coleridge, Keats, Byron, Shelley, Hazlitt, DeQuincey, Lamb). Prereq: Fifteen hours of credit in literature.

LIT 575 Studies in Victorian Literature (Formerly Carlyle and Arnold). Three sem hours
An intensive study of the poetry and nonfictional prose of at least two of the major writers from the Victorian period (e.g., Carlyle, Tennyson, the Brownings, Arnold, the Rosettis, Swinburne, Newman, Mill, Ruskin, Pater). Prereq: Fifteen hours of credit in literature.

LIT 523 Realism and Naturalism in the American Novel. Three sem hours
Realism and naturalism as theory and as practice in the late 19th and early 20th centuries, with emphasis on Howells, Twain, James, Crane, Norris and Dreiser. Prereq: Fifteen hours of credit in literature.

LIT 525 Henry James. Three sem hours
Major novels, shorter fiction and literary criticism of Henry James. Prereq: Fifteen hours of credit in literature.

LIT 526 The Harlem Renaissance and Beyond. Three sem hours
A study of Afro-American literature since 1920 with special emphasis on the 1920s and the influence of this period upon more contemporary works. Parallels will be drawn between trends
in Afro-American literature and American literature as a whole and between the Harlem Renaissance and the literature of the last decade.
Prereq: Fifteen hours of credit in literature.

LIT 568 Whitman and Dickinson. Three sem hours
The work of Whitman and Dickinson examined for its intrinsic value as poetry and as illustrative of the power of isolated poetic genius.
Prereq: Fifteen hours of credit in literature.

LIT 569 The American Renaissance: 1830–1860. Three sem hours
Specialized study of the work of three or four of the following writers: Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville.
Prereq: Fifteen hours of credit in literature.

LIT 576 Studies in Twentieth Century American Fiction. Three sem hours
Specialized study of two or three major twentieth-century American novelists, such as Hemingway, Fitzgerald, Faulkner, Nabokov, and Bellow.
Prereq: Fifteen hours of credit in literature.

LIT 577 Studies in Twentieth-Century American Poetry. Three sem hours
Specialized study of the work of two or three major twentieth-century American poets, such as Pound, Eliot, Stevens, Williams, Roethke, Robinson, Frost, e.e. cummings, Hart Crane, Robert Lowell.
Prereq: Fifteen hours of credit in literature.

SPECIAL COURSES
LIT 511 Literary Criticism. Three sem hours
A study of various approaches to literary criticism with application to specific works.
Prereq: Fifteen hours of credit in literature.

LIT 592 Special Topics. Three sem hours (Formerly LIT 596 Seminar in Special Topics)
Topics will be announced from time to time. The following are examples of topics offered in recent years: Joyce, Yeats, and Shaw Southem Gothic Fiction Medieval and Renaissance Allegory Hemingway, Fitzgerald, and Faulkner
Prereq: Fifteen hours of credit in literature. Further prerequisites may be required for some topics.

LIT 597, 598, 699 Independent Studies. One, two and three sem hours (Formerly LIT 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member.
Not to be elected until a student has been accepted as a candidate for the master's degree in literature.
By permission of the Graduate Committee only.

OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN LITERATURE
The following courses for advanced undergraduates are also available to graduate students. For descriptions of these courses, see the Undergraduate Catalog. Ordinarily a maximum of three undergraduate courses may be approved for graduate credit.

401 Modern American and British Poetry. (3)
403 Modern Drama. (3)
404 English Literature 1798–1832. (3)
405 English Literature. 1832–1880. (3)
408 American Literature 1608–1830. (3)
409 American Literature 1830–1890. (3)
410 American Literature 1890 to Present. (3)
420 Old English Poetry. (3)
430 History of Literary Criticism. (3)
434 English Literature in Transition, 1880–1914. (3)
440 Literary Types. (3)
450 Major Authors. (3)
460 Major Themes in Literature. (3)

THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN ENGLISH LANGUAGE AND COMPOSITION
Objectives of the degree:
The M.A. in English with concentration in English language and composition offers candidates options for increasing their professional competence in several areas of language and literary study and in composition. Language as an affective medium of expression is emphasized in the areas of advanced composition, creative writing and literature; language as a consistent chronological progression is viewed in the study of the history of the language and in the historic periods of the language (Old English, Middle English); language as a coherent and discrete system of behavior is studied in grammar and syntax; methods and procedures of language analysis are studied in linguistic science courses.
The degree is an appropriate choice for candidates preparing for teaching on the elementary, high school, or community college level who wish to increase their competence in the several areas of language, literary study, and writing. It is also chosen by candidates who intend to undertake Ph.D. work in linguistics. The degree is an appropriate background for those who intend to proceed to such careers as editing, publishing or writing, where analytical facility and effectiveness in communicating ideas are necessary. It is especially valuable for those who have some background in science, business, or technology and wish to prepare themselves as skilled writers in these fields.

Requirements:
12 Hours: Major in language and composition, including three hours required in advanced composition and nine hours of restricted electives in English language, grammar, linguistics, and creative writing. (See courses listed on page 53 under Courses for Credit Toward Master of Arts in English with concentration in English language and composition.) Students with strong undergraduate preparation in language or writing may replace three to six of these hours with literature electives.
12 Hours: Electives in literature. (See courses listed under Courses for the M.A. in English with concentration in literature, pages 51–52, and Other Courses for Credit Toward Master of Arts in English with concentration in literature, page 52).
6 hours: Cognates, consisting of such courses as the teaching of composition, the teaching of reading, or other cognate courses applicable to the candidate's professional aims.

RDG 530 Developmental Reading—Secondary is strongly recommended as a cognate course for students without this type of background. Cognates may be taken in the English Department or in another department.

Language Requirement:
Candidates are referred to the language requirement printed as part of the general requirements for the master's degree in the Department of English Language and Literature on page 50.

COURSES IN ENGLISH LANGUAGE, LINGUISTICS AND COMPOSITION

ENG 501 American English: Regional and Social Dialects. Three sem hours
A study of both regional and social dialect differences in English and of recent dialect research demonstrating the correlation between reading and writing problems and dialect differences between pupils and their teachers and texts.
Prereq: Department permission.

ENG 502 History of Grammar. Three sem hours
Grammatical analysis from Plato to Chomsky: the influence of various linguistic theories and analytical methods on the development of contemporary language models and the teaching of grammar.

ENG 503 Rhetoric and Advanced Composition. Three sem hours
A composition course designed to increase the student's proficiency in writing clear and precise expository prose. Considerable practice in writing, with attention to modern and classical theories of rhetoric.

LIT 506 Introduction to Old English. Three sem hours
The reading of representative selections of prose and poetry in the original Old English, and an introduction to Old English grammar.
Prereq: Three courses in literature.

ENG 509 Old and Middle English Dialects. Three sem hours
A study of the dialectal differences of Old and Middle English exemplified in literary texts of the Medieval Period, with an investigation of their contributions to standard Modern English.
Prereq: 321 History of the English Language.
Recommended: 315 The Poetry of Chaucer.

ENG 596 Teaching Composition on the College Level. Three sem hours (Formerly ENG 594)
A course in the methods of teaching English composition, with particular attention to beginning courses on the college and junior college level.
Required of all Graduate Assistants and open to other interested M.A. candidates.

OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN ENGLISH LANGUAGE AND COMPOSITION

The following courses for advanced undergraduates are also available to graduate students. For descriptions of these courses see the Undergraduate Catalog. Ordinarily a maximum of three undergraduate courses may be approved for graduate credit.

420 Old English Poetry. (3)
422 Writer's Workshop. (3)
424 Technical Writing. (3)
425 Advanced English Syntax. (3)

THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN CHILDREN'S LITERATURE

Objectives of the Degree:
The M.A. in English with concentration in children's literature provides an opportunity for advanced studies in all major areas of children's literature, folklore, mythology, and writing for children. Candidates usually begin with an introduction to the major genres of children's literature. Extensive reading, criticism, and scholarship are emphasized. A second course is devoted to methods of teaching literature to children and is particularly

recommended for prospective teachers.
A third course traces the historical development of children's literature since the introduction of printing into England. In addition there is a special topics course that varies from semester to semester and can be repeated for credit.

This concentration is valuable not only for teachers of elementary, middle or junior high schools, but also for librarians, special education teachers, reading specialists, recreation supervisors, editors and representatives in publishing houses specializing in children's books, writers of children's books, directors of religious education, youth workers in social service agencies, day care center directors and book store managers. It also provides preparation for teachers of children's literature in two and four year colleges.

Requirements:
Ordinarily a candidate will complete a major of the twelve required hours:
LIT 516 Major Genres in Children's Literature. (3)
LIT 517 Teaching Children's Literature. (3)
LIT 518 History of Children's Literature. (3)
LIT 592 Seminar in Selected Topics in Children's Literature. (3)
selected genres will be required. Offered for anyone planning to work with children, pre-school through grade nine. Prereq: 516 Major Genres in Children’s Literature or 207 Introduction to Children’s Literature or the equivalent.

**LIT 518 History of Children’s Literature. Three sem hours**

An examination of books for children written before the present century. Emphasis will be placed on major authors and movements from 1744 to 1908 and on what these reveal about changing attitudes toward children and the corresponding changes in the literature written for them.

**GENERAL COURSES**

Twelve additional hours may be chosen from appropriate English courses for which graduate credit is given; especially relevant are the following:

- **ENG 350 Critical Evaluation of Children’s Literature. (3)**
- **LIT 351 Folk Literature: Gods and Heroes. (3)**
- **LIT 352 Folk Literature: Ballads and Folk Tales. (3)**

Cognates: 0–6 hours. A course in reading is recommended for prospective teachers.

**Language requirement:**

See Departmental General Requirements on page 50 of this catalog.

**COURSES FOR THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN CHILDREN’S LITERATURE.**

**LIT 516 Major Genres in Children’s Literature. Three sem hours**

An intensive study of the major genres of children’s literature with emphasis on important representative examples and upon related criticism.

**LIT 517 Teaching of Children’s Literature. Three sem hours**

A course concentrating on the value of literature for children with discussion and demonstration of various techniques used in teaching it. Additional readings in...
FOREIGN LANGUAGES and BILINGUAL STUDIES

John R. Hubbard
Acting Department Head
218 Ford Hall,
487-0130

Raymond Padilla
Director,
Spanish (Bilingual-Bicultural Education)
106 Ford Hall,
487-1035

Raymond E. Schaub
Coordinator of Advising
Language and International Trade
204 Ford Hall,
487-0130

Joann Aebersold
Coordinator of Advising
TESOL (Teaching English as a Second Language)
239 Ford Hall,
487-0433

The Department of Foreign Languages and Bilingual Studies offers a Master of Arts in Spanish (Bilingual-Bicultural Education), a Master of Arts in language and international trade, and a Master of Arts in TESOL (Teaching English as a Second Language). A major emphasis in French, German or Spanish can also be developed through the Master of Arts in secondary school teaching or the Master of Arts in individualized studies.

SPANISH (BILINGUAL-BICULTURAL EDUCATION)

OBJECTIVES

Objectives of the program are to produce graduates with high-level competencies in the following areas:

Language:
This area of competence includes demonstrated proficiency in both Spanish and English, demonstrated ability to teach both languages as subject matters, and demonstrated ability to use both languages as media of instruction in other subject matter areas.

Culture:
This area of competence requires students to demonstrate a number of specific abilities related to knowledge of Latino and other U.S. cultures and the diversity within each; awareness of and sensitivity to differences in socio-economic, cultural, and linguistic background; and skill in guiding students to acceptance and positive evaluation of cultural pluralism.

Methodology:
This area of competence includes, in addition to the skills mentioned above under Language and Culture, demonstrated ability to accommodate variations in cultural, linguistic, and socio-economic background by individualizing instruction and utilizing appropriate evaluation instruments and procedures; demonstrated skill in classroom management, including team teaching and working with paraprofessionals; and demonstrated skill in organizing, planning, and teaching lessons which integrate the bilingual-bicultural curriculum into the standard local district curriculum.

ADMISSION REQUIREMENTS

1. Meet Graduate School degree admission requirements.
2. Sufficient skills in both Spanish and English to successfully participate in graduate course and field work conducted in either language.
3. Experience with living and/or working in a multicultural setting, particularly with Hispanic people.
4. Intent to pursue and promise of successfully completing a program leading to a graduate degree.
5. Conditional admission will not be granted.

PROGRAM REQUIREMENTS

The candidate for an M.A. in Spanish (Bilingual-Bicultural Education) must fulfill the following requirements before the degree will be awarded:

1. Demonstrate language proficiency in both Spanish and English; proficiency will be determined by examination.
2. Possess a valid teaching certificate. (Not required for admission, however.)
3. Bilingual-Bicultural Core Curriculum (18 sem hours)
   FLA 421 History and Theory of Bilingual Education (3)
   CEN 410 TESOL (Teaching English to Speakers of Other Languages) (3)
   SPN 471 Culture and Literature of Hispanic Groups in U.S. (3)
   SPN 482 Language of Hispanic Groups in U.S. (3)
   FLA 622 Teaching Hispanic Culture and Language (3)
   FLA 695 Seminar in Bilingual Education (3)
4. Electives and cognates from the following (12 sem hours): CUR 512 Enriching the Early Elementary Classroom Program (2)
   RDG 518 Developmental Reading-Elementary (2)
   RDG 519 Programs in Language Arts (2)
   RDG 554 Reading Problems of the Disadvantaged (2)
   CUR 600 Early Childhood Education (2)
   CUR 616 Curriculum-Elementary School (2)
   CUR 630 Curriculum-Secondary School (2)
   CUR 632 Individualizing Instruction in the Secondary School (2)
   CUR 634 The Dropout Problem (2)
   CUR 657 The Open Classroom (4)
CUR 658 The Community-centered Classroom (4)
SPN 519 Spanish Phonology (2)
SPN 524 The Spanish Language in the New World (2)
SFD 580 Sociology of Education (2)
SPN 620 Spanish Grammar and Syntax (2)
SFD 662 Cultural Determinants of Learning (2)

5. Collateral Field Experience
An additional requirement for the core curriculum is three days' field experience for each course, except seminar. This represents a total of fifteen (15) days for the core-curriculum block.

LANGUAGE AND INTERNATIONAL TRADE

OBJECTIVES
Objectives of the program are to promote cultural awareness and sensitivity with reference to our own society as well as to societies of other world regions and to provide the skills and knowledge necessary for competent performance in an international environment.

ADMISSION REQUIREMENTS

1. Meet Graduate School degree admission requirements.
2. Six semester hours of undergraduate study, or the graduate level equivalent, in economics or accounting. Conditional admission may be granted students who do not meet the above undergraduate course requirements. These students will be expected to take courses for undergraduate credit to make up this deficiency.

PROGRAM REQUIREMENTS

Business Area Core: (15-18 semester hours) At least one course from Management and one course from Marketing.
MGT 501 Management: Concepts, Principles, and Practice. (3)
MKT 510 Marketing. (3)
MGT 580 Management of Organizational Behavior (3)
Students who have had a basic management and/or marketing course must substitute an appropriate course(s) in consultation with an adviser from the College of Business.

At least three of the following courses:
ECO 501 Macroeconomic Theory and Policy. (3)
ECO 502 Microeconomic Theory and Policy. (3)
ECO 508 International Economics. (3)
ECO 561 Economics of Multinational Enterprise. (3)
ECO 575 The Economics of Socialism. (3)
ECO 581 The International Monetary System (3)
ECO 585 Economic Growth and Development. (3)
ECO 587 Cast Studies in Economic Development (3)

Language Area: (10-12 semester hours) For those with no foreign language background, this requirement can be met by taking the respective intensive language courses; e.g., French 501 and 502, German 501 and 502, or Spanish 501 and 502. The following conditions apply to those with a language proficiency:
1. Native English speakers with required proficiency in a foreign language must elect, in consultation with an adviser from the Department of Foreign Languages, 10-12 hours at the 300 level or above in that language area, or begin a second foreign language (501 and 502).
2. Non-native speakers of English who have demonstrated English proficiency with a score of 85 or above on the ELI test (or equivalent) must complete 10-12 hours in a language other than English or their native language.
3. Non-native speakers of English who have demonstrated only the minimal English proficiency for admission to the Graduate School (ELI score of 80 or equivalent) will also be required to take CEN 210, 211, and/or 212 (3-9 hours) in addition to completing 10-12 semester hours in a third language area.

Internship or Independent Study Project: (3 semester hours.) FLA 688 Internship provides an opportunity for the graduate student to extend theoretical classroom learning through practical experience in an appropriate international business setting. In place of the internship, students may choose to do an independent study on a specific problem or group of problems related to language and international trade and will therefore elect one of the following courses: ACC 699, ADS 699, MGT 699, MKT 699 or FLA 699.

TEACHING ENGLISH AS A SECOND LANGUAGE

OBJECTIVES
Objectives of the program are to produce teachers who possess a knowledge of English perceived as a foreign language, a knowledge of foreign-language teaching and learning strategies, practical experience in applying theoretical knowledge, and an awareness of the realities of the multicultural classroom.

ADMISSION REQUIREMENTS

1. Meet Graduate School degree admission requirements.
2. At least three semester hours of advanced undergraduate course work in modern English syntax, history of the English language, or the equivalent.
3. At least one year's college study of a foreign language, or the equivalent as determined by the Department of Foreign Languages and Bilingual Studies.
4. At least two letters of recommendation which give evidence of the applicant's promise of success in working with speakers of other languages and working in multicultural settings.

Conditional admission may be granted to students who do not meet the above undergraduate course requirements. These students will be required to take courses for undergraduate credit to make up this deficiency; this work will be in addition to regular program requirements.

PROGRAM REQUIREMENTS

Core Curriculum (18 semester hours)
CEN 410 Teaching English to Speakers of Other Languages. (3)
CEN 501 Theoretical Foundations of Second-Language Pedagogy. (3)
CEN 502 A Pedagogical Grammar and Phonology of ESL. (3)
CEN 520 Foreign Language Testing and Evaluation. (3)
CEN 688 TESOL Practicum. (3)
CEN 695 TESOL Seminar. (3)

Restricted Electives (6 semester hours)
At least two of the following:
- ENG 425 Advanced English Syntax. (3)
- ENG 426 Topics in Linguistics. (3)
- ENG 501 American English: Regional and Social Dialects. (3)
- Eng 596 Teaching Composition on the College Level. (30)

Cognates (6 semester hours)
At least six semester hours from the following or from other appropriate courses approved by the graduate advisor:
- FLA 611 Methods of Teaching Modern Language. (2)
- RDG 518 Developmental Reading-Elementary. (2)
- RDG 519 Programs in Language Arts. (2)
- RDG 530 Developmental Reading-Secondary. (2)
- RDG 663 Foundations of Reading Development. (4)

COURSE DESCRIPTIONS

IN ENGLISH

CEN 501 Theoretical Foundations of Second-Language Pedagogy. Three sem hours
Overview of the principal theories of language description, language learning, and language use, with emphasis on those factors which affect second language acquisition.
Prereq: ENG 301 An Introduction to the English Language, ENG 302 Modern English Syntax, ENG 321 The History of the English Language, or equivalent.

CEN 502 A Pedagogical Grammar and Phonology of ESL. Three sem hours
Examines the structure and sound systems of American English as it applies to the teaching and learning of English as a foreign language. Emphasizes practical aspects of usage.
Prereq: 501 Theoretical Foundations of Second-Language Pedagogy or departmental approval.

CEN 511 Practical Application of Linguistics to ESL. Two sem hours
The linguistic principles and theories of adult ESL with discussion sessions on their practical application. This course provides the ESL teacher with a basic introduction to linguistics as a precursor to the solution of practical problems.

CEN 520 Foreign Language Testing and Evaluation. Three sem hours
Examines the role of testing, surveys types of tests, discusses the criteria of a good test, categorizes the various components of grammar, listening, speaking, reading, and writing tests in the foreign language classroom, and provides practice in evaluating and constructing test items.
Prereq: 501 Theoretical Foundations of Second-Language Pedagogy and 502 A Pedagogical Grammar and Phonology of ESL.

CEN 688 TESOL Practicum. Three sem hours
Supervised practical experience in TESOL appropriate to the student's intended teaching setting. With the guidance of a faculty member, the practicum student will select appropriate materials and techniques to develop the necessary skills in the learners and will then apply them in the classroom situations.
Prereq: 501 Theoretical Foundations of Second-Language Pedagogy, 502 A Pedagogical Grammar and Phonology of ESL and 410 Teaching English to Speakers of Other Languages or concurrent enrollment in CEN 410.

CEN 695 TESOL SEMINAR. Three sem hours
Focuses on the various problems encountered in the TESOL practicum. Students are expected to share their classroom teaching experiences in class discussions and to evaluate those experiences from the perspectives of linguistic theory and second language learning pedagogy. This course will include presentations by guest lecturers in the field. A practicum-related research project will be required.
Prereq: 688 TESOL Practicum or concurrent enrollment in CEN 688.

FLA 590, 591, 592 Special Topics.
One, two and three sem hours (Formerly FLA 539, 540, 541)
An intensive study of a specific topic to be determined by the instructor's field of specialization and student interest. Special Topics courses may be repeated for credit with department permission.
Prereq: Departmental permission.

FLA 611 Methods of Teaching Modern Language. Two sem hours (Formerly FLA 511)
The history, theory and techniques of modern language teaching.
Prereq: Permission of the department.

FLA 622 Teaching Hispanic Culture and Language. Three sem hours (Formerly FLA 522)
The techniques and materials for teaching the language and culture of Hispanic groups within the bilingual classroom. The course also includes techniques and materials for teaching other subject matter areas in Spanish. A minimum of 24 hours of field experience in a bilingual classroom will be required. Not open to students on academic probation.

FLA 688 Internship in Language and International Trade. Three sem hours (Formerly FLA 590)
Provides an opportunity for the graduate student to extend theoretical classroom learning through working experience in an appropriate setting. The Foreign Language Department in cooperation with the College of Business will arrange and supervise suitable assignments in firms conducting international business. A minimum of ten hours per week in the field will be supplemented by regular meetings with the faculty supervisors.
Prereq: Permission of the department.

FLA 695 Seminar in Bilingual Education. Three sem hours (Formerly FLA 596)
Each semester different topics are selected for intensive study by advanced students. The course consists of a review and discussion of contemporary issues in bilingual-bicultural education, following which students select areas for research. Emphasis in seminar meeting on exchange of ideas and information developed through the research. (Taught in Spanish/English.)
Prereq: Permission of the department.
FLA 697, 698, 699 Independent Study. One, two and three sem hours (Formerly 597, 598, 599)
Intensive study of a problem under the direction of a member of the graduate staff.
Prereq: Departmental permission.

IN FRENCH

FRN 501 Intensive French. Five sem hours
An intensive course designed particularly for students who need language skills and cultural background in proficiency in reading skills, and understanding of French culture, including the customs, the geography, the social, economic, and political structures, and the legal environment.

FRN 502 Intensive French. Five sem hours
A continuation of FRN 501.
Prereq: 501 Intensive French

FRN 522 Stylistics. Two sem hours
Translation of selected passages into French; some free composition in French. Explications de textes.
Prereq: 443 French Syntax or its equivalent.

FRN 523 Contemporary French Scene. Two sem hours
An interdisciplinary approach to French language, culture and literature. Material to be read in the original and to serve as a basis for class discussion in French. Assigned reading and oral reports.
Prereq: 444 Advanced French Conversation or its equivalent.

FRN 592 Special Topics. Three sem hours (Formerly FRN 594)
An intensive study of a specific area of French language or literature, to be determined by the instructor’s field of specialization and student interest. This course may be repeated for credit with departmental permission.
Prereq: Departmental permission.

FRN 616, 617 Reading French for Graduate Students. Three sem hours each (Formerly FRN 516, 517)
Structure, basic vocabulary, and common idioms of French for reading proficiency.

FRN 620 French Grammar and Syntax. Two sem hours (Formerly FRN 520)
An advanced course in grammar and syntax. Intended to give a solid basis for oral and written expression and for the teaching of French.
Prereq: 443 French Syntax or equivalent.

FRN 621 Advanced Conversation in French. Two sem hours (Formerly FRN 521)
Acquisition of an active vocabulary for daily life and greater oral facility. Oral reports.
Prereq: 444 Advanced French Conversation or equivalent.

FRN 646, 647 French Business Language and Practices I and II. Three sem hours each
Advanced study of commercial vocabulary, translation techniques, writing business communications, and French business practices as they relate to the French and Common Market economies. Reading of periodical literature. In French.
Prereq: 443 French Syntax or 620 French Grammar and Syntax and 444 Advanced French Conversation or 621 Advanced Conversation in French, or department approval.

FRN 663 Medieval French Literature. Three Sem hours (Formerly FRN 563)
A study of the chief literary movements of the Old and Middle French periods with representative texts in modern French versions. In French.
Prereq: Two courses in French literature at the 400 level or permission of the department.

FRN 664 Sixteenth-Century French Literature. Three sem hours (Formerly FRN 564)
A study of the chief literary movements and representative authors of the French Renaissance. In French.
Prereq: Two courses in French literature at the 400 level or permission of the department.

FRN 697, 698, 699 Independent Study. One, two and three sem hours (Formerly FRN 597, 598, 599)
Intensive study of a problem under the direction of a member of the graduate staff.
Prereq: Departmental permission.

IN GERMAN

GER 501 Intensive German. Five sem hours
An intensive course designed particularly for students who need language skills and cultural background in their professional work. The goal is to develop limited working proficiency in spoken skills, minimum professional proficiency in reading skills, and understanding of German culture, including the customs, the geography, the social, economic, and political structures, and the legal environment.

GER 502 Intensive German. Five sem hours
A continuation of GER 501.
Prereq: 501 Intensive German.

IN SPANISH

SPN 501 Intensive Spanish. Five sem hours
An intensive course designed particularly for students who need language skills and cultural background in their professional work. The goal is to develop limited working proficiency in spoken skills, minimum professional proficiency in reading skills, and understanding of Spanish culture, including the customs, the geography, the social, economic, and political structures, and the legal environment.

SPN 502 Intensive Spanish. Five sem hours
A continuation of SPN 501.
Prereq: 501 Intensive Spanish.

SPN 519 Spanish Phonology. Two sem hours
A study of the articulatory basis of the sounds in Spanish. Drills on rhythm and intonation patterns, with practice and recordings in the laboratory.
Prereq: 444 Advanced Spanish Conversation or equivalent.

SPN 522 Stylistics. Two sem hours
The manner in which literary Spanish makes use of the means of expression available in the language.
Prereq: 443 Advanced Spanish Composition or equivalent.
SPN 524 The Spanish Language in the New World. Two sem hours
Acquainting the students with the Spanish language as it is used in several language areas of the American continent.
Prereq: 481 History of the Spanish Language, SPN 620 Spanish Grammar and Syntax.

SPN 610 Intensive Summer Program in Spanish. Six sem hours
Intensive summer course offered in Mexico. Small-group (4-5 students) language instruction, with many different instructional levels available. Students advance according to individual progress. Students live with Mexican families. May be repeated for credit.

SPN 620 Spanish Grammar and Syntax. Two sem hours
(Formerly SPN 520)
The morphological and syntactical structure of Spanish.
Prereq: 443 Advanced Spanish Composition or equivalent.

SPN 621 Graduate Spanish Conversation. Two sem hours
(Formerly SPN 521)
A continuation of advanced conversation with emphasis on matters of diction and style. This course may be repeated for supplementary credit.
Prereq: 444 Advanced Spanish Conversation or equivalent.

SPN 663, 664 Old Spanish. Two sem hours each (Formerly SPN 585, 586)
Development of Old Spanish from its Latin roots, with major emphasis on changes. Readings in medieval literature from the Poema del Cid to the end of the fifteenth-century.
Prereq: 481 History of the Spanish Language or equivalent and two courses in Spanish literature at the 400 level or department permission.

SPN 697, 698, 699 Independent Study. One, two and three sem hours (Formerly SPN 597, 598, 599)
Intensive study of a problem under the direction of a member of the graduate staff.
Prereq: Departmental permission.

OTHER COURSES

These upper division undergraduate courses may also be taken for graduate credit in consultation with graduate adviser.

CEN 410 Teaching English to Speakers of Other Languages. (3)
FLA 421 History and Theory of Bilingual Education. (3)
FLA 479 Special Topics. (3)
FRN 431 Studies in French Theatre. (3)
FRN 432 Studies in French Poetry. (3)
FRN 433 Studies in French Prose. (3)
FRN 441, 442 Nineteenth Century French Literature. (3 each)
FRN 443 French Syntax. (2)
FRN 444 Advanced French Conversation. (3)
FRN 446, 447 Business French. (3 each)
FRN 451, 452 Readings in French. (1 and 2)
FRN 461, 462 Twentieth Century French Literature. (3 each)
FRN 471, 472 Eighteenth Century French Literature. (3 each)
FRN 481 History of the French Language. (3)
FRN 491, 492 Seventeenth Century French Literature. (3 each)
GER 425 German Classicism. (3)
GER 426 German Romanticism. (3)
GER 427, 428 Modern German Authors. (3 each)
GER 443 German Syntax and Advanced Composition. (2)
GER 444 Advanced German Conversation. (3)
GER 451, 452 Readings in German. (1 and 2)
SPN 443 Advanced Spanish Composition. (2)
SPN 444 Advanced Spanish Conversation. (3)
SPN 445 Spanish-American Prose. (3)
SPN 446 Spanish-American Theatre. (3)
SPN 447 Modern Novel. (3)
SPN 448 Modern Drama. (3)
SPN 449 Romanticism. (3)
SPN 451, 452, 453 Readings in Spanish. (1, 2 and 3)
SPN 454 Modernism in Spanish America. (3)

SPN 455 The Generation of 1898. (3)
SPN 456 Drama of the Golden Age. (3)
SPN 463 Don Quixote. (3)
SPN 471 Culture and Literature of the Hispanic Groups in the U.S.. (3)
SPN 481 History of Spanish Language. (2)
SPN 482 Language of Hispanic Groups in the U.S.. (3)
GEOGRAPHY and GEOLOGY

Elwood J. C. Kureth
Department Head
203 Strong,
487-0128

Robert Ward
Coordinator of Advising
213 Strong,
487-3140

C. Nicholas Raphael
Coordinator of Advising
118 Strong,
487-1480

Marshall McLennan
Historic Preservation Planning Adviser
219 Strong,
487-0218

GEOGRAPHY

The Department of Geography and Geology offers courses leading to the degree of Master of Arts and to the degree of Master of Science. Students who complete programs emphasizing man and his works receive the degree of Master of Arts; those whose programs stress physical geography, land use analysis and other aspects of environmental studies receive the Master of Science degree. The department also offers a Master of Science in historic preservation planning with concentrations in historic preservation planning and historic administration.

The department awards 8½ graduate assistantships each year. A graduate assistantship stipend ranges from $3,150–$3,350. In addition, the University pays full tuition for 16 credit hours for each fiscal year of the assistantship, as well as registration and health service fees. The total package approximates $4,800, depending whether you are a resident or nonresident of Michigan.

OBJECTIVES:

The main objectives of the master's program in geography are to train individuals in the systematic, regional, and technical aspects of the discipline. In addition, the program offers opportunities for candidates to experience and participate in geographic research and its possible applications in the service of mankind and his environment. Upon completion of the master's degree, students in geography should be able: to participate in further study toward a doctoral degree; to apply geographic methods to various professional research and development occupations; or, to teach in community colleges as well as secondary and elementary schools. Geographers are also often employed by public and private agencies concerned with such problems as: urban and regional planning, foreign area analysis, resource assessment and management, agricultural, population, and transportation surveys, cartographic research and design, recreational planning, marketing surveys, and environmental impact assessment.

ADMISSION REQUIREMENTS:

For admission to a master's degree program in geography the student must have a bachelor's degree from an accredited institution; meet Graduate School degree admission requirements; and have attained at least a 2.75 grade point average in his major field, or in the equivalent of a geography minor, during his last two undergraduate years, or must have scored at least 1000 on the aptitude test of the Graduate Record Examination. Students who have majored in a field other than geography may be admitted to a program with the understanding that they must satisfactorily complete a minimum of 36 semester hours of undergraduate and graduate work in geography for the master's degree.

DEGREE REQUIREMENTS:

The master's degree in geography may be completed by choosing option one (30 semester hours), option two (30 semester hours), or option three (30 semester hours). The differences between these options are discussed below.

All candidates for the master's degree must complete, within the total of their undergraduate and graduate study, at least two physical geography courses, at least two cultural (i.e. historical, human, or urban) geography courses, at least one regional geography course (not including GEO 110 World Regions), and at least two courses from among cartography, quantitative methods and geographic field methods. GEO 675, GEO 677, GEO 694 are required of all master's candidates. GEO 500, 501, and 502 may not ordinarily be counted for credit toward a master's degree in geography.

All graduate students are required to pass a comprehensive oral examination as part of the master's degree program. The oral examination, conducted by a committee of the graduate faculty, will cover the field of geography and will emphasize the student's special field of interest.

Once the student has completed a minimum of 12 hours of graduate work in geography, he must formally declare to the graduate coordinator which of the options, identified below, he plans to pursue.

The student who selects an option that does not include a thesis should be aware that, if a decision is made to ultimately pursue a doctoral degree, difficulty may be encountered in gaining entry into such programs. The student's selection of the option is subject to approval by the graduate coordinator. A student may, with the approval of the graduate coordinator, change from one option to another, but graduate credit earned more than six years prior to the
EXPLANATION OF MASTER'S OPTIONS:

Option One:
Students whose life/career goals include research activity may elect to complete a thesis (representing six semester hours credit). The thesis topic and design are developed by the master's candidate with the advice of a departmental graduate faculty member. The completion of a thesis is especially recommended as a valid learning experience for those who intend to pursue further advanced degrees, but is also useful for those who seek employment with organizations that perform research functions.

Option one requires the completion of 30 semester hours broken down as follows: 18–24 hours in geography, 0–6 hours in approved cognates, and the remaining 6 hours in thesis credit.

Option Two:
This option is designed to serve individuals who may prefer additional course work and/or work experience as a substitute for thesis research and would benefit from an off-campus internship experience. It also offers scope to in-service individuals (e.g., planners, soil scientists, and others) to reorganize and apply the subject matter of their work experience to an E.M.U. course under the supervision of a departmental graduate faculty member who evaluates the student's performance. Either of these supervised experiences may be accomplished by enrolling in GEO 687 or GEO 688 or GEO 689, with approval of the graduate coordinator.

Of the 30 hour total, a maximum of six hours may be taken as cognate hours outside the department. A requirement of this option is the successful completion, while in residence at E.M.U., of two hours achieved through the composition of a paper of publishable quality. Graduate faculty in the department must be consulted in the initiation, design, and completion of the paper. A graduate faculty member will also assess the completed paper.

Option Three:
This option is designed to enhance the career of practicing or prospective elementary and secondary teachers. Students may elect to develop their teaching units under the supervision of three different faculty members. Each unit, worth two credit hours, shall be taken under the catalog number GEO 698.

HISTORIC PRESERVATION PROGRAM

The Department of Geography administers an interdepartmental program in historic preservation. The program includes a thirty-six hour Master of Science curriculum in historic preservation and, as a Special Student, a five course curriculum granting a certification of completion and satisfactory academic performance. Students in the master's program may elect to pursue a general curriculum in historic preservation or to take their degrees in historic preservation with a concentration in either historic preservation planning or historic administration. This choice must be formally declared to the program coordinator by the time the student has completed 20 hours of graduate work in historic preservation.

OBJECTIVES

The master's curriculum emphasizes preparation for careers in historic preservation in a planning, administrative, historic museum, or consulting capacity, while the certification curriculum is designed primarily for inservice planners and other individuals desiring to expand their understanding of the preservation field. The master's program includes work study, internship, cooperative education and field study opportunities, providing practical experience as an added dimension of the program.

ADMISSION REQUIREMENTS

Admission to the master's degree program in historic preservation is limited. The student must have a bachelor's degree from an accredited institution; meet Graduate School degree admission requirements; and must have attained at least a 3.0 grade point average in his major field during his last two undergraduate years, or must score at least 1000 on the aptitude test of the Graduate Record Examination. In addition the applicant should obtain program application forms from the historic preservation coordinator and comply with the application procedures therein stipulated.

Certification curriculum applicants must have a bachelor's degree from an accredited institution and meet the Graduate School Special Student status requirements. Any student meeting these requirements may pursue the certification. The student should consult with the historic preservation coordinator once admitted to graduate standing by the Graduate School.

DEGREE REQUIREMENTS

1. The completion of a minimum of 36 hours of approved course work beyond the bachelor's degree and such prerequisite courses (see below) as designated by the program coordinator. Prerequisite courses may be taken concurrently with degree courses.

2. The selection of a general course of study in historic preservation or an emphasis in either historic preservation planning or historic administration.

3. Completion of the following prerequisite courses:
   (1) a one year survey of American history (HIS 223 and HIS 224 or alternative graduate-level courses selected with the approval of the program coordinator).
   (2) FA 429 History of American Architecture.
   (3) GEO 332 Urban Geography, GEO 333 Settlement Geography, and GEO 431 Historical Geography of the U.S.; GEO 435 Urban Form and Function may be substituted for GEO 332.

4. Core requirements (12–14 hrs.)
   GEO 530 Principles of Historic Preservation Planning
   GEO 531 American Cultural Landscapes
   PLS 520 Land Use and Preservation Law
   GEO 630 Cultural Resource Assessment
   FA/GEO/HEC/HIS 697 or 698 or 699 Individual Preservation Project

61
5. HIS 505 Historical Method is also required of all students except those who already possess a master's degree in any subject which required writing a thesis or who have written a senior paper in history.

6. A graphics course (2–3 hrs.) in architectural drawing, cartography, or photography to be selected in conjunction with the program coordinator.

7. The remaining 16–19 hours will be selected in conjunction with the program coordinator and should be compatible with the student's career objectives. If the student chooses to pursue one of the two preservation concentrations, at least 12 hours should be allocated to that end. Cooperative education, internship, and historic preservation field project experiences are recommended options.

CERTIFICATION REQUIREMENTS

1. Required courses:
   (1) FA 429 History of American Architecture
   (2) GEO 530 Principles of Historic Preservation Planning

2. Three courses from the following:
   GEO 435 Urban Form and Function
   HIS 505 Historical Method
   PLS 520 Land Use and Preservation Law
   GEO 531 American Cultural Landscapes
   GEO 548 American Folk Architecture
   GEO 549 Cultural Landscape Interpretation
   GEO 570 Rural Planning and Preservation Law
   GEO 630 Cultural Resource Assessment
   GEO 636 Historic Preservation Field Project
   GEO 680/681 Special Topics in Historic Preservation
   GEO 693 Seminar in Neighborhood Preservation

GEOGRAPHY FOR NON-SPECIALIZING STUDENTS

GEO 500 Resources and Nations. Two sem hours (Formerly GEO 507)
Patterns of distribution, production, consumption and adequacy of physical and cultural resources; different management characteristics and roles which resources play in the development of nations. Applicable to the master's degree by petition only.

GEO 501 Earth Science I. Two sem hours (Formerly GEO 508)
An introduction to the structure and composition of the earth, including volcanism, earthquakes, and landforming processes. Applicable to the master's degree by petition only.

GEO 502 Earth Science II. Two sem hours (Formerly GEO 509)
Weather and climate and related phenomena such as natural vegetation and soils. Applicable to the master's degree by petition only.

REGIONAL GEOGRAPHY

GEO 510 The American Midwest. Two sem hours (Formerly GEO 569)
A regional treatment. The natural setting, the distribution of the people, the important occupations and the present and future problems in each of the several regions. Prereq: A course in the geography of the U.S. or North America or the approval of the department.

GEO 512 Middle America and the Caribbean World. Two sem hours (Formerly GEO 542)
A regional study of Mexico, Central America and the islands of the Caribbean. Conditions leading to the present political upheavals in the area; an effort is made to chart future trends. Prereq: A course in the geography of Latin America or approval of the department.

GEO 513 South American Lands. Two sem hours (Formerly GEO 541)
A regional study of the countries of South America; resources, people and national cultures are stressed. Prereq: A course in the geography of Latin America or approval of the department.

GEO 515 Environmental Problems and Strategies in Europe. Two sem hours (Formerly GEO 555)
Causes and consequences of environmental degradation in Europe. Human landscape modification, dense population, and political fragmentation as factors in creating serious pollution problems. European efforts to preserve and restore the environment. Prereq: A course in the geography of Europe or approval of the department.

GEO 516 Problems in Soviet Geography. Two sem hours (Formerly GEO 559)
Individual and group research in selected problems in the geography of the Soviet Union. Prereq: A course in Soviet geography or approval of the department.

GEO 518 Problems of Sub-Saharan Africa. Two sem hours (Formerly GEO 574)
Individual research in selected problems in the geography of Sub-Saharan Africa. Prereq: A course in the geography of Africa or approval of the department.

HISTORICAL GEOGRAPHY

GEO 530 Principles of Historic Preservation Planning. Two sem hours (Formerly GEO 527)
Introduction to values, objectives, and techniques of historic preservation including evaluation of economic, legal and social issues associated with planning for preservation. Federal and state preservation legislation and local historic district ordinances; functions of public and private preservation organizations.
GEO 531 American Cultural Landscapes. Three sem hours
The diversity of the human geography of the United States will be explored in terms of representative cultural landscapes of selected regions. Historic characteristics of urban, suburban and rural landscapes in America will be examined, and the principles of townscape analysis introduced.

GEO 532 Historical Geography of Michigan. Two sem hours
(Formerly GEO 552)
Geographical changes and developments in Michigan from pre-colonial times to the present. The geography of the state in each of the important stages of its history.
Prereq: One geography course and one American history course or approval of the department.

HUMAN GEOGRAPHY

GEO 544 Problems in Economic Geography. Two sem hours
(Formerly GEO 649)
Research problems and techniques dealing with the production, distribution and consumption aspects of economic geography.
Prereq: A course in economic geography or approval of the department.

GEO 545 Studies in Political Geography. Two sem hours
Study and comparison of the factors important in the political geographies of Brazil, Nigeria, India, Syria and the Soviet Union.
Prereq: A course in the geography of Europe or approval of the department.

GEO 546 Problems in Population Geography. Two sem hours
Readings, discussion and research of selected problems in population geography.
Prereq: Ten hours of credit in geography including 361 Population Geography or approval by the department.

GEO 548 American Folk Architecture. Two sem hours
Folk structures such as rural houses, barns, fences, and covered bridges, are analyzed as aspects of material culture and cultural landscape contributing to regional personality within the United States. Attention is given to old world antecedents, colonial development, and diffusion of regional forms from their colonial hearths.
Prereq. GEO 531 or departmental permission.

GEO 549 Cultural Landscape Interpretation. Two sem hours
Principles of cultural landscape interpretation as well as the development of local interpretation keys are investigated. Analysis of cultural landscapes is carried out in lectures, field practice, discussion sessions, and some student reports.

URBAN GEOGRAPHY

GEO 550 Problems in Urban Geography. Two sem hours
(Formerly GEO 544)
Selected geographic problems: urban sprawl, deterioration of the urban environment, changing urban functions and others. Acquisition of analytical techniques and geographical insights.
Prereq: A course in urban geography or approval of the department.

GEO 552 Processes of Suburban Development. Two sem hours
(Formerly GEO 586)
The evolution of suburbs, the evaluation of the suburban environment, land use change in proximity to cities, and land use planning factors associated with suburban growth.
Prereq: An urban or regional planning course or approval of the department.

GEO 553 City and Regional Planning. Two sem hours
(Formerly GEO 585)
Philosophy, history, legal aspects and techniques of the planning process. Case studies in the United States and Europe illustrating the impact of planning on
man's economic, social and political activities.

Prereq: An urban or regional planning course or approval of the department.

GEO 554 Urban and Regional Planning in Europe. Two sem hours
Historical background, current problems, and future strategies of urban and regional planning efforts in Europe. Political, economic, and cultural aspects of the planning process are considered.

Prereq: 319 Geography of Europe, or approval of the department.

PHYSICAL GEOGRAPHY

GEO 560 Processes of Landform Development. Two sem hours
(Formerly GEO 522)
Interrelations of climate, microclimate, vegetation, near-surface materials, soil formation and types of landforms in Michigan, emphasizing direct observation in the field and aerial photographs.

GEO 561 Physical Landscapes. Two sem hours
An examination of the processes involved in creating and modifying the earth's surface and the theoretical approaches used in examining the problems of selected landscapes.

Prereq: One course in physical geography, geology, or approval of the department.

GEO 562 Weather. Two sem hours
Aimed at understanding the atmospheric processes which generate all weather; applies observations of weather elements to analysis of weather phenomena; concludes with experimental forecasting. One hour lecture and two hours laboratory per week. Not open to students holding credit in a weather and climate course.

GEO 563 Climate. Two sem hours
Regional climates are assessed in terms of characteristic types and frequencies of weather, with emphasis on geographic and atmospheric causes of differences and variations. Data in a number of statistical and geographical forms are interpreted in evaluating and classifying climates. One hour lecture and two hours laboratory per week.

Prereq: A course in weather or approval of department.

GEO 564 Common Rocks and Minerals. Two sem hours
(Formerly GEO 529)
Materials and processes in the formation and distribution of important minerals and rocks. Not open to students who have had GEO 229, or its equivalent.

GEO 565 Principles of Earth History. Two sem hours
(Formerly GEO 530)
Relationship of geologic processes to the rock record of the earth, its relationship to the solar system, time, earth change and the succession of life. Not open to students who have had GEO 230 or its equivalent.

GEO 566 The New Earth Science. Two sem hours
(Formerly GEO 510)
Study of planet Earth—its interior and surface, atmosphere—emphasizing the new theories of continental drift and sea floor spreading.

Prereq: A course in earth science or approval of the department.

GEO 567 Introduction to Coastal Environments. Two sem hours
(Formerly GEO 531)
Description and analysis of the physical and biogeographical processes of the coastal ocean, Great Lakes and inland lakes. Distribution and origin of the coastal environments, natural and human modification of beach, river valley, estuary, marsh, delta and coral reef environments. Classroom demonstrations and field trips.

Prereq: Approval of the department.

GEO 568 Biogeography. Two sem hours
(Formerly GEO 528)
A description of world vegetation and wildlife regions including the relationship of habitat to geologic, climatic and soil factors. The latter part of the course will deal with dispersal mechanisms, domestication, and the introduction of new species.

GEO 570 Rural Planning and Preservation. Two sem hours
This course seeks to assist land use planners and rural preservationists by discussing planning techniques, cost-revenue analyses, and policy alternatives.

Prereq: GEO 315 Land Use Planning, GEO 335 Historic Preservation, GEO 530 Principles of Historic Preservation Planning, or permission of the department.

GEOGRAPHICAL METHODS

GEO 571 Teaching of Social Studies. Two sem hours
Subjects included: Selecting, securing, organizing, presenting and evaluating materials. Not open to students who hold credit in 348 Teaching of Social Studies in Elementary Schools.

GEO 580 Urban Environmental Management. Two sem hours
(formerly GEO 587)
Survey and evaluation of geologic, topographic, geomorphologic, hydrologic and atmospheric factors which potentially and actually have impact on urban development and environmental management.

Prereq: An urban or regional planning course or approval of the department.

GEO 581 Environmental Impact Statements. Two sem hours
(formerly GEO 532)
Interrelationships of physical and cultural ecosystems, and environmental policies particularly in the Great Lakes region are analyzed. Existing environmental impact statements are evaluated and impact statements are prepared by the class using existing data. Not open to students with credit in GEO 495.

GEO 582 Remote Sensing of Earth Resources. Three sem hours
(formerly GEO 505)
Lecture and laboratory application of remote sensing techniques to land use planning, upgrading geologic maps, crop forecasting, and other environmental problems. The utility of ERTS and Skylab imagery will be emphasized.

Prereq: GEO 305 or approval of the department.

GEO 590 Special Topics in Earth Science for Elementary Teachers. One sem hour
(Formerly GEO 537)
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are covered.
GEO 590 Special Topics in Teaching College Earth Science. One sem hour (Formerly GEO 595)
A seminar for students teaching or preparing to teach freshman Earth Science at the college level.

ADVANCED GRADUATE STUDY IN GEOGRAPHY

GEO 630 Cultural Resource Assessment. Three sem hours (Formerly GEO 547)
A planning course dealing with the purposes, objectives, and techniques of cultural resource inventories and surveys. Assessment of historic, architectural, archeological and recreational resources and their integration into the planning decision making process. Lecture, guest speakers, and audiovisual presentations will be supplemented by field trips to Marshall, Greenfield Village and other appropriate locations.
Prereq: GEO 530 Principles of Historic Preservation Planning or approval of the department.

GEO 636 Historic Preservation Field Project. Three sem hours (Formerly GEO 596)
Specially arranged supervised field experiences and application of theoretical viewpoints to field problems in historic preservation.
Prereq: Department permission.

GEO 637 Historic Preservation Field Project. Six sem hours (Formerly GEO 597)
Specially arranged supervised field experiences and application of theoretical viewpoints to field problems in historic preservation.
Prereq: Department permission.

GEO 635 History of Geographic Thought. Two sem hours (Formerly GEO 670)
The main themes of geographic thought from ancient times to the present day; the evolution of ideas fundamental to modern American geography.
Prereq: Approval by the department.

GEO 636 Area Analysis. Two sem hours (Formerly GEO 660)
Advanced geography field research. A philosophy of field geography; selected problems concerned with industry, recreation, agriculture and commerce. Prereq: Fifteen hours of credit in geography, including a course in field geography, or approval by the department.

GEO 677 Seminar in Methods and Research. Two sem hours (Formerly GEO 696)
Basic research techniques applicable to geography. Location and identification of source materials, statement and analysis of problems, and preparation and presentation of results of research. Prereq: Approval by the department.

GEO 680 Special Topics in Geography. Two sem hours (Formerly GEO 539)
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Information on content can be obtained at department office. Prereq: Approval by the department.

GEO 681 Special Topics in Geography. Three Sem hours.
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Information on content can be obtained at department office. Prereq: Approval by the department.

GEO 683 Field Studies in Michigan. Two sem hours (Formerly GEO 655)
The geographic and geologic environment: on-campus sessions and field trips include both subject matter and methodological concern. Write department for information on content. Offered as a two-week workshop in the summer session.

GEO 685 Geography Field Trips. Four sem hours (Formerly GEO 568)
Representative geographic regions in the area visited; significant geographic and geologic characteristics of each region. Students will have an opportunity to visit typical mining, forestry, agricultural, industrial and cultural enterprises of the regions. A written report is required.

GEO 687, 688, 689 Internship in Geography-Geology. Four, five and six sem hours
Supervised internship in some aspect of geography or geology which is of mutual interest to the student and the public or private agency that would "employ" the student. This experience is designed to integrate academic training with practical application. This course may be taken once only. Prereq: Permission of the department.

GEO 690, 691, 692 Thesis. One, two and three sem hours
An intensive study of a problem or problems under the direction of a faculty member. Prereq: Approval by the department.

GEO 693 Seminar in Neighborhood Preservation. Two sem hours
The viability and desirability of neighborhood preservation is discussed and observed from the perspective of affected inhabitants and from the broader urban to national contexts. Prereq: GEO 530 or department permission.

GEO 694 Seminar in Geography. Two sem hours (Formerly GEO 596)
Research, reports and group discussions emphasizing the distinctive concerns and methodology of geography. The particular topic that is examined will vary from semester to semester. Students may elect this seminar several times as long as the topics studied are different. Information regarding the content of a particular seminar may be obtained at the department office. Prereq: Approval by the department.

GEO 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly GEO 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member. Prereq: Approval of the department.
OTHER COURSES

These upper division undergraduate courses may also be taken for graduate credit.

428 Optical Mineralogy. (4)
430 Petroleum Geology. (3)
*431 Historical Geography of the United States. (3)
432 Political Geography. (3)
433 Political Geography of the United States. (3)
438 Industrial Location. (3)
439 Economic Geology. (3)
440 World Food Systems. (3)
441 Transportation Geography. (3)
448 Subsurface Water Resource. (3)
450 Shorelands Management Analysis. (3)
462 Meteorology. (2)
470 Quantitative Methods in Geography and Geology. (3)
475 Computer Mapping. (3)
495 Environmental Impact Assessment. (3)

*Does not apply M.A. historic preservation.
HISTORY and PHILOSOPHY

Ira M. Wheatley
Department Head
701-A Pray-Harrold,
487-1018

Louis B. Gimelli,
Coordinator of Advising
702-H Pray-Harrold,
487-0347

The Department of History and Philosophy offers a Master of Arts degree in history and coordinates an interdisciplinary Master of Arts in social science.

MASTER OF ARTS IN HISTORY

PROGRAM OBJECTIVES

The Master of Arts in history enables students to acquire both general and specific knowledge concerning the human past and an appreciation of the philosophy of history. The program features specialization and breadth in subject matter through the requirements pertaining to areas and fields. It also incorporates instruction in historiography and methodology as well as practice in doing research and writing history. Through the curriculum, students learn how to locate, evaluate, interpret, compile, and present historical data drawn from primary and secondary sources. Thus, the Master of Arts in history helps students refine their understanding of the meaning and matter of history. The degree can serve as preparation for teaching on the secondary or junior college level, for positions in government or business, or for further graduate work on the doctoral level.

ADMISSION REQUIREMENTS

In addition to meeting the Graduate School degree admission requirements, the applicant must present a minimum of 20 semester hours of undergraduate courses in history, with a grade point average of at least 2.50 for all undergraduate courses in history.

PROGRAM DESCRIPTION

The Master of Arts in history is awarded upon satisfactory completion of at least 30 semester hours of credit. This may include up to nine hours in approved upper division undergraduate courses.

For purposes of the degree requirements, the courses in history are divided into the following areas and fields:

Area 1
U.S. to 1877
U.S. since 1877

Area 2
Europe 1500–1815
Europe since 1815

Area 3
Asia
Latin America
Middle East

In addition to the regular fields, elective courses are offered in the following subjects: Michigan (Area 1); Ancient and Medieval (Area 2); History of Religions (Area 3).

There are two options under which the M.A. in history may be granted. One requires an oral or written examination, and the other the writing of a thesis. The choice between these options must be made by the time candidates have completed at least twelve but not more than nineteen hours on their programs.

Plan A (examination option)

Twenty-four to thirty hours of history courses carrying graduate credit, including:
1. a course in historical method (students entering the program without such credit will register for HIS 505 during their first semester);
2. six hours in each of two fields, each of which must be selected from a different area;*
3. a course in historiography;
4. electives.

An examination, oral or written at the student's option, in each of the two fields of concentration.

Zero to six hours of cognate courses chosen in consultation with the graduate adviser.

*Students with records of superior upper division undergraduate performance in these areas and fields may be permitted to substitute elective hours for some or all of these requirements. The approval of the graduate adviser is required.

Plan B (thesis option)

Eighteen to twenty-four hours of history courses carrying graduate credit, including:
1. a course in historical method (students entering the program without such credit will register for HIS 505 during their first semester);
2. six hours in each of two fields, each of which must be selected from a different area;*
3. a course in historiography;
4. electives.

Six hours of directed research concluding with the completion of a thesis program (project). The thesis will be read and accepted by three professors, one of whom will be the director.

Zero to six hours of cognate courses chosen in consultation with the graduate adviser.

*Students with records of superior upper division undergraduate performance in these areas and fields may be permitted to substitute elective hours for some or all of these requirements. The approval of the graduate adviser is required.
MASTER OF ARTS IN SOCIAL SCIENCE

PROGRAM OBJECTIVES

This degree program is an interdisciplinary effort among the Departments of Economics, Geography, History, Political Science, and Sociology/Anthropology, coordinated through the Department of History. Students in the program take courses in at least three of the five departments.

Because the Master of Arts in social science is interdisciplinary and does not require heavy specialization, it is responsive to individual interests and curricular needs. The program can offer greater expertise to social studies teachers in the elementary and secondary schools. Students with career interests in business or government service can acquire the deeper knowledge and broader perspective that stem from graduate work in social science. Beyond career or professional considerations, the program offers a fuller understanding of the social, cultural, political, economic, and geographic factors that have shaped the past and present human experience.

ADMISSION REQUIREMENTS

In addition to meeting the Graduate School admission requirements, the applicant must present a minimum of 30 semester hours of undergraduate courses in social science, with a grade point average of at least 2.5 in all undergraduate courses. Two letters of recommendation from former instructors and/or employers must also be submitted.

Alternative admission may be granted to those students not meeting the above requirements who show promise. Students who are admitted under alternative admission must maintain a B+ average to be granted degree admission. A maximum of 12 credit hours earned as an alternate admission may be applied toward the M.A. degree.

PROGRAM DESCRIPTION

The Master of Arts in social science is awarded upon satisfactory completion of at least 30 semester hours of credit. This may include up to nine hours in approved upper division undergraduate courses. The courses must be distributed as follows:

1. A concentration of 12 semester hours in one of the following disciplines: economics, geography (from those geography courses classed as social science), history, political science, or sociology/anthropology. At least six of these hours must be in 500 or 600 level courses.
2. Twelve semester hours to be selected from at least two of the disciplines other than the field of concentration.
3. Six elective semester hours of graduate work. The elective hours may be social sciences or any other graduate courses offered by the University.

ADVISING

In addition to the specific requirements mentioned above, it should be noted that degree candidates must satisfy all of the general requirements of the Graduate School.

Newly-admitted students should arrange an early conference with the graduate adviser, in order to plan their programs in detail. All course elections must be approved by the graduate adviser prior to registration each semester.

HISTORY

Graduate courses (open to candidates for the M.A. in history or social science, and to students from other disciplines who wish to take cognate hours in history).

AREA 1: UNITED STATES

HIS 531 Studies in Black History. Three sem hours
Selected major developments in the history of black Americans from 1619 to the present.

HIS 533 Studies in Michigan History. Three sem hours
Intensive study of differing periods and topics in Michigan history. 
Prereq: 313 Michigan History or permission of the department.

HIS 535 Studies in the History of the Family in the United States. Two sem hours
The study of a significant issue or problem in the history of the family in the United States. The topic will vary from semester to semester.

HIS 538 Studies in Colonial American History. Two sem hours
Colonial American political, economic and social institutions; current scholarship and interpretation. 
Prereq: 223 American History to 1877 or permission of the department.

HIS 541 The United States, 1825–1860; Ferment and Reform. Two sem hours
An intensive study of the reform movements of the era. Special emphasis is given to women, utopianism, antislavery, immigration, education, temperance, religion and the asylum. 
Prereq: 123 Trends in U.S. History or 223 U.S. History to 1877 or permission of the department.

HIS 568 Studies in 20th Century U.S. Reform. Two sem hours
Selected treatment of the Reform movements in the 20th century with special emphasis on the Progressive Era and the New Deal. 
Prereq: 224 American History 1877 to the present or equivalent.

HIS 583 Studies in the Civil War and Reconstruction. Three sem hours
Major problems of interpretation in the period from 1850 to 1877.

HIS 584 Studies in the Gilded Age. Two sem hours
The United States moving into a modern phase after the Civil War, leaving behind the old frontier and the blacksmith economy to enter an era characterized by factories, large cities, a race for colonies and socio-political unrest.

HIS 586 United States in World Politics. Two sem hours
American foreign policy in the twentieth century; the nation's transition to great-power status and its adjustment to the demands of that role.

AREA 2: EUROPE

HIS 511 Studies in Ancient History. Two sem hours
Intensive study of selected topics in Classical Greek and Roman history during the period 500 B.C. – A.D. 600.
HIS 548 History Travel-Study Tours. Two sem hours
Representative areas with significant historical background. May be taken more than once, but only two hours of such credit may be applied towards any one degree program.

HIS 550 Twentieth Century Russia. Two sem hours
Political, diplomatic, social, and cultural developments in Russia from 1894 to the present.

AREA 3: OTHER

HIS 514 Studies in Renaissance and Reformation History. Three sem hours
An examination of major Renaissance and Reformation issues and developments in their historical setting.
Prereq: 330 Europe in the Renaissance and Reformation or permission of the department.

HIS 515 Studies in Medieval History. Three sem hours
Intensive study of selected topics in European history during the period 300–1300.

HIS 517 Historical Background of Modern Britain. Two sem hours
The history of Great Britain from 1815 to the present with primary emphasis on institutional development. Political, economic, social and imperial problems will be examined, and Great Britain's role in today's world will be assessed.

HIS 518 Studies in Recent German History. Two sem hours
World War I, the Weimar Republic, the rise of National Socialism and the National Socialist state, World War II and contemporary Germany.
Prereq: 338 German History since 1815 or permission of the department.

HIS 520 French Revolution and Napoleon, 1774–1815. Three sem hours
A study of the French Revolution and its Napoleonic aftermath. Emphasis is placed upon an understanding of the revolutionary movement, interpretation and significance for the future.
Prereq: 331 Modern Europe, 1648–1815.

HIS 522 Studies in Twentieth Century Europe. Three sem hours

HIS 543 Nationalism and Modernization in the Middle East and North Africa. Three sem hours
The development of nationalism and modernization in the Middle East and North Africa from World War I to the present; political and social changes occurring in this developing area.
Prereq: 341 Middle Eastern History, 1798 to Present, 342 North Africa, 1798 to Present or permission of the department.

HIS 554 Studies in Modern India. Three sem hours
The development of India from mid-19th century to the post-independence period; major problems confronting contemporary India.
Prereq: 375 Modern India or permission of the department.

HIS 555 Studies in Far Eastern History. Two sem hours
Study of selected eras and topics in Far Eastern history. The topic selected will be announced in the time schedule.
Prereq: One course in Far Eastern history, or permission of the department.

HIS 560 Studies in Latin American History. Two sem hours
An intensive investigation of selected political, economic, social and cultural
topics in Latin American History. The specific topics and chronological coverage are announced in the class schedule.

Prereq: One course in Latin American history, or permission of the department.

SPECIAL COURSES

HIS 505 Historical Method. Three sem hours
This course, the first in the student's graduate program, treats the relationship of history to the humanities and social sciences, the use of the library, standard bibliographical aids and collected source materials and the skills and experience necessary to evaluate historical writing critically and to conduct historical research in a mature and professional manner. The preparation of a substantial paper demonstrating the ability of the student to apply the canons of historical scholarship will constitute part of the course.

HIS 591, 592 Special Topics in History. Two or three sem hours
(Formerly HIS 593, 594)
Subject matter will change from semester to semester. Course may be repeated for credit, up to a limit of six hours.

HIS 688 Historiography. Two sem hours
A critical study of the writings, philosophy and influence of major historians.
Prereq: Fifteen hours of graduate credit in history.

HIS 690, 691, 692 Thesis. One, two and three sem hours
Intensive research into an historical problem, and the preparation of a thesis consistent in substance and form with the standards of the historical profession.
Prereq: Permission of the department.

HIS 697, 698, 699 Independent Studies. One, two or three sem hours (Formerly HIS 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member. A maximum of six hours may be applied toward a degree program. A maximum of three hours may be taken in any one semester or session. Approval of department head or graduate adviser is required as first step in registration process.

Other Courses for Credit toward the Master's Degree
Upper division undergraduate courses in history and philosophy may also be taken for graduate credit and applied towards the degree program in history and social science. Note that a maximum of nine hours of such credit may be used in any one degree program. For information about undergraduate courses which may be taken for graduate credit please consult the coordinator of advising.
ADMISSION REQUIREMENTS

The Graduate Advisory Committee of the department will consider admission to the program after assigning each student to an adviser. The requirements for admission to the program are:
1. Meet Graduate School degree admission requirements.
2. A strong undergraduate major in mathematics comparable to that offered at Eastern Michigan University; students without such a major may be admitted to the program after meeting requirements specified by the Graduate Advisory Committee.
3. Acceptance by the Graduate Advisory Committee.

DEGREE PROGRAM DESCRIPTION AND GRADUATION REQUIREMENTS

The Master of Arts degree in mathematics requires a minimum of 30 semester hours of credit beyond the bachelor's degree to be distributed with the approval of the Graduate Advisory Committee, as follows:
1. Three required courses of basic mathematics:
   MTH 411 Modern Algebra with Applications or equivalent.
   MTH 416 Linear Algebra or equivalent.
   MTH 420 Introduction to Analysis or equivalent.
   Students with undergraduate credit in any or all of these courses will substitute approved mathematics electives for these hours.
2. A minimum total of four hours of electives from at least two of the following three groups:
   a) MTH 514 Theory of Fields; MTH 518 Theory of Groups
   b) MTH 524 Complex Analysis; MTH 526 Real Analysis
   c) MTH 471 Probability and Statistics II; MTH 573 Applied Statistics.
3. (Optional) Four hours of thesis research. Additional thesis hours may be taken but will not replace the requirements of items 1, 2, 4, 5 under this section. Students who elect the thesis option must present a request to form a thesis committee, to the department head, before the start of their thesis research. The committee will be made up of three faculty members of the Mathematics Department. The chairperson, who will direct the research, is usually selected by the student and requires the approval of the department head. The chairperson, in consultation with the student will then recommend, for department head approval, the other two committee members. At the conclusion of their research, students will submit to the department head the original thesis plus three (3) copies written in a manner suitable for publication and approved by the thesis committee.
4. Additional electives to make up a minimum of 24 hours with usually no more than six of these 24 hours to be in mathematics education courses. Thesis hours in mathematics education are not to be counted as part of this six hour limitation.
5. Cognate hours: zero to six in courses approved by the Mathematics Department. The number of such hours will be determined by the Graduate Advisory Committee based upon a student's background and need. Approval by the Graduate Advisory Committee for each semester's courses. Final recommendation for the degree by the Graduate Advisory Committee. Students seeking a Master of Arts in mathematics and having an interest in computing and numerical analysis should call the Department of Mathematics for further information.

COURSE DESCRIPTIONS

MTH 500 Modern Mathematics Content, K–6. Two sem hours
The modern mathematics required for teaching this subject in the elementary grades, K–6: set theory, logic, numeration systems, the real number system and geometry. Not applicable to program M.A. in Mathematics. Not open to students who have credit in MTH 501 New Topics in Modern Mathematics, K–8.

MTH 501 New Topics in Modern Mathematics, K–8. Two sem hours
New topics in modern mathematics programs; the materials of various study groups; practical problems in teaching mathematics in grades K–8. Not applicable to program M.A. in Mathematics. Not open to students who have credit in
MTH 500 Modern Mathematics Content, K—6.
Prereq: Teaching experience or 381 The Teaching of Mathematics, K—6.

MTH 503 Arithmetic Methods. Two sem hours
Current problems in teaching arithmetic. Evaluating pupil achievement; new topics. Not applicable to program M.A. in Mathematics.
Prereq: Teaching experience or 381 The Teaching of Mathematics, K—6.

MTH 506 Introduction to Mathematical Logic. Two sem hours
Propositional and first order predicate calculus and rules of deduction; application in mathematical systems and proofs.
Prereq: A minor in mathematics.

MTH 507 Theory of Numbers. Two sem hours (Formerly MTH 516)
Prereq: A minor in mathematics.

MTH 508 Foundations of Mathematics. Two sem hours
An introduction to axiomatic method, axiomatic set theory, transfinite arithmetic, logical paradoxes; their influence on modern conceptions of mathematics.
Prereq: A minor in mathematics.

MTH 511 Linear Algebra I. Two sem hours
Vector spaces, dimension, linear transformations, matrices and determinants with application to linear equations. Equivalence of matrices and an introduction to similarity theory.
Prereq: A minor in mathematics.

MTH 514 Theory of Fields. Two sem hours (Formerly MTH 614)
Finite fields, prime fields and their extensions, splitting fields, separability, irreducibility and Fundamental Theorem of Algebra.
Prereq: MTH 411 Modern Algebra with Applications or equivalent. (Will allow MTH 518 Group Theory I during transition period.)

MTH 518 Theory of Groups. Two sem hours
Definitions and examples, permutation groups, subgroups, cyclic groups, homomorphisms and isomorphisms, normal subgroups and factor groups, finitely generated abelian groups, Sylow Theorems and their applications.
Prereq: MTH 411 Modern Algebra with Applications or permission of the department.

MTH 520 The Real Number System. Two sem hours
A development of the real number system and a study of its properties.
Prereq: A minor in mathematics.

MTH 522 Fourier Analysis. Two sem hours
An introduction to Fourier series and their application to the solution of boundary value problems in the partial differential equations of physics and engineering.
Prereq: MTH 325 Differential Equations and Vector Analysis, and MTH 420 Introduction to Analysis or equivalent.

MTH 524 Complex Analysis. Two sem hours
Complex numbers, analytic functions, elementary complex functions and mappings, Cauchy's theorem and Cauchy's integral formula, maximum modulus principle, power series and calculus of residues.
Prereq: MTH 420 Introduction to Analysis or permission of the department. (Will allow 420 Advanced Calculus I or MTH 526 Real Analysis or equivalent during transition period.)

MTH 526 Real Analysis. Two sem hours
Topology of the real line, sequences and series, metric spaces, real valued functions, functions of bounded variation, theory of differentiation and integration.
Prereq: MTH 420 Introduction to Analysis or permission of the department. (Will allow MTH 520 The Real Number System during the transition period.)

MTH 528 Theory of Groups. Two sem hours
Definitions and examples, permutation groups, subgroups, cyclic groups, homomorphisms and isomorphisms, normal subgroups and factor groups, finitely generated abelian groups, Sylow Theorems and their applications.
Prereq: MTH 411 Modern Algebra with Applications or permission of the department.

MTH 536 Introduction to Digital Computers and FORTRAN. Two sem hours
A first course in computer programming designed for graduate students. The course concentrates on development of algorithmic problem solutions and their descriptions via flow charts and the FORTRAN IV language. The students will obtain experience using a digital computer by running several programs. Not open to students who have credit in 137 Introduction to Computer Programming or 237 Computer Programming and Numerical Methods.
Prereq: College algebra and permission of the department.

MTH 537 Introduction to Numerical Analysis. Two sem hours
Review of current computer language in use on campus, errors, evaluation of functions, root determination, numeric integration, interpolation, solution of ordinary differential equations and simultaneous linear equations. Not open to students who have credit in 436 Numerical Analysis I.
Prereq: A course in computer programming and 221 Calculus with Analytic Geometry IV as a replacement for 223 during transition period.

MTH 542 Non-Euclidean Geometry. Two sem hours
Foundations of geometry and historical development. A study of hyperbolic and elliptic plane geometries. These compared with parabolic plane geometry.
Prereq: A minor in mathematics.

MTH 543 Analytic Projective Geometry. Two sem hours
Projective geometry as defined on a vector co-ordinate space. The corresponding vector algebra is studied and then adapted to the affine plane and two of its subplanes; Euclidean and Space-Time.
Prereq: An undergraduate major in mathematics.

MTH 546 Graph Theory. Two sem hours
A study of undirected and directed graphs and their structural properties including connectivity and traversibility. Associated matrices, groups and relations and applications to networks.
Prereq: A minor in mathematics.

MTH 548 Introduction to Differential Geometry. Two sem hours
Fundamental concepts of the theory of curves and surfaces in three-dimensional space. Applications. (Offered as needed.)
Prereq: An undergraduate major in mathematics.
MTH 550 General Topology. Two sem hours (Formerly MTH 528)
General theory of topological spaces, metric spaces, continuity, product and quotient spaces, separation axioms and compactness.
Prereq: MTH 420 Introduction to Analysis or permission of the department. (Will allow MTH 520 The Real Number System during transition period.)

MTH 560 Introduction to Optimization Theory. Two sem hours
An introduction to various aspects of optimization theory including linear and non-linear programming, primal-dual methods, calculus of variations, optimal control theory, sensitivity analysis and numerical methods.
Prereq: A major in mathematics or permission of the department.

MTH 571 Probability and Statistics. Two sem hours (Formerly MTH 574)
Probability, expectation, variance, co-variance, distribution functions, sampling theory and other topics. Not open to students who have credit in 370 Probability and Statistics I.
Prereq: Fifteen hours of undergraduate credit in mathematics including a second course in the calculus.

MTH 573 Applied Statistics. Two sem hours (Formerly MTH 577)
Point and interval estimation, hypothesis testing, sample mean and sample variance, analysis of variance, linear and non-linear regression, contingency tables, non-parametric methods, applications to the physical, biological and social sciences and to business and education.
Prereq: MTH 571 Probability and Statistics or 370 Probability and Statistics I or permission of the department. (Will allow MTH 574 Probability or 470 Introduction to Mathematical Statistics I during transition period.)

MTH 575 Statistical Problems. Two sem hours
Probability densities, mathematical expectation, multivariate distribution theory, sampling distributions, point and interval estimations, test of hypotheses, an introduction to the analysis of variance and statistical decision problems. Not open to students who have credit in 471 Probability and Statistics II.
Prereq: MTH 571 Probability and Statistics or 370 Probability and Statistics I or permission of the department.

MTH 581 Modern Mathematics Methods, K–6. Two sem hours
Effective techniques in presenting materials, planning class activities and creating good learning situations; current problems in a modern mathematics curriculum for grades K–6. Not applicable to program M.A. in Mathematics.
Prereq: MTH 500 Modern Mathematics Content, K–6 or permission of the department.

MTH 584 Middle School Mathematics, Methods and Content. Three sem hours
Middle school mathematical content and contemporary ways of using materials and strategies to present the content. Topics include algebra, geometry, probability and statistics, number theory, logic and other general mathematics notions.
Prereq: Teaching experience in junior or middle school mathematics or 15 hours of undergraduate credit in mathematics or permission of the department.

MTH 585 Modern Mathematics Methods, Senior High School. Two sem hours
For students lacking an undergraduate high school methods course in mathematics. Not applicable to program M.A. in Mathematics. Not open to students who have credit in 306 Teaching of High School Mathematics. (Offered as needed.)
Prereq: A minor in mathematics.

MTH 587 Enriching Instruction in High School Mathematics. Two sem hours
New teaching aids and supplementary reading materials; subject matter usually not developed in standard texts (e.g., linear programming, principles of computers and advanced geometric constructions). Topics for accelerated high school classes.
Prereq: Teaching experience in high school mathematics.

MTH 588 High School Mathematics, Methods and Content. Three sem hours
Presents information and materials to broaden and deepen a secondary teacher's background in teaching mathematics. Topics include general mathematics, algebra, geometry, trigonometry and senior mathematics. Applications, strategies of presentation and teaching aids are discussed.
Prereq: A minor in mathematics or permission of the department.

MTH 589 Geometry for Secondary Teachers. Two sem hours
(Formerly MTH 547)
Prereq: A minor in mathematics or permission of the department.
Presents information and materials to broaden and deepen a secondary teacher’s background in teaching of geometry. Foundations of geometry, modern geometry, non-Euclidean geometries and a little topology are studied.

MTH 595 Workshop. Two sem hours
Usually not applicable to M.A. program in mathematics.
Prereq: Permission of the department.

MTH 601 The Teaching of Junior College Mathematics. Two sem hours (Formerly MTH 681)
Prereq: Completion of a minimum of 10 hours of graduate credit in mathematics and overall graduate G.P.A. in mathematics 3.3 or above, and permission of the department.
Current problems in a junior college mathematics program. The role of algebra and trigonometry, elementary functions, analytic geometry, the calculus and linear algebra; content and techniques of instruction. CUPM recommendations for a college program. (Not offered currently.)

MTH 610 Rings and Ideals I. Two sem hours
Prereq: Any course in abstract algebra.
Polynomial rings, ideals and homomorphisms, imbedding theorems, prime ideals, the radical, minimal and maximal prime ideals belonging to an ideal. (Not offered currently.)

MTH 611 Linear Algebra II. Two sem hours (Formerly MTH 512)
The theory of finitely generated modules over a ring of polynomials, as applied to similarity theory; canonical forms for similarity. Scalar products, the dual space, Sylvester’s Theorem and the Spectral Theorem.
Prereq: MTH 511 Linear Algebra I or MTH 416 Linear Algebra.

MTH 679, 680, 681 Special Topics in Mathematics. One, two and three sem hours (Formerly MTH 591)
A graduate level course in a specific area of mathematics, to be determined by the field of specialization of the instructor and the interest of the students.

MTH 690, 691, 692 Thesis Research.
One, two and three sem hours
Research in areas of mathematics or mathematics education under guided direction. Thesis is required at the conclusion of the research work.
Prereq: Permission of the department.

MTH 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly MTH 597, 598, 599)
A report on an approved subject in the field of mathematics, the history of mathematics or the teaching of mathematics, under the guidance of Mathematics Department staff.
Prereq: Completion of a minimum of 10 hours of graduate credit in mathematics and overall graduate G.P.A. in mathematics 3.3 or above, and permission of the department.

OTHER COURSES FOR GRADUATE CREDIT

The following courses may also be elected for graduate credit; course descriptions may be found in the Undergraduate Catalog. Information about courses in mathematics and in computer science not listed here may be obtained from the Coordinator of Advising, Dr. Enoch Tse.

400 History of Mathematics. (3)
403 Current Research in Elementary School Mathematics. (3)
411 Modern Algebra with Applications. (3)
416 Linear Algebra. (3)
418 Applied Linear Algebra. (3)
420 Introduction to Analysis. (3)
425 Mathematics for Scientists. (3)
436 Numerical Analysis. (3)
471 Probability and Statistics II. (3)
477 Special Topics in Mathematics. (2)
478 Special Topics in Computer Science. (2)
All music curriculums are accredited by the National Association of Schools of Music.

ADMISSION

Application for admission should be made to the Graduate School, where undergraduate transcripts are evaluated. Transcripts should be forwarded to the Graduate School at the time of application. In addition, students wishing to major in performance should send a tape to the Department of Music or write for information on auditions. Admission to a graduate program in the Department of Music is granted to students who meet the requirements of both the Graduate School of Eastern Michigan University and the Department of Music. In addition to Graduate School requirements for degree admission, the department requires the applicant to have an undergraduate degree in music or its equivalent and an overall undergraduate grade point average of 2.50. Upon general admission to the department, additional auditions are necessary for acceptance in a performance concentration. Students who meet Graduate School requirements for admission but who do not meet all departmental requirements may be granted conditional admission. Conditions that must be met before degree admission is granted include: a) completion of all graduate placement examinations and auditions; b) completion of all deficiency courses and requirements; c) completion of the course Music 601 Introduction to Graduate Study; and d) completion of at least six credit hours of graduate study in music at Eastern Michigan University with a cumulative grade point average of 3.0 (B) or better. Upon entering the Department of Music, each student is assigned to an adviser who assists in planning a curriculum based on student needs and future plans. Placement examinations in theory-literature-history and performance are given each semester and students are expected to complete these tests before decisions on course elections are made. The results of the placement tests are used by advisers in determining the course needs of students. Students with deficiencies may be required to take remedial courses without graduate credit.

AUDITIONS AND PLACEMENT TESTS

Placement tests for admission to the graduate music program will be held in 1980 on the following dates:

Winter Semester
February 12, 1981

Spring Session
June 17, 1981

Fall Semester
November 10, 1981

Auditions are arranged with the adviser and area chairman. In addition to regular tuition, students accepted for private music lessons will be assessed an applied music fee described under the section on tuition and fees.

OPEN TO GRADUATE MUSIC MAJORS

MUS 601 Introduction to Graduate Studies. Two sem hours (Formerly MUS 501)
An introductory course in scholarly research and writing which includes: library orientation for the music researcher; basic types of music research; evaluation of basic source materials for music research; style for writing and documentation of scholarly research; organization of a bibliography.

MUS 617 Music Composition II. Two sem hours (Formerly MUS 518)
Original composition based upon techniques of the twentieth century; composition of works of moderate length. Prereq: MUS 517 Music Composition I or equivalent.

MUS 618 Music Composition III. Two sem hours (Formerly MUS 519)
Original composition in larger forms with the intent of performance. Prereq: MUS 517 Music Composition I and MUS 617 Music Composition II or equivalent.

MUS 642 History and Philosophy of Music Education. Two sem hours
The study of the development of music education in the United States and the
influence of philosophy upon this development.

Prereq: Permission of the department.

MUS 651 The General Music Class.
Two sem hours (Formerly MUS 551)
An exploration of the place of music in the education of adolescents; includes techniques and materials utilized in the general music class of the middle and junior high schools. Discussion of current trends in general education that affect the structure and place of the general music class in the secondary school curriculum.

MUS 652 Advanced Techniques and Materials for Developing the Vocal Music Program in the Elementary School. Two sem hours
An exploration of the latest trends, techniques and materials utilized in elementary school vocal and general music classes. Discussion of current practices in general education that affect the music program in the elementary school.

MUS 653 Advanced Techniques and Materials for Developing the Secondary School Vocal Program. Two sem hours
An exploration of the latest trends, techniques and materials utilized in middle, junior and senior high school vocal music. Both performance and non-performance types of classes are covered. Discussion of current practices in general education that affect the music program in the secondary schools.

MUS 654 Advanced Techniques and Materials for Developing the Secondary School Band Program. Two sem hours
Current trends in techniques and materials for the high school band.

MUS 655 Advanced Techniques and Materials for Orchestras in the Secondary Schools. Two sem hours
Selected problems and their solution pertaining to the improvement of the musical performance of the school orchestra. Major emphasis is placed on the string section and its problems.

MUS 658 Administration and Supervision in Music Education.
Two sem hours (Formerly MUS 558)
An examination of the purposes and function of school music administration. Emphasis is placed on the role of the music supervisor as an educational leader in the areas of curriculum, business, and personnel.

MUS 691 Thesis. Two sem hours
A substantial and original undertaking in scholarly research designed to reflect, focus and deepen the student's individual interests and to provide a culminating work leading to a master's degree in music.

Prereq: Permission of the department.

MUS 692 Final Project. Two sem hours (Formerly MUS 694)
A creative, analytical or pragmatic project of a substantial and original nature designed to reflect the student's individual interests and to serve as a culminating work leading to a master's degree in music. Final projects may be of several types such as: lecture-recital; original composition with analytical paper; annotated bibliography or discography; survey; unit of study; course outline.

Prereq: Permission of the department.

MUS 694 Seminar in Music. Two sem hours
Topics may be in some area of music education, theory, literature, history, musicology or performance. May serve for the development of research proposals, literature reviews, research techniques or other similar purposes. May be repeated for credit with permission of adviser.

Prereq: Permission of the department.

MUS 697, 698 Independent Studies.
One and two sem hours
(Formerly MUS 597, 598)
An intensive study of a program or group of problems under the direction of a University faculty member.

Prereq: Permission of adviser and study director.

Performance Courses

AMU 601, 602, 603, 604 Applied Music—Performance. One, two, three, and four sem hours
Open to performance majors and graduate students who completed an undergraduate concentration in performance. May be repeated for credit.

Prereq: Audition.

MUS 687 Graduate Recital. Two sem hours (Formerly MUS 689)
Required in partial fulfillment of the Master of Arts degree for those students concentrating in performance and for those students who qualify for and select recital as a culminating option. Students must be enrolled in AMU 601/602/603/604 concurrently.

OPEN TO GRADUATE STUDENTS AND QUALIFIED SENIORS

MUS 504 America's Music. Two sem hours
The diversified styles of music made and continuously used by the people of the United States in terms of our historical cultural traditions.

Prereq: Music major or department permission.

MUS 510 Masterpieces of Music. Two sem hours
The diversified styles of music made and continuously used by the people of the United States in terms of our historical cultural traditions.

Prereq: Music major or department permission.

MUS 504 America's Music. Two sem hours
The diversified styles of music made and continuously used by the people of the United States in terms of our historical cultural traditions.

Prereq: Music major or department permission.
MUS 511 Survey of Harmonic Techniques. Two sem hours
Compositional and harmonic techniques and practices of major composers of the eighteenth, nineteenth and twentieth centuries.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 513 Form and Analysis. Two sem hours
Structural principles and techniques through analysis of representative works of eighteenth, nineteenth and twentieth centuries.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 514 Sixteenth Century Counterpoint. Two sem hours
Polyphonic techniques and forms based upon stylistic principles of the sixteenth century.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 517 Music Composition I. Two sem hours
The creative process in music through analysis of traditional and new music; original composition in small forms illustrating various techniques and media.
Prereq: Permission of the department (may be repeated for credit).

MUS 531 Renaissance Music. Two sem hours
Selected works representing the forms, styles and idioms of the fifteenth and sixteenth centuries.
Prereq: Music major or department permission.

MUS 532 Baroque Music. Two sem hours
Selected works representing some of the styles and idioms of the seventeenth century, and of the early and mid-eighteenth century (Bach, Handel).
Prereq: Music major or department permission.

MUS 533 Music in the Classic Era. Two sem hours
The development of musical style and form in the classic era, principally in the works of Haydn, Mozart and Beethoven.
Prereq: Music major or department permission.

MUS 534 Music in the Romantic Era. Two sem hours
The development of musical style and form in the romantic era. Intensive study of selected compositions.
Prereq: Music major or department permission.

MUS 535 Music of the Twentieth Century. Two sem hours
Study of major works, composers and aesthetic systems of twentieth-century music. Selected works to be announced each time the course is offered.
Prereq: Music major or department permission.

MUS 536 World Music I. Two sem hours
The study of music literature from a variety of times and cultures. Discussion of experimentation and improvisation characteristic of soloists and small groups in the history of world music. To include solo song, chamber music, madrigal, piano, lute, sitar (and other non-Western music). Open to majors and non-majors.

MUS 537 World Music II. Two sem hours
A continuation of the study of music from a variety of times and cultures with emphasis on large groups. To include instrumental ensembles, orchestra, band, choir, composite groups, theatrical and festival music. Discussion of the culmination of style characteristics of large groups in the history of world music. Open to majors and non-majors.

MUS 538 The New Music. Two sem hours
Examination of the new music; its sound, sources, structures, notation, performance and perception. Listening, study, discussion and performance, covering vocal, instrumental and electronic techniques.
Prereq: Music major or department permission.

MUS 540 The Orchestra and Its Literature. Two sem hours
A chronological survey of music for orchestra from its inception in the 18th Century to the present. It will include overtures, suites, concertos, symphonies, tone poems, pieces for chorus and soloists with orchestras and other miscellaneous compositions. Emphasis will be on listening, stylistic features and historical background.
Prereq: Music major or department permission.
MUS 551 Vocal and Instrumental Accompanying. Two sem hours
(Formerly MUS 451 Vocal and Instrumental Accompanying)
Provides pianists with experience in accompanying singers and instrumentalists through acquisition of basic skills and repertoire. Course may be repeated for credit.
Prereq: Audition.

MUS 560 Studies in Pedagogy. Two sem hours (Formerly MUS 460)
Topics may be selected from the following: piano, organ, voice, vocal diction, brass, woodwinds, strings, theory, literature, percussion or similar subjects. Topics to be offered will be announced in the schedule of classes. May be repeated for credit with permission of adviser.

MUS 561 Studies in Literature. Two sem hours (Formerly MUS 461)
Topics to be selected from the following: piano, organ, vocal repertoire, band, orchestra, choir, solo song, chamber ensemble, opera or similar topics. Topics to be offered will be announced in the schedule of classes. May be repeated for credit with permission of adviser.

MUS 577 Advanced Instrumental Conducting. Two sem hours
Interpretative factors and more subtle baton techniques; greater understanding of style and form through analysis of representative scores.
Prereq: 327 Instrumental Conducting or equivalent.

MUS 578 Advanced Choral Conducting. Two sem hours
Choral conducting techniques, styles and materials, organization, balance of choral groups, score reading, control of voices for blending flexibility, vocal poise and musical discipline for both church and school singing groups.
Prereq: 328 Choral Conducting or equivalent.

MUS 595 Workshop in Music. Two sem hours
Topic to be announced in the schedule of classes. Topics will usually relate to some aspect of music education or performance such as Choral Workshop, String Workshop, Band Workshop, Keyboard Workshop, General Music Workshop, Chamber Music Workshop or some similar topic. May be repeated for credit.

Performance Courses

MUS 546 Collegium Musicum. One sem hour
Various ensembles of soloists-instrumental, vocal and mixed. Opportunity to perform old and new music infrequently heard. May be repeated for credit.
Prereq: Department permission.

MUS 547 Collegium Musicum. Two sem hours
Various ensembles of soloists-instrumental vocal and mixed. Opportunity to perform old and new music infrequently heard. Credit beyond one semester hour is earned through individual projects and research. May be repeated for credit.
Prereq: Department permission.

MUS 550 Ensemble. One sem hour
Participation in any regular departmental ensemble as a means of expanding knowledge of literature, observing techniques of conducting, and increasing efficiency in principal or secondary performance areas. May be repeated for additional credit. Open to qualified students upon satisfactory audition.

AMU 501, 502 Applied Music—Secondary Performance. One and two sem hours
Open to majors and non-majors. May be repeated for credit.
Prereq: Audition.

UPPER DIVISION
UNDERGRADUATE COURSES OPEN TO GRADUATE STUDENTS

MUS 413 Orchestration. Two sem hours
Practical work in setting compositions for full orchestra and various other instrumental ensembles.
Prereq: 202 Music Theory-Literature IV.

MUS 414 Band Arranging. Two sem hours
Arranging for band; transcription from other media; original composition; analysis or representative work.
Prereq: Senior standing and permission of the department.

MUS 449 Opera Workshop. Two sem hours
A laboratory-performance course which will deal with performance of opera scenes and, when feasible, complete works. The musical, technical and dramatic aspects of production will be stressed.
Prereq: Permission of the department.

TENTATIVE SCHEDULE
Course Winter Spring Summer Fall
MUS 511 X X X
MUS 513 X X X
MUS 517 X X X
MUS 531 X X X
MUS 532 X X X
MUS 533 X X X
MUS 534 X X X
MUS 535 X X X
MUS 536 X X X
MUS 537 X X X
MUS 538 X X X
MUS 546 X X X
MUS 547 X X X
MUS 550 X X X
MUS 556 X X X
MUS 557 X X X
MUS 558 X X X
AMU 501 X X X X
AMU 502 X X X X
AMU 503 X X X X
AMU 504 X X X X
AMU 505 X X X X
AMU 506 X X X X
AMU 507 X X X X
AMU 508 X X X X
AMU 509 X X X X
AMU 510 X X X X
AMU 511 X X X X
AMU 512 X X X X
AMU 513 X X X X
AMU 514 X X X X
AMU 515 X X X X
AMU 516 X X X X
AMU 517 X X X X
AMU 518 X X X X
AMU 519 X X X X
AMU 520 X X X X
AMU 521 X X X X
AMU 522 X X X X
AMU 523 X X X X
AMU 524 X X X X
AMU 525 X X X X
AMU 526 X X X X
AMU 527 X X X X
AMU 528 X X X X
AMU 529 X X X X
AMU 530 X X X X
AMU 531 X X X X
AMU 532 X X X X
AMU 533 X X X X
AMU 534 X X X X
AMU 535 X X X X
AMU 536 X X X X
AMU 537 X X X X
AMU 538 X X X X
AMU 539 X X X X
AMU 540 X X X X
AMU 541 X X X X
AMU 542 X X X X
AMU 543 X X X X
AMU 544 X X X X
AMU 545 X X X X
AMU 546 X X X X
AMU 547 X X X X
AMU 548 X X X X
AMU 549 X X X X
AMU 550 X X X X
AMU 551 X X X X
AMU 552 X X X X
AMU 553 X X X X
AMU 554 X X X X
AMU 555 X X X X
AMU 556 X X X X
AMU 557 X X X X
AMU 558 X X X X
AMU 559 X X X X
AMU 560 X X X X
AMU 561 X X X X
AMU 562 X X X X
AMU 563 X X X X
AMU 564 X X X X
AMU 565 X X X X
AMU 566 X X X X
AMU 567 X X X X
AMU 568 X X X X
AMU 569 X X X X
AMU 570 X X X X
AMU 571 X X X X
AMU 572 X X X X
AMU 573 X X X X
AMU 574 X X X X
AMU 575 X X X X
AMU 576 X X X X
AMU 577 X X X X
AMU 578 X X X X
AMU 579 X X X X
AMU 580 X X X X
AMU 581 X X X X
AMU 582 X X X X
AMU 583 X X X X
AMU 584 X X X X
AMU 585 X X X X
AMU 586 X X X X
AMU 587 X X X X
AMU 588 X X X X
AMU 589 X X X X
AMU 590 X X X X
AMU 591 X X X X
AMU 592 X X X X
AMU 593 X X X X
AMU 594 X X X X
AMU 595 X X X X
AMU 596 X X X X
AMU 597 X X X X
AMU 598 X X X X
AMU 599 X X X X
AMU 600 X X X X
AMU 601 X X X X
AMU 602 X X X X
AMU 603 X X X X
AMU 604 X X X X
AMU 605 X X X X
AMU 606 X X X X
AMU 607 X X X X
AMU 608 X X X X
AMU 609 X X X X
AMU 610 X X X X
AMU 611 X X X X
AMU 612 X X X X
AMU 613 X X X X
AMU 614 X X X X
AMU 615 X X X X
AMU 616 X X X X
AMU 617 X X X X
AMU 618 X X X X
AMU 619 X X X X
AMU 620 X X X X
+ Courses offered on a two (2) year cycle.
The Department of Physics and Astronomy offers three programs leading to the degree of Master of Science, a program in physics for those interested in research and more advanced studies; a program in physics education for in-service and pre-service secondary teachers; and an interdisciplinary program in general science for in-service and pre-service elementary and middle school teachers.

Each program requires a minimum of 30 semester hours of approved credits beyond the bachelor's degree, at least six hours of which must be in cognate areas and no more than 15 hours in approved upper division undergraduate courses. Upon admission to a program the student will arrange a program of study with his assigned adviser.

ADMISSION REQUIREMENTS

Applicants must meet degree admission requirements of the Graduate School.

The Physics Program is designed to prepare students for advanced graduate study in physics, for a professional career in physics or for a teaching career in physics at the community college level. Those entering this program should have an undergraduate major in physics or be prepared to take courses without credit to achieve an equivalent to the major. Graduation requirements include an undergraduate and graduate combined total of a minimum of 50 approved semester hours in physics and 22 approved semester hours in mathematics, as well as a research problem culminating in a written report and satisfactory performance in an oral examination. In satisfying the requirements of 50 semester hours of physics (graduate and undergraduate combined), completion of the following physics courses (or their equivalents) is expected for a master's degree:

- PHY 430 Intermediate Mechanics I
- PHY 431 Intermediate Mechanics II
- PHY 450 Electricity and Magnetism
- PHY 475 Introduction to Quantum Mechanics
- PHY 662 Advanced Mechanics
- PHY 671 Electromagnetic Theory or PHY 440 Optics and PHY 441 Modern Optics
- PHY 675 Quantum Mechanics or PHY 460 Heat and Thermodynamics
- PHY 462 Kinetic Theory and Statistical Mechanics
- PHY 690-2 Thesis/Final Report

*Substitution of the 400 level courses may be made for 671 or 675, but not for both.

Further information may be obtained from Dr. Walter Gessert or Dr. Richard Roth, graduate advisers, Department of Physics and Astronomy.

The Physics Education Program is designed to improve the preparation of in-service and pre-service secondary school physics teachers. Those entering the program should have at least an undergraduate physics minor together with appropriate mathematics. Admission is restricted to either in-service teachers or to those intending to enter the teaching profession. Graduation requirements include an undergraduate and graduate combined total of a minimum of 44 approved hours of physics, mathematics through Multivariable Calculus, as well as an essay in physics, physics history, or the teaching of physics, and satisfactory performance in an oral examination. In satisfying the requirement of 44 semester hours of physics (graduate and undergraduate combined), the following physics courses (or their equivalents) are required for a master's degree:

- PHY 430 Intermediate Mechanics I
- PHY 440 Optics
- PHY 460 Heat and Thermodynamics
- PHY 515 Atomic and Nuclear Physics I
- PHY 516 Atomic and Nuclear Physics II
- PHY 650 New Approaches to Teaching Physics I
- PHY 651 New Approaches to Teaching Physics II
- PHY 690-2 Thesis/Final Report

Further information may be obtained from Dr. Walter Gessert or Dr. Richard Roth, graduate advisers, Department of Physics and Astronomy.

The General Science Program is interdisciplinary in nature and involves the areas of biological, earth and physical science (astronomy, chemistry and physics). The program is designed for pre-service and in-service elementary school teachers and junior high or middle school science teachers. The objectives of the program are to:

- Increase teachers' subject matter competence in more than one area of science;
- Familiarize teachers with both the philosophy and content of newer science curricula;
- Increase teachers' knowledge of the processes, history and humanistic nature of science;
- Educate teachers so that they are prepared to assume leadership roles in the science programs of their schools and school districts. Prerequisites for admission to the program include a minimum of 30 semester hours of
course work in science and mathematics with basic course preparation in the sciences. Graduation requirements include teaching experience or the completion of state certification requirements and the completion of a minimum of 60 semester hours (graduate and undergraduate combined) of approved work in science content and methodology with 20 semester hour concentrations (graduate and undergraduate combined) in each of two of the three science areas. Candidates holding, or aspiring to, an elementary teaching certificate may elect the elementary teacher option while all others will elect the junior high or middle school option. Program participants may utilize the facilities of the Science Teaching and Materials Center which is housed within the Department of Physics and Astronomy. A library of the latest textbooks, useful reference materials and equipment for many of the newer elementary and junior high or middle school science curricula is located within the Center. Further information may be obtained from Dr. Daniel Trochet, general science adviser, Department of Physics and Astronomy.

PHY 505 Physical Science for Elementary Teachers I. Two sem hours
A course which emphasizes both the content and the processes of the physical sciences. Discussions and demonstrations leading to an understanding of basic concepts through the processes of discovery and inquiry.
Prereq: Two courses in physical science (such as PHY 100 or CHM 101).

PHY 506 Physical Science for Elementary Teachers II. Two sem hours
A course which emphasizes both the content and the processes of the physical sciences. Discussions and demonstrations leading to an understanding of basic concepts through the processes of discovery and inquiry.
Prereq: PHY 505 Physical Science for Elementary Teachers I.

PHY 511 Mechanics, Sound and Heat for Teachers. Three sem hours
A study of motion, forces, heat and sound for teachers of general science who have had little or no previous experience with physics.

PHY 512 Light, Electricity and Magnetism for Teachers. Three sem hours
A study of light, electricity, and magnetism for teachers of general science who have little previous experience with physics.
Prereq: 511 Mechanics, Sound and Heat for Teachers or equivalent; may be taken concurrently.

PHY 514 Instrumentation for Teachers. Three sem hours
This course treats the fundamentals of electrical instruments and the care and use of those instruments commonly encountered in secondary school science and in general science courses.

PHY 515 Atomic and Nuclear Physics I. Two sem hours
Electron physics, radiation, atomic structure, x-rays, the quantum properties of waves and particles, relativity, the Bohr atom and atomic spectra, wave mechanics and the Schroedinger equation.
Prereq: One year of college physics.

PHY 516 Atomic and Nuclear Physics II. Two sem hours
Nuclear structure, radioactive decay, detection and measurement of nuclear radiation, fission, fusion, cosmic rays, production of radioisotopes in Neutron howitzer.
Prereq: One year of college physics.

PHY 520 Teaching of Physical Science. Two sem hours
Scientific attitudes for use with elementary pupils; the scientific method; a selected group of physical principles; simple experiments which may be used in the elementary school.

PHY 527 Introduction to the Use of Radioisotopes. Two sem hours
Properties, measurement, safe handling and dosage of radioisotopes.
Prereq: 221 Mechanics, Sound and Heat and 222 Electricity and Light or the equivalent. Not open to students who have credit in 471 Nuclear Physics.

PHY 540 The History of Physics and Astronomy. Two sem hours
A course designed to give students an understanding of the contributions made by selected scientists to the development of physics and astronomy and the relationship of these ideas to the period in which the scientists lived.

PHY 590, 591, 592 Special Topics. One, two and three sem hours (Formerly PHY 537, 594)
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are covered.

PHY 594, 595, 596 Workshop. One, two and three sem hours
Laboratory and/or field experience guided toward problems and new curricula in physics and physical science.
Prereq: Departmental permission.

PHY 622 New Approaches to the Teaching of Science in the Junior High School I. Two sem hours (Formerly PHY 522)
Emphasis will be placed on the philosophy, content, teaching strategies, and implementation of newer science curriculum materials designed for use in the junior high or middle school. Needed subject matter background will be provided. Extensive hands-on experience with demonstration and laboratory equipment will be included.
Prereq: Science teaching experience or three laboratory science courses.

PHY 623 New Approaches to the Teaching of Science in the Junior High School II. Two sem hours (Formerly PHY 523)
Emphasis will be placed on the philosophy, content, teaching strategies and implementation of newer science curriculum materials designed for use in the junior high or middle school. Needed subject matter background will be provided. Extensive hands-on experience with demonstration and laboratory equipment will be included.
Prereq: Science teaching experience or three laboratory science courses.

PHY 625 Physical Science. Two sem hours
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are covered.
Prereq: Three courses in physics and/or astronomy (one may be taken concurrently).
PHY 650 Approaches to Teaching Physics I. Two sem hours (Formerly PHY 550)
Designed to increase the subject matter competency of those teaching or preparing to teach high school physics. Content, organization, problems and philosophy of the latest high school physics text materials.
Prereq: One year of college physics and one course in calculus.

PHY 651 New Approaches to Teaching Physics II. Two sem hours (Formerly PHY 551)
Designed to increase the subject matter competency of those teaching or preparing to teach high school physics. The content, organization, problems and philosophy of the latest high school physics text materials.
Prereq: PHY 650 New Approaches to Teaching Physics I.

PHY 652 Supervision of the Science Program. Two sem hours (Formerly PHY 552)
Problems in organizing, staffing, planning and evaluating the K-12 science program.
Prereq: Graduate standing.
PHY 653 Recent Science Curricular Developments. Two sem hours  
(Formerly PHY 553)  
Problems in development and implementation of materials, methods and content of recent curricular efforts.  
Prereq: Science teaching experience and graduate standing.

PHY 662 Advanced Mechanics.  
Three sem hours (Formerly PHY 562)  
An overall view of the theoretical structure and the experimental foundations of physics. The methods of vector calculus and related mathematics concepts are applied to mechanics, vibrations and fluid systems. Recommended for physics teaching majors.  
Prereq: 430 Intermediate Mechanics I or equivalent.

PHY 671 Electromagnetic Theory.  
Three sem hours (Formerly PHY 571)  
Provides the student with a foundation in the classical theory of the Maxwell field equations and indicates the many current applications. Typical topics covered are: Maxwell’s equations, conservation laws, plane waves, wave guides, resonant cavities, dipole radiation, diffraction, radiation by moving charges, Bremsstrahlung, Cerenkov radiation, multipole fields, plasma electrodynamics.  
Prereq: 450 Electricity and Magnetism or permission of the department.

PHY 675 Quantum Mechanics. Four sem hours (Formerly PHY 582)  
The Schroedinger equation and its applications in three dimensions, angular momentum, electron spin, Heisenberg’s matrix mechanics, Dirac notation, perturbation theories, variational methods, scattering theory.  
Prereq: 475 Introduction to Quantum Mechanics.

PHY 679, 680, 681 Special Topics.  
One, two and three sem hours  
(Formerly PHY 537, 594)  
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are covered.

PHY 682, 683, 684 Workshop. One, two and three sem hours  
Laboratory and/or field experience guided toward problems and new curricula in physics and physical science.  
Prereq: Departmental permission.

PHY 690, 691, 692 Thesis/Final Project. One, two and three sem hours  
Intensive research in physics or physics education including the submission of a thesis or written report under the direction of a research adviser.  
Prereq: Departmental permission

PHY 693, 694, 695 Seminar. One, two and three sem hours  
(Formerly PHY 596)  
Presentation of special reports and group discussion on selected topics in physics and physical science.

PHY 697, 698, 699 Independent Study/Research. One, two and three sem hours  
An intensive study of a problem or group of problems under the direction of a University faculty member.  
Prereq: Undergraduate major or equivalent and permission of the department.

AST 503 Astronomy I. Two sem hours  
A non-mathematical descriptive course in astronomy to acquaint the teacher with the general field of astronomy. Many of the topics considered can be used in the elementary classroom. A study of the sun and its family of planets as well as the stars and nebulae in the universe beyond the solar system. Naked eye observations of the constellations and telescopic observations of the moon, planets, double stars and clusters. Not open to students who have credit in 203 Exploration of the Universe or equivalent.

AST 504 Astronomy II. Two sem hours  
A non-mathematical descriptive course in astronomy to increase the teacher’s acquaintance with the general field of astronomy and the work of the astronomer. Many of the topics covered can be used in the elementary and junior high school classroom. The stellar system; a review of the solar system and the motions of the earth. Naked eye and telescopic observations constitute the laboratory phase of the course.  
Prereq: AST 503 Astronomy I or 203 Exploration of the Universe or equivalent.

OTHER COURSES FOR CREDIT TOWARD M.S. IN PHYSICS OR PHYSICS EDUCATION

The following courses for advanced undergraduates are also available to graduate students for credit depending on the background, needs, and curriculum of the student. On this matter the student should, before completing his registration, have a clear understanding with his adviser in the Department of Physics and Astronomy. For descriptions of these courses, see the Undergraduate Catalog.

430 Intermediate Mechanics I. (3)  
431 Intermediate Mechanics II. (3)  
436 Vibration and Sound. (3)  
440 Optics. (3)  
441 Modern Optics. (3)  
450 Electricity and Magnetism. (4)  
452 Electrical Measurements. (4)  
456 Electronics for Scientists. (4)  
460 Heat and Thermodynamics. (3)  
462 Kinetic Theory and Statistical Mechanics. (3)  
471 Nuclear Physics. (4)  
475 Introduction to Quantum Mechanics. (3)  
476 Solid State Physics. (3)  
481 Mathematical Physics. (3)
<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 505</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 506</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 511</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 512</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 515</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 516</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 520</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 527</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 540</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 622</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 623</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 625</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 650</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 651</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 652</td>
<td>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 662</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 671</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 675</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 694</td>
<td>††</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AST 503</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AST 504</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Courses offered on a two (2) year cycle in odd years.
‡ Courses offered on a two (2) year cycle in even years.
†† The Seminar in Science Teaching is offered on a two (2) year cycle in even years, alternating between PHY 694 and BIO 694. It will be offered as BIO 694 in the winter of 1982.
**POLITICAL SCIENCE**

Leonas Sabaliunas  
Department Head  
714 Pray-Harrold,  
487-3113

Lewis G. Bender  
Coordinator of Advising  
714-Q Pray-Harrold,  
487-0063

Courses offered by the Department of Political Science answer the specific purposes of two programs: (1) a Master of Public Administration degree and (2) an interdisciplinary Master of Arts in social science with a concentration in political science. Information on the latter program is listed in the History and Philosophy Department section of this catalog. In addition, many students from other disciplines select political science courses to meet cognate requirements or for other individual reasons.

**MASTER OF PUBLIC ADMINISTRATION**

**PROGRAM OBJECTIVES**

Built around required core courses, electives and cognates, the Master of Public Administration enables students to concentrate in local government administration—that is, the administration of small communities, medium-sized cities, regions, counties, and states. The program is academic in content, but aims at providing graduate professional education for individuals who are currently pursuing public service careers or are preparing to enter them as city managers, assistants to city managers, directors of public works, finance, personnel, and human services departments, appointed city clerks, administrative personnel in engineering departments, and members of administrative staffs. The MPA curriculum may thus provide a foundation for both entry level personnel, such as analysts, researchers and staff workers, and intermediate position holders intent upon advancing professionally as decision makers, politicians and city managers.

**ADMISSION REQUIREMENTS**

In addition to meeting the Graduate School degree admission requirements, applicants must meet a stricter overall undergraduate grade point average of 2.75 (A = 4.0) or 3.0 in the last half of the undergraduate program in order to be admitted to the Master of Public Administration. It is further understood that a personal interview with the program coordinator is normally a part of the admission process.

Applicants who do not meet the above criteria may be admitted to the program after completing a minimum of ten graduate hours. At least six hours in this ten hour requirement must be taken in Eastern’s political science department. A student must achieve a grade point average of 3.3 (B+) in the ten hours taken in the two or more courses required by the Political Science Department.

Although applicants’ undergraduate degrees may be in any field, the nature of previous academic preparation may have an effect on their ability to achieve a satisfactory graduate record.

Applicants will therefore be required to demonstrate or acquire specific preparation in statistics, accounting, public sector economics, and computer methods. They are also expected to have sufficient instruction in political science and other social sciences, or comparable professional experience gained outside the classroom, in order to perform satisfactorily in the program.

Applicants who need to complete any of the above prerequisite subjects may do so by taking courses—at Eastern Michigan University or other colleges and universities—in the following fields: two political science courses in the fundamentals of American Government, public law, or public administration; two basic economics courses—preferably macro and micro economics; two social science courses in disciplines other than political science and economics; and one course each in accounting, statistics, computer methods and written communication.

Those preparatory undergraduate courses may be taken after admission to the program, but they must be satisfied prior to completion of 12 graduate credits. Credits obtained in the preparatory courses will not count toward the degree.

**PROGRAM REQUIREMENTS**

The Master of Public Administration is awarded upon satisfactory completion of at least 36 semester hours of appropriate credit, a total that may include up to nine hours in upper division undergraduate courses. All course elections must be approved by the program coordinator prior to registration each semester. Listed below are required, elective, and cognate courses.

**A. Required Courses (6 courses) 18 hours**

- PLS 510 Modern Public Administration (3)
- PLS 515 Public Personnel Administration (3)
- PLS 610 Public Organization Theory (3)
- PLS 615 Public Budget Administration (3)
- PLS 678 Quantitative Analysis in Government (3)
- PLS 695 Research Seminar in Public Administration (3)
B. Elective Courses (5 courses)  10 hours
PLS 549 Comparative Administrative Systems (2)
PLS 587 Studies in State and Local Government (2)
PLS 590-1-2 Special Topics (1-3)
PLS 620 Legal Aspects of Local Administration (2)
PLS 629 Small Community Administration & Politics (2)
PLS 630 Public Bureaucracies and Policy Formation (2)
PLS 640 Modern County Government (2)
PLS 645 Intergovernmental Relations (2)
PLS 688 Practicum in Public Affairs (3)
PLS 697-8-9 Independent Studies (1-3)
PLS 688 Practicum in Public Affairs (3)
PLS 697-8-9 Independent Studies (1-3)
PLS 587 Studies in State and Local Government (2)
PLS 640 Modern County Government (2)
PLS 645 Intergovernmental Relations (2)
PLS 688 Practicum in Public Affairs (3)
PLS 697-8-9 Independent Studies (1-3)
C. Cognate Courses (4 courses)  8 hours
Choose one course from four of the following five groups:
(1) Planning Studies
ECO 534 Regional and Urban Economics (3)
ECO 553 Economic Planning (3)
GEO 552 Processes of Suburban Development (2)
GEO 553 City and Regional Planning (2)
GEO 581 Environmental Impact Statements (2)
(2) Community Studies
EDL 511 Community Organization (2)
SOC 656 Human Ecology and Community Development (3)
HIS 533 Studies in Michigan History (3)
(3) Leadership and Communications Studies
SPH 509 Communications for Leaders (2)
EDL 710 Leadership Theory (2)
MGT 568 Administrative Communication Theory (3)
MGT 648 Communication and Organization Development (3)
(4) Quantitative Studies
SOC 630 Advanced Social Statistics (3)
EDP 651 Statistics II: Inferential Statistics (2)
ECO 510 Applied Economic Statistics (3)
MTH 573 Applied Statistics (2)
(5) Personnel Studies
ECO 522 Collective Bargaining (2)
ECO 524 White Collar and Public Employee Unions (2)
PLS 510 Modern Public Administration. Three sem hours
An overview study of the nature of public administration and its relations to politics and the tasks of the modern political system.
PLS 515 Public Personnel Administration. Three sem hours
The course examines the function of personnel administration within public bureaucracies. Topics include the political impact and consequences of merit systems, civil service, affirmative action, public employee collective bargaining and grievance handling.
PLS 520 Land Use and Preservation Law. Three sem hours
A study of real property law in a political and legal context, with special emphasis on the private law devices of easement and covenants running with the land and on the public device of zoning.
PLS 545 International Relations. Two sem hours
Relations between nations; factors affecting behavior in the state system and possibilities of developing a viable international system.
Prereq: 112 American Government or 202 State and Local Government.
PLS 546 Studies in International Law. Two sem hours
Selected problems in international law; the Law of the United Nations; world law; the law of war and peace; the International Court of Justice; national concepts of international law.
PLS 547 Communist Political Systems. Two sem hours
A comparative study of selected topics in the politics of Communist-ruled states—principaliy Soviet Russia, China, and East Europe. Sources of bloc unity and diversity, as well as changing trends in and among communist states and parties, will be examined.
PLS 549 Comparative Administrative Systems. Two sem hours
Processes of administrative adaptation to development goals in newly independent non-Western countries; current approaches and theories of administrative modernization and development in the light of Western and non-Western experiences.
Prereq: Permission of the department.
PLS 581 Contemporary Problems in American Government. Two sem hours
Executive-legislative relationships; judicial review; the making of foreign policy; national defense; public welfare; the electoral process and the role of the citizen in American government.
PLS 587 Studies in State and Local Government. Two sem hours
Studies in the governmental process at the state and local levels. Focuses on current issues and problems, including the changing aspects of federalism.
PLS 590, 591, 592 Special Topics.
One, two and three sem hours
(Formerly PLS 539)
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Information on content can be obtained at department office.
Prereq: Approval of the department.
PLS 610 Public Organization Theory. Three sem hours
An analysis of theories of organization in relation to government and public institutions.
PLS 615 Public Budget Administration. Three sem hours
An examination of the political significance and administrative procedures of government budgeting, with emphasis on the state and local levels.
PLS 620 Legal Aspects of Local Administration. Two sem hours
An examination of legal issues concerning governmental units, agencies and governmental activities as they relate to public administration.
PLS 625 Small Community Administration and Politics. Two sem hours
An examination of the politics and administrative needs and problems of American communities under 50,000 population.

PLS 630 Public Bureaucracies and Policy Formation. Two sem hours
A study of the roles of public bureaucracies within the policy formation process. The course examines modern approaches to policy analysis, the nature of public bureaucracies and the problems of implementing and evaluating public policies.

PLS 640 Modern County Government. Two sem hours
Examines the past, present and future of county government in the United States. Topics covered include the legal setting, organization and structure, intergovernmental relations, politics, finances and service capabilities of counties.

PLS 645 Intergovernmental Relations. Two sem hours
A study of recent trends in the American Federal system. The course examines the major programs and organizational structures used to coordinate public policies at the federal-state-local levels of government. Emphasis will be placed on the concerns of local levels of government.

PLS 678 Quantitative Analysis in Government. Three sem hours
Examines the uses of computers and statistical analysis in local and state governments.
Prereq: One introductory course in statistics and one in computers.

PLS 688 Practicum in Public Affairs. Three sem hours
Extends classroom learning through administrative experience with public sector agencies. Includes written assignments and a seminar designed to help students relate their field experience to public administration concepts.
Prereq: Permission of the department.

PLS 695 Research Seminar in Public Administration. Three sem hours
A capstone course in the public administration curriculum, acquainting students with the major research trends and problems in the discipline. Requires from the student a substantial research project, to be reviewed by three faculty members.
Prereq: PLS 510 Modern Public Administration, PLS 610 Public Organization Theory, and PLS 678 Quantitative Analysis in Government.

PLS 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly PLS 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Permission of the department

OTHER COURSES
These upper division undergraduate courses may be taken for graduate credit and applied on the degree program in social studies or as cognates by majors in other fields.

410 Political Science in Fiction. (3)
415 Classical Political Theory. (3)
416 Modern Political Theory. (3)
418 Recent Political Theory. (3)
422 American Political Theory. (3)
432 Public Bureaucracy in a Democracy. (3)
456 Criminal Law I. (3)
PSYCHOLOGY

Barry A. Fish
Department Head
537 Mark Jefferson
487-1155

Francis Canter
Coordinator of Advising
Clinical/General
537-N Mark Jefferson
487-0044

Robert L. Anderson
Coordinator of Advising
School Psychology
537-P Mark Jefferson
487-0047

DEGREE PROGRAMS OFFERED

The Department of Psychology offers graduate programs leading to the Master of Science degree with emphasis in general psychology and clinical psychology, and a Specialist in Arts in school psychology.

MASTER OF SCIENCE IN PSYCHOLOGY

Program Objectives

The curriculum is designed to produce a master's level psychologist with general knowledge of psychology that includes a variety of content areas, research methodologies and theoretical formulations. Students completing these programs should be able to:
1. Pursue employment in a wide variety of industrial and institutional settings.
2. Continue their training in doctoral programs.
3. Qualify for teaching positions in community and four-year colleges.

ADMISSION REQUIREMENTS

Admission to the graduate program of the Psychology Department is available to those students who meet the degree admission requirements of both the Graduate School of Eastern Michigan University and the Department of Psychology. The primary criterion on which the selection is made is the promise of successful completion of the program requirements based on previous academic performances and acceptable scores on the Graduate Record Examination.

To qualify for consideration for degree admission status in the graduate program in psychology the student must:
1. Meet the academic requirements for admission to the Graduate School.
2. Present a minimum of 20 semester hours of credit in psychology, including courses in statistics and experimental psychology.
3. Present an undergraduate academic record of good quality (approximately "B" average or better).
4. Submit a transcript of scores from the Graduate Record Examination which includes the Verbal, Quantitative and the Advanced (Psychology) tests. The applicant is expected to attain a combined score of 1000 on the Verbal and Quantitative tests in order to be admitted.

Application to the psychology program should not be made until the stated requirements can be satisfied. Credits earned under Special Student status do not automatically apply to the requirements of the degree program.

ADMISSION REQUIREMENTS

1. Core Requirement (nine sem hours)
   - PSY 600 Psychological Statistics I (3)
   - PSY 620 Learning (3)
   - PSY 646 Personality: Theory and Research (3)

2. Minimum of one course from Group A and one from Group B
   - Group A (Three sem hours)
     - PSY 601 Psychological Statistics II (3)
     - PSY 605 Research Design (3)
     - PSY 623 Experimental Analysis of Behavior (3)
   - Group B (Three sem hours)
     - PSY 625 Behavior Change Methods (3)
     - PSY 626 Motivation and Emotion (3)

3. Qualify for teaching positions in community and four-year colleges.
Teaching Emphasis
In addition to completing the basic program requirements, students wishing to prepare for teaching positions in psychology will be required to participate in a practicum experience in teaching psychology either as a graduate assistant at Eastern Michigan University or in a supervised school or college setting.

MASTER OF SCIENCE DEGREE
IN PSYCHOLOGY

This program offers specific training for the development of knowledge and skills required of the master's-level clinician functioning in a variety of institutional and community mental health settings. This program is designed as a terminal degree, although it will not prevent the student from continuing graduate study.

The program objective is to produce graduates capable of recognizing, assessing and ameliorating client problems under the supervision of doctoral-level clinical psychologists. It is intended that the graduate will be able to undertake and complete research problems typically found in the clinical setting. The practicum experiences are designed to provide opportunities to develop a variety of skills in assessment, diagnosis, psychotherapy and research commensurate with the master's level of training, and to provide the opportunity for professional growth through interaction with professional people from the various allied areas, such as medicine, social work, psychiatry and public health.

This program requires the completion of forty-five graduate credits consisting of the basic master's course requirements, plus twelve credits in clinical assessment courses which include Psychology 762, 763, 770, and 771, and six credits in practicums. The research project completed as a part of the second practicum experience replaces the thesis requirement. Preliminary pre-clinical practicum experience, not included in the six credit hours of practicum, may be required of certain students if, in the judgement of the clinical faculty, such experience is necessary to prepare the student to take best advantage of the practicum experience.

SPECIALIST'S DEGREE IN
SCHOOL PSYCHOLOGY

This program is an interdisciplinary effort among the Departments of Educational Psychology, Psychology and Special Education and is coordinated through the Department of Psychology.

Purpose and Objectives
1. Meet the state requirements for full approval as school psychologists.
2. Provide the psychological services required by state and federal laws.
3. Promote the student welfare through the development of effective programming recommendations.
4. Develop improved understanding of students' educational needs in parents, teachers, administrators and others interested in promoting student welfare.

Admission Requirements
The admissions committee will select students in terms of the promise of successful completion of program requirements based on previous academic performance, evidence of aptitude, past experience and letters of recommendation. Committee decisions will be made once each year by March 15 for the fall class. Approximately ten students will be accepted each year.

Applicants with a bachelor's degree (including all persons without a master's degree) must meet the following requirements:
1. Present background preparations in the areas of psychology, special education or education. This preparation must include a bachelor's degree with a minimum of 36 hours, primarily in the preceding fields.
2. Must have a minimum undergraduate grade point of 2.75 on a 4.0 scale.
3. Normally, students applying for the specialist's program should have a minimum of three years of full-time successful professional experience in the fields of psychology, special education or education.
4. Must submit results of the verbal and quantitative sections of the Graduate Records Examination. In addition, the applicant must supply the advanced achievement tests in psychology or education of the Graduate Records Examination and achieve scores acceptable to the admissions committee.
5. Must supply letters of recommendation from three professional persons familiar with the academic performance and professional abilities.

Applicants holding the master's degree must meet all the above requirements except number 2. Persons with a master's degree must present a minimum undergraduate GPA of 2.5 and a graduate GPA at least 3.3 (B+).

Program Description and Graduation Requirements
The Specialist in Arts degree in school psychology requires a minimum of 62 semester credits of graduate work. The coursework and required educational experiences are designated to provide the competencies required by state law. These competencies insure that the graduate will have a depth of understanding and ability to perform psycho-educational evaluations, help plan educational strategies, communicate findings, implement intervention programs, consult and counsel with school personnel, parents and pupils, and assume a leadership role in developing services to students.

Program requirements, including practicum and internship, will generally necessitate two calendar years of study. A minimum of three semesters of full-time day scheduling is required.
GRADUATE COURSES OPEN TO SENIORS

PSY 519 Behavioral Design and Assessment. Three sem hours
Methods for measuring and analyzing behavior in applied settings, such as direct observation, behavioral interviews and self-recording will be taught. Single case designs and statistical procedures as well as evaluation procedures that address accountability will be stressed.
Prereq: One course in psychology.

PSY 520 Coping with Problem Behavior. Two sem hours
The application of psychological principles of learning to school (and school-related) problem behaviors. Emphasis is on procedures that can be implemented with minimal cost by classroom teachers, principals, and other school-related personnel.
Prereq: One course in psychology.

PSY 522 Psychology of Adolescence. Two sem hours
Physical, intellectual, emotional and social development from puberty to adulthood with emphasis on the significance for teachers and others interested in youth.
Prereq: One course in psychology.

PSY 532 Psychology of Adjustment. Two sem hours
Issues, concepts, principles and theories in human adjustment.
Prereq: One course in psychology.

PSY 540 Women and Mental Health. Two sem hours
Focus on theory and research concerning women's responses to life stresses, women as clients in psychotherapy and the role of the female mental health professional.
Prereq: One course in psychology.

PSY 543 Abnormal Psychology. Two sem hours
Behavior pathologies of children and adults, including symptom origins and methods of treatment. Not open to students who hold credit in Abnormal Psychology 360.
Prereq: One course in psychology.

PSY 550 Dynamics of Human Behavior. Two sem hours
The determinants of behavior and personality with emphasis on the physiological, psychological and cultural bases.
Prereq: One course in psychology.

PSY 551 Psychology of Death and Dying. Two sem hours
Study of attitudes toward, theories about and empirical data concerning human mortality and suicide and its relevance to life adjustment, aging, religion and other areas.
Prereq: 360 Abnormal Psychology or PSY 543 Abnormal Psychology and PSY 552 Theories of Personality.

PSY 552 Theories of Personality. Two sem hours
Major theories of personality including Freud, Jung, Adler, Rank, Sullivan, Kelly, Holistic and learning theorists.
Prereq: One course in psychology.

PSY 553 Existential Psychology. Two sem hours
Origins, growth, major contributors and foci of concern of the existential movement(s) in psychology and psychotherapy.
Prereq: Two courses in psychology; PSY 552 Theories of Personality is recommended.

PSY 555 Industrial Psychology. Two sem hours
Psychological principles, theories and methodology applied to behavior in industrial settings. Not open to students who hold credit in 351 Industrial Psychology.
Prereq: One course in psychology.

PSY 556 Industrial Psychology. Three sem hours
Behavior change methods in the workplace. The principles and parameters of respondent and operant conditioning and their application. Lecture and laboratory.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 557 Theories of Personality. Three sem hours
Major theories of personality including Freud, Jung, Adler, Rank, Sullivan, Kelly, Holistic and learning theorists. The objective and quantitative investigation of human variability in behavior phenomena and the factors influencing these differences.
Prereq: One course in psychology.

PSY 559 Workshop in the Scientific Approach to Problem Solving. Two sem hours
The scientific approach to the solving of problems; the application of psychological principles.
Prereq: One course in psychology.

PSY 560 Psychological Statistics I. Three sem hours
A study of statistical techniques including small sample theory, analysis of variance and non-parametric statistics.
Prereq: 205 Quantitative Methods in Psychology or equivalent.

PSY 561 Psychological Statistics II. Three sem hours
More complex analysis of variance models plus various correlational procedures.
Prereq: PSY 600 Psychological Statistics I.

PSY 565 Research Design. Three sem hours
Research methods and analysis of data.
Prereq: 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 620 Learning. Three sem hours
Research methods, experimental findings and theories of learning.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 623 Experimental Analysis of Behavior. Three sem hours
The principles and parameters of respondent and operant conditioning and their application. Lecture and laboratory.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 625 Behavior Change Methods. Three sem hours
The study of various behavior change programs that can be applied to the alteration of problem behaviors in humans, including those traditionally labeled as mentally retarded, psychotic, neurotic, emotionally disturbed, and delinquent. The methods can be applied in the home, day care center, counseling center, community, classroom or institution.
Prereq: 620 Learning and departmental permission.
PSY 626 Motivation and Emotion. Three sem hours
A review of major findings, theories and recent research developments in the areas of motivation and emotion. 
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 629 Physiological Psychology. Three sem hours
An examination of physiological processes and their relationships to behavior. Lecture and laboratory. 
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 632 Sensation and Perception. Three sem hours
A review of research and theory dealing with sensory experience and perception. 
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 635 Cognitive Processes. Three sem hours
A review of theoretical and empirical developments in the area of thinking, problem solving, concept formation, creativity and decision making. 
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 637 Social Psychology. Three sem hours
The study of the processes underlying social interaction and behavior in social contexts. 
Prereq: Twenty hours in psychology and department permission.

PSY 640 Developmental Psychology. Three sem hours
Biological, intellectual, social and emotional changes through the life span. Major concepts and problems related to development stages of life. 
Prereq: Twenty hours in psychology and department permission.

PSY 646 Personality: Theory and Research. Three sem hours
Advanced study of concepts and empirical research in personality. 
Prereq: Twenty hours in psychology, including 451 Dynamics of Personality or equivalent and department permission.

PSY 690, 691, and 692 Thesis. One, two and three sem hours
Completion of research problem, writing thesis and defense of thesis. 
Prereq: Permission of the department.

PSY 697, 698, 699 Independent Reading. One, two and three sem hours (Formerly PSY 591, 592, 593)
Supervised reading of psychological literature to provide in-depth understanding of a selected psychological problem. 
Prereq: One course orienting student to the problem area and permission of the department.

PSY 743 Psychopathology. Three sem hours (Formerly PSY 643)
A study of behavior disorders with emphasis upon current research methodologies, special problems and theoretical formulations, including controversial issues and social and ethical considerations. 
Prereq: Twenty hours in psychology, including 360 Abnormal Psychology or equivalent or permission of the department.

PSY 750 Clinical Psychology. Three sem hours (Formerly PSY 650)
Theory, rationale and application of various psychotherapeutic techniques. Examination of critical issues involved in the practice of clinical psychology. 
Prereq: Twenty hours in psychology and department permission.

PSY 751 Dynamic Psychotherapy: Beginning Phase and Short Term. Three sem hours
Principles of psychological interviewing, with discussion of diagnostic interviews, short term psychotherapy, and opening phase of dynamic psychotherapy. 
Prereq: Graduate status in M.S. clinical program or allied graduate programs (social work, educational psychology, guidance and counseling).

PSY 762 Individual Testing I. Four sem hours (Formerly PSY 662)
Training and supervised experience in the administration and interpretation of the WISC and WAIS tests, plus a review of the relevant clinical research literature. 
Prereq: Department permission.

PSY 763 Individual Testing II. Four sem hours (Formerly PSY 663)
Training and supervised experience in Binet and special diagnostic tests. 
Prereq: PSY 762 Individual Testing I and department permission.

PSY 770 Personality Evaluation I. Four sem hours (Formerly PSY 670)
An introduction to individual clinical tests in the study of personality diagnosis. Includes learning to administer, score and interpret the MMPI and 16 PF. Entails a knowledge of the clinical assessment research literature covering the reliability of each testing method. 
Prereq: Department permission.

PSY 771 Personality Evaluation II. Four sem hours (Formerly PSY 671)
Supervised practice is given in test administration, scoring and interpretation of test protocols administered to psychiatric patients and emotionally disturbed children. 
Prereq: Department permission.

PSY 775 Theory of Psychological Testing. Three sem hours (Formerly PSY 660)
Assumptions, rationale and statistical foundation of psychological tests used in differential diagnosis. 
Prereq: Twenty hours in psychology and department permission.

PSY 788 Practicum in Clinical Psychology I. Three sem hours (Formerly PSY 680)
Supervised psychological testing and interviewing in a clinical setting. 
Prereq: PSY 750 Clinical Psychology and 762 Individual Testing I and department permission.

PSY 789 Practicum in Clinical Psychology II. Three sem hours (Formerly PSY 681)
Supervised psychological testing and counseling in a clinical setting, plus completion of a research project in that setting. 
Prereq: PSY 788 Practicum in Clinical Psychology and department permission.
PSY 793 Seminar in School Psychology. One sem hour
(Formerly PSY 696)
Bi-weekly seminar for presentation and discussion of critical issues and problems in school psychology, including case studies, role definitions, ethical problems, inter and intra-professional relationships and research findings. Four semester hours required on degree program.
Prereq: Admission to the School Psychology Program.
SOCIOLOGY
Marcello Truzzi
Department Head
712 Pray-Harrold, 487-0012

Ronald Westrum
Coordinator of Advising
Sociology
712-S Pray-Harrold, 487-1073

S. Joseph Fauman
Coordinator of Advising
Criminology & Criminal Justice
712-C Pray-Harrold, 487-2330

The Sociology Department offers two graduate degree programs: one in sociology, and one in criminology and criminal justice.

MASTER OF ARTS IN SOCIOLOGY

The M.A. program in sociology is designed to prepare students for: careers in business, industry and government at local, state and federal levels; further graduate work leading toward the Ph.D. in sociology; and post-secondary teaching.

Admission Requirements
To qualify for admission to the M.A. program in sociology, applicants must have an undergraduate grade point average of at least a 2.5 (A=4.0) with a 3.0 in their major or demonstrate the ability to do quality graduate work by attaining a score at the 60th percentile on the Graduate Record Exam. In addition they must have completed the following undergraduate courses or their equivalents:

250 Elementary Social Statistics
304 Methods in Sociological Research
403 Sociological Theory

Applicants who have not completed one or more of these courses may be admitted conditionally to the program with the permission of the program chairperson. Courses required to make up deficiencies in sociology will be arranged with the graduate adviser in the Sociology Department and will be above and beyond (and sometimes prior to) the 30 hours of requirements.

Course Requirements
1. SOC 630 Advanced Social Statistics (3)

SOC 640 Advanced Sociological Theory (3)
SOC 677 Advanced Methods in Sociological Research (3)

2. Additional graduate sociology electives as approved by graduate adviser in the Sociology Department (15-9)

3. Thesis credit (4)

4. At least one seminar (Sociology 694). The specific seminar(s) selected to be approved by the graduate adviser (2)

5. Cognate courses in other fields, as approved by graduate adviser in the Sociology Department (0-6)
Total (30)

Selected 300 or 400 level undergraduate courses in sociology and anthropology may be taken for graduate credit in consultation with the graduate adviser. Graduate students in sociology may take courses SOC 500-509 for elective credit as part of their course requirements only upon the approval of the graduate adviser in the Sociology Department. Graduate students not majoring in sociology but desiring a cognate in the department may also elect these courses for cognate credit in consultation with their advisers.

All graduate students in sociology are required to have their programs approved by the graduate adviser in the Sociology Department prior to registration each semester.

MASTER OF ARTS IN CRIMINOLOGY AND CRIMINAL JUSTICE

The master's degree curriculum in criminology and criminal justice serves the following educational and career goals:

1. the attainment of advanced education for persons who wish to enter careers in post-secondary education;
2. the development of skills in research and program planning and evaluation in criminology and criminal justice;
3. the strengthening of the professional qualifications of persons employed in the fields of criminal justice.

The analytical and evaluative skills offered by this program should enable students to identify, evaluate, and assess the often conflicting objectives of criminal justice and to apply this knowledge to the investigation of basic issues and practical problems in criminology and the administration of criminal justice.

Admission Requirements
Applicants must have at least a 3.0 (A=4.0) average in their undergraduate work or demonstrate the ability to do quality graduate work by attaining a score at the 60th percentile on the Graduate Record Exam. In addition they must have completed the following undergraduate courses or their equivalents:

250 Elementary Social Statistics
304 Methods in Sociological Research
371 Criminology
372 Criminal Justice in Contemporary Society

A grade of no less than “B” is required in 250 Elementary Social Statistics and 304 Methods in Sociological Research. Applicants who have not completed one or more of these courses may be admitted conditionally to the program with the permission of the program chairperson and complete them while taking required graduate courses.

Course Requirements
The degree program consists of 31 hours of credit apportioned as follows:

1. Core Courses
412 Law and Society (3)
513 Social Deviance (3)
610 Theories of Criminal Behavior (3)
611 Sociology of Crime and its Correction (3)
678 Research Methods in Criminology and Criminal Justice Evaluation (3)
2. Master's Thesis (4)
3. Electives (12–6)
4. Cognate Courses (to be approved by the program chairperson) (0–6)
Total (31)

Thesis Requirement
Each student is required to write a thesis as part of either the Master of Arts program in sociology or criminology and criminal justice (four hours of the graduate program are set aside for thesis preparation). The subject of the thesis is determined by the student and the advisers in light of the special interests of the student. The completed thesis must be approved by the department:

For information regarding the Master of Arts in social science, see page 68.

SOCIOLOGY

SOC 500 Man in Society. Two sem hours
Basic concepts, theory and analysis of social structures, social process and social disorganization. Not open to students who have credit in sociology.

SOC 501 Contemporary Society. Two sem hours
Basic sociological concepts and principles in an understanding of contemporary society; sociological research studies will be analyzed in detail. Not open to students who have credit in more than two courses in sociology.
Prereq: SOC 105 Introduction Sociology or SOC 500 Man in Society.

SOC 502 Racial and Cultural Minorities. Two sem hours
Racial and cultural minorities in the modern world with particular references to the Negro and to European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems. Not open to students with credit for 214 Racial and Cultural Minorities.
Prereq: 105 Introductory Sociology, or SOC 500 Man in Society.

SOC 503 The Family as an Institution (Formerly Marriage and the Family). Two sem hours
The course highlights changes in marriage, family composition, social relations and roles, as well as the mutual interdependence between these and other institutions of society. It begins with the traditional pre-industrial or pre-urban family, showing how and why the family began changing at a rapid rate and exploring the problems of transitional phases. The present family with its middle class ideals is then examined closely. Finally, several trends in modern families are identified and some tentative predictions about future families and alternate family forms are made. Not open to students with credit in SOC 430 The Family.
Prereq: SOC 105 Introductory Sociology or SOC 500 Man in Society.

SOC 504 Population. Three sem hours
An examination of the determinants and consequences of population dynamics, with specific emphasis on fertility, mortality, and migration. Also examination of the relationship between human numbers and resources and its politico-economic implications. Makes use of computer simulation to better understand these concepts. Not open to students with credit in SOC 334 Population.
Prereq: SOC 105 Introductory Sociology or SOC 500 Man in Society.
SOC 506 Criminology. Two sem hours
An examination of the types of crime and theories of criminal causation and prevention. Attention is given to the functioning of police and court systems and problems of penology including parole. Not open to students with credit in 371 Criminology.
Prereq: SOC 105 Introductory Sociology or SOC 500 Man in Society.

SOC 507 Criminal Justice in Contemporary Society. Two sem hours
The course gives a critical analysis of various components of criminal justice. Interrelationships to broader societal processes are stressed. Focus is directed on the police, courts and parts of the punitive/correctional apparatus.
Prereq: 105 Introductory Sociology or 500 Man in Society.

SOC 508 Social Psychology. Two sem hours
An introductory study of the order and regularity underlying processes of human interaction, motives and attitudes, social norms and roles, the socialization process, personality and group membership. The effect of group membership upon individual behavior. Not open to students with credit in SOC 308 Social Psychology or PSY 308 Social Psychology.
Prereq: SOC 105 Introductory Sociology or SOC 500 Man in Society and 101 or 102 General Psychology.

SOC 509 Personality and Social Systems. Two sem hours
The cross-cultural study of personality and socio-cultural systems. Attention is paid to modal personality types as these relate to group structure, socialization, and social structure. Individual differences are not studied. Not open to students with credit in ANT 309 Culture and Personality.
Prereq: SOC 105 Introductory Sociology or SOC 500 Man in Society or ANT 135 Cultural Anthropology or ANT 505 Cultural Anthropology.

SOC 513 Social Deviance. Three sem hours
The development of deviant self-conceptions; social psychological processes of group alienation and individual estrangement. Deviant behavior patterns and the development of deviant careers; theories of deviance.
Prereq: At least two courses in sociology.

SOC 547 Crime and Public Safety. Three sem hours
An intensive analysis of selected problems in criminology and the application of criminology to policies and programs of crime prevention and control.
Prereq: 371 Criminology or 506 Criminology and 372 Criminal Justice in Contemporary Society or 507 Criminal Justice in Contemporary Society.

SOC 560 Theories of Criminal Behavior. Three sem hours (Formerly SOC 510)
Consideration of major theories of criminal delinquent causation. Emphasis on sociological factors in criminal acts and dynamics of criminal and delinquent behavior.
Prereq: At least two courses in Sociology; including 371 Criminology.

SOC 611 Sociology of Crime and Its Correction. Three sem hours (Formerly SOC 511)
Punishment, rehabilitation, contemporary correctional policies. The courts and criminal responsibility. The social structure of correctional organizations and institutions and their effect on the correctional process.
Prereq: At least two courses in sociology, including 371 Criminology.

SOC 630 Advanced Social Statistics. Three sem hours (Formerly SOC 530)
This course will focus considerable attention on non-parametric statistics but will also examine the problem of controlling for variables in a statistical sense. Certain of the classical techniques of multivariate analysis will be included.
Prereq: 250 Elementary Social Statistics.

SOC 636 Qualitative Analysis. Three sem hours (Formerly SOC 536)
An examination of the methods and techniques of qualitative analysis in sociology. Research will be conducted by class members and reviewed in seminar presentations.

SOC 640 Advanced Sociological Theory. Three sem hours ( Formerly SOC 540)
An analysis of contemporary theoretical schools of thought in sociology.

SOC 641 Theory Construction and Verification. Three sem hours ( Formerly SOC 541)
Analysis of contemporary strategies in theory, construction and verification. Problems of validity and reliability will be emphasized. Open to non-sociology majors with permission of the instructor. Prereq: 403 Modern Sociological Theory and 304 Methods in Sociological Research.

SOC 642 Social Stratification Theory and Research. Three sem hours (Formerly SOC 542)
A comprehensive study of the theories of social stratification; an examination of the problems encountered in attempts at empirical verification of these theories; and an exploration of current research relating to social stratification.
Prereq: 310 Contemporary American Class Structure or an undergraduate degree in sociology.

SOC 645 Advanced Social Psychology. Three sem hours (Formerly SOC 545)
This course is an in-depth study of interpersonal behavior and group processes with special emphasis on the effects of group membership on individual behavior. Topics studied may include attitudes, interpersonal influence and attraction and leadership.

SOC 646 Research in Family Interaction. Three sem hours (Formerly SOC 551)
Review of research on family interaction, with particular emphasis on experimental observational studies. Power structure role differentiation, communication patterns and coalition formation.
Prereq: Nine hours of sociology.

SOC 647 Contemporary Community Structure. Three sem hours (Formerly SOC 555)
Theoretical perspectives in the analysis of urban communities including urban
change; the development of stratification patterns and power structures and the role of various urban institutes.

Prereq: Nine hours of sociology.

SOC 656 Human Ecology and Community Development. Three sem hours (Formerly SOC 556)

An analysis of the forms and development of the urban community; spatial and temporal patterns, organization of urban functions, rural-urban relationships and the current metropolitan trend in the U.S.

Prereq: Nine hours of sociology.

SOC 662 Supervised Field Experience. Two sem hours (Formerly SOC 594)

Supervised internship in a community agency such as a correctional institution, an enforcement agency, human relations committee, city planning agency or in a project for the rehabilitation of persons in culturally or economically deprived segments of the community. Students are ordinarily placed for two consecutive semesters.

Prereq: Permission of the department.

SOC 677 Advanced Methods in Sociological Research. Three sem hours (Formerly SOC 535)

Relationship of theory and research is stressed. Consideration of the research process as a decision-making situation both on the general level of research design and the specific level of special techniques. The process and logic of data analysis.


Research design in criminology: the application of criminological theories and methods to the evaluation of policies and programs in criminal justice. A case study analysis of examples of basic and evaluation research employing standard techniques and methods.

SOC 680 Special Topics in Sociology. Two sem hours (Formerly SOC 539)

The content and form of this course will be experimental and vary from year to year. Special topics in sociology not given in usual course offerings but of sociological importance will be covered. The exact title of the course will be announced in the appropriate schedule.

SOC 683 Workshop in Crime and the Community. Two sem hours (summer only) (Formerly SOC 595)

A brief, intensive exploration of specific aspects of crime and its relationship to social organization. Not open to students with credit in 371 Criminology or equivalent.

Prereq: 105 Introductory Sociology or SOC 500 Man in Society.

SOC 690, 691 and 692 Thesis. One, two and three sem hours

Prereq: Permission of the department.

SOC 694 Seminar in Sociology. Two sem hours (Formerly SOC 596)

The intensive exploration of theoretical and methodological issues in a selected area of sociology. The topic will be announced in the class schedule issued prior to registration.

Prereq: Permission of the department.

SOC 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly SOC 597, 598, 599)

An intensive study of a problem or group of problems under the direction of a member of the sociology faculty.

Prereq: Permission of the department.

ANT 525 Contemporary Issues. Three sem hours

This course will look at the contributions of anthropology to an understanding of contemporary social issues. The various issues to be examined from a social and cultural perspective include violence, poverty, political, economic, educational, cross-cultural, racism, ethnicity, and the role of Western culture on the 3rd World.

ANT 697, 698, 699 Independent Study in Anthropology. One, two and three sem hours

Intensive study of an anthropological problem or theory supervised by a member of the anthropology faculty on individual basis.

Prereq: Permission of the department.

OTHER

Selected 300 or 400 level undergraduate courses in sociology and anthropology may be taken for graduate credit in consultation with the graduate adviser.
SPEECH and DRAMATIC ARTS

Thomas J. Murray
Department Head
124 Quirk,
487-3131

Parker Zellers
Coordinator of Advising
102 Quirk,
487-1152

The Department of Speech and Dramatic Arts provides the following program of graduate study leading to the Master of Arts in speech and dramatic arts.

OBJECTIVES
1. To provide advanced preparation both for the teaching of speech and dramatic arts and for other communication related pursuits.
2. To provide preparation for further study of advanced graduate work in speech and dramatic arts.

REQUIREMENTS FOR ADMISSION
1. Undergraduate major or minor in speech and/or dramatic arts.
2. Admission to the Graduate School.
3. Minimum of 2.5 overall or 2.75 in last half GPA on a 4.0 scale.
4. Acceptance into the departmental program by the Graduate Committee of the Department of Speech and Dramatic Arts.

COURSE OF STUDY
1. The completion of a minimum of 30 hours of approved course work beyond the bachelor's degree.
2. The selection of a specialization in one of the following: (1) communication/public address, (2) dramatic arts, or (3) drama for the young. For a detailed description of each specialization, consult the department head or the coordinator of advising.
3. Training in research approaches and resources in speech and dramatic arts; possible interdepartmental cognate; possible intradepartmental cognate in communication/public address, dramatic arts, radio/tv/film, oral interpretation, drama for the young, or speech science and pedagogy.
4. Preparation of a program of study in consultation with assigned graduate adviser. To be prepared at outset of student's graduate work.

GRADUATION REQUIREMENTS
1. The completion of all conditions stipulated upon entry into the program.
2. Attainment of at least a 3.0 (B) average in all course work.
3. One of the following: (1) the successful completion of a terminal qualifying examination covering the student's elected specialization and selected cognates; (2) the submission and defense of a thesis; or (3) the successful completion of a special theory-application project.

Each year a limited number of graduate assistantships are awarded by the department to students possessing excellent background in speech and/or dramatic arts AND at least a 3.0 grade point average in their overall undergraduate work. Such students teach up to three sections of the department's fundamentals of speech course; or assist with the teaching of basic dramatic arts or drama for the young courses; or supervise one of the activities.
GENERAL COURSES

General courses in speech and dramatic arts are courses which, in addition to being offered for credit toward an M.A. in speech and dramatic arts, are offered for the benefit of graduate students specializing in departments other than speech and dramatic arts who wish to take collateral or cognate work in the Department of Speech and Dramatic Arts. Such students, however, are not restricted to these courses; they may take any other graduate courses in speech and dramatic arts for which they have prerequisites.

COMMUNICATION AND PUBLIC ADDRESS

SPH 506 Persuasion in the Modern World. Two sem hours
Emphasis is placed on the uses and applications of persuasion in the various areas of social interaction. Persuasive influences will be examined in such areas as politics, business, religion and education.

SPH 508 Small Group Decision-Making. Two sem hours
The theory and practice of discussion and practice of oral communication in small group decision-making.

SPH 509 Communications for Leaders. Two sem hours
Theory and applications of communication in leadership roles. Deals with interviews, staff meetings, dyadic communication, communication in large and small organizations, and communication barriers with methods of evaluating and improving interpersonal, group, and public communication.

SPH 574 Directing Secondary Forensic Activities. Two sem hours (Formerly SPH 596 Seminar in Directing High School Forensic Activities)
The philosophy, organization and administration of forensic programs for those who direct or plan to direct such activities on the secondary level.

RADIO, TELEVISION AND FILM

SPH 534 Directing High School Broadcasting, TV and Film Activities. Two sem hours (Formerly SPH 596 Seminar in Directing High School Broadcasting, TV and Film Activities)
The philosophy, organization and administration of broadcasting, television and film programs for those who direct or plan to direct such activities on the high school level.

SPH 537 Mass Communications. Two sem hours
A comparative study of the mass media in the United States: their development, function and import. Special emphasis will be placed on the process and effects of mass communication with detailed study of radio and television.

SPH 538 Television Techniques for Classroom Teachers I. Two sem hours
Skills and techniques needed by classroom teachers for the effective presentation of educational materials through the medium of television. Theory and practice.

SPH 548 Television Techniques for Classroom Teachers II. Two sem hours
A continuation and intensification of the theoretical and practical experience in instructional television provided in SPH 538 Television Techniques for Classroom Teachers I. Laboratory hours to be arranged.

DRAMATIC ARTS

SPH 554 Directing High School Dramatic Activities. Two sem hours (Formerly SPH 596 Seminar in Directing High School Dramatic Activities)
The philosophy, organization and administration of dramatic programs for those who direct or plan to direct such activities on the high school level.

SPH 555 Play Production—Junior-Senior High School. Two sem hours (Formerly SPH 503)
Principles and techniques of play production with emphasis on problems encountered in secondary schools. Dramatic structure, play selection, directing, scene design and construction, stage lighting, make-up, costuming, properties and business management; improvement of effectiveness in both curricular and extracurricular theatre. Prereq: Non-major graduates.

DRAMA FOR THE YOUNG

SPH 501 Creative Drama and Role Playing (Formerly Creative Drama). Two sem hours
An introduction to understanding the creative process, dramatic play, gaming, and involvement drama as developmental learning.

SPH 502 Introduction to Theatre for the Young (Formerly Drama for Children). Two sem hours
An introductory consideration of the scope, purposes, forms and materials of theatre for the young.

SPH 504 Oral Literature and Language with the Young. Two sem hours
Emphasis on the study of interpreting literature orally for and with the young, including developing competence and understanding in the adult and child in interpretive and improvised work emerging from literature and language.

SPH 565 Studies in Drama/Theatre for the Young (Formerly Seminar in Dramatic Arts for Children). Two sem hours
Studies in the history, theory, and techniques of drama and theatre for/with the young. Selection of focus is made by individual students in the group, according to their particular interests. Prereq: 323 Improvisation or 501 Creative Drama and Role Playing, plus 322 Theatre for Children or 502 Introduction to Theatre for the Young.

SPECIALIZATION COURSES

Specialization courses in speech and dramatic arts are courses specifically designed for students wishing credit toward the M.A. in speech and dramatic arts. Such courses are open to other students, however, who have the necessary prerequisites.
COMMUNICATION AND PUBLIC ADDRESS

SPH 570 College Teaching of Speech. One sem hour
Theory and practice of teaching speech at the college level.
Prereq: Permission of the department.

SPH 576 Public Address. Three sem hours
Critical study of the significant speeches of leading speakers with reference to their dominant issues and their influence on social and political life.
Prereq: Fifteen hours of credit in communication-public address.

SPH 581 Rhetorical Theory to 1900. Three sem hours
A study of selected rhetorical theories from the classical age to 1900. The course is designed to facilitate understanding of the transition from classical to modern rhetorical theory.
Prereq: Fifteen hours of credit in communication-public address.

SPH 582 Modern Rhetorical Theory. Three sem hours
A study of selected rhetorical theories from 1900 to the present with a view of discovering the methods and objectives of modern rhetoricians and relating them to society and its problems.
Prereq: Fifteen hours of credit in communication-public address.

SPH 584 Studies in Small Group Communications. Three sem hours
An examination of methods and research currently being conducted in discussion and small group studies.
Prereq: Fifteen hours of credit in communication-public address.

SPH 585 Theories of Argument and Controversy. Three sem hours
Theoretical foundations of argument and controversy and a review of related research.
Prereq: Fifteen hours of credit in communication-public address; and major/graduates.

SPH 586 Theories of Persuasion. Three sem hours
A review of contemporary research and theory in persuasion.
Prereq: Fifteen hours of credit in communication-public address; and major/graduates.

SPH 587 Speech Communication Theory. Three sem hours
A critical examination of fundamental processes and principles of communication behavior.
Prereq: Fifteen hours of credit in communication-public address; and major/graduates.

SPH 588 Research in Speech Communication. Three sem hours
The examination of speech communication research methods with a major emphasis upon empirical research. Students will select and design a major research project.
Prereq: Fifteen hours of credit in communication-public address; and major/graduates.

SPH 590, 591, 592 Special Topics in Speech and Dramatic Arts. One, Two and Three sem hours (Formerly SPH 539, 540, 541)
Students will investigate a particular topic which is approved by the Department of Speech and Dramatic Arts.
Prereq: Graduate students and qualified seniors in speech and dramatic arts.
Departmental permission required.

SPH 606, 607, 608 Colloquium in Speech & Dramatic Arts. One, two and three sem hours
Students will study a special topic area with resource persons from the community as well as members of the speech and dramatic arts faculty.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 677 Research Techniques in Speech and Dramatic Arts. Two sem hours (Formerly SPH 592)
An introduction to the nature and value of research; the research problem; basic research tools; philosophical foundations of historical, descriptive and experimental research; professional writing. (winter semesters)
Prereq: Fifteen hours of credit in speech and dramatic arts and major/graduate.

SPH 679, 680, 681 Special Topics in Speech & Dramatic Arts. One, two and three sem hours
Students will investigate a particular topic which is approved by the

SPH 682, 683, 684, 685 Workshops in Speech & Dramatic Arts. One, two, three and four sem hours
Students will be provided practical and theoretical study in a selected topic area.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 690 Degree Requirement: Examination. One sem hour
(Formerly SPH 689)
An examination over the student's field of study conducted by a departmental faculty committee from assigned readings.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Thesis. One, two and three sem hours
A research-oriented study conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Project. One, two and three sem hours
A theory-application project conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 693, 694, 695 Seminar in Speech & Dramatic Arts. One, two and three sem hours (Formerly SPH 696)
A research-oriented course for graduate majors in speech and dramatic arts.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly SPH 597, 598, 599)
An intensive study of one or more problems under the direction of a University faculty member.
Prereq: Department permission.
Department of Speech and Dramatic Arts.
Prereq: Graduate students and qualified seniors in speech and dramatic arts.
Departmental permission required.

SPH 606, 607, 608 Colloquium in Speech & Dramatic Arts. One, two and three sem hours
Students will study a special topic area with resource persons from the community as well as members of the speech and dramatic arts faculty.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 651 Design I. Two sem hours
Intermediate consideration of the theoretical and mechanical factors governing the design of scenery for the stage.
Prereq: Six hours of credit in dramatic arts.

SPH 660 Playwriting I. Two sem hours (Formerly SPH 655)
Intermediate study of the approaches to and the structural composition of dramatic writing.
Prereq: Six hours of credit in dramatic arts.

SPH 661 Playwriting II. Two sem hours (Formerly SPH 656)
A continuation of 361 Dramatic Writing.
Prereq: Graduate standing.

SPH 662 Lighting. Two sem hours (Formerly 652)
A continuation of 362 Stage Lighting.
Prereq: Graduate standing.

SPH 663 Costume I. Two sem hours (Formerly SPH 653)
Intermediate study of the approaches to and the historical sources for stage costuming.
Prereq: Six hours of credit in dramatic arts.

SPH 664 Costume II. Two sem hours (Formerly SPH 654)
Problems of construction and design of period costumes for the stage with emphasis on practical application culminating in a final design and construction project.
Prereq: 363 Stage Costume: History and Theory. SPH 663 Costume I or permission of the department.

DRAMATIC ARTS

SPH 551 Theatre Planning. Two sem hours
A study of the steps and considerations appropriate to the design of theatre structures with emphasis on institutional and community playhouses.
Prereq: Nine hours credit in dramatic arts or permission of the department.

SPH 560 Ancient Dramatic Theory. Three sem hours
Study of the main theories regarding the nature and purpose of drama from ancient Greece to the end of the 18th century.
Prereq: 450 History of the Theatre to 1642 and 451 History of the Theatre: 1642 to the Present or permission of the department.

SPH 561 Modern Dramatic Theory. Three sem hours
The main theories regarding the nature and purpose of drama from the beginning of the 18th century to the present.
Prereq: 450 History of the Theatre to 1642, and 451 History of the Theatre: 1642 to the Present or permission of the department.

SPH 562 American Theatre History. Two sem hours
A tracing of the main currents in the history of the American Theatre from its beginnings in the middle 1700s to the present day.
Prereq: 450 History of the Theatre to 1642 and 451 History of the Theatre: 1642 to the Present or permission of the department.

SPH 566 Studies in Theatre History (Formerly Seminar in Theatre History). Two sem hours
This course will be concerned with a penetrating study of the theatrical activity and technology prevalent during a particular period in world history.
Prereq: 450 History of the Theatre to 1642, and 451 History of the Theatre: 1642 to the Present or permission of the department.

SPH 567 Problems in Design and Technical Theatre (Formerly Seminar in Design and Technical Theatre). Two sem hours
An intensive study of the organic theory of theatre production with emphasis on the contributions of Craig, Appia, Bakst, Reinhardt, Jones, Simonson and BelGeddes.
Prereq: 351 Scene Design, 362 Stage Lighting, 450 History of the Theatre to 1642, and 451 History of the Theatre: 1642 to the Present or permission of the department.

SPH 590, 591, 592 Special Topics in Speech and Dramatic Arts. One, two and three sem hours (Formerly SPH 539, 540, 541)
Students will investigate a particular topic which is approved by the Department of Speech and Dramatic Arts.
Prereq: Graduate students and qualified seniors in speech and dramatic arts.
Departmental permission required.
SPH 677 Research Techniques in Speech and Dramatic Arts. Two sem hours (Formerly SPH 592)
An introduction to the nature and value of research; the research problem; basic research tools; philosophical foundations of historical, descriptive and experimental research; professional writing.
Prereq: Fifteen hours of credit in speech and dramatic arts and major/graduate.

SPH 679, 680, 681 Special Topics in Speech and Dramatic Arts. One, two and three sem hours
Students will investigate a particular topic which is approved by the Department of Speech and Dramatic Arts.
Prereq: Graduate students in speech and dramatic arts. Departmental permission required.

SPH 682, 683, 684, 685 Workshops in Speech & Dramatic Arts. One, two, three and four sem hours
Students will be provided practical and theoretical study in a selected area.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 690 Degree Requirement:
Examination. One sem hour (Formerly SPH 689)
An examination over the student's field of study conducted by a departmental faculty committee from assigned readings.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Thesis. One, two and three sem hours
A research-oriented study conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Project. One, two and three sem hours
A theory-application project conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 693, 694, 695 Seminar in Speech & Dramatic Arts. One, two and three sem hours (Formerly SPH 696)
A research-oriented course for graduate majors in speech and dramatic arts.
Prereq: Graduate major in speech and dramatic arts and department permission.

SPH 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly SPH 597, 598, 599)
An intensive study of one or more problems under the direction of a University faculty member.
Prereq: Departmental permission.

DRAMA FOR THE YOUNG

SPH 565 Studies in Drama/Theatre for the Young (Formerly Seminar in Dramatic Arts for Children). Two sem hours
Studies in the history, theory, and techniques of drama and theatre for/with the young. Selection of focus is made by individual students in the group, according to their particular interests.
Prereq: 323 Improvisation or 501 Creative Drama and Role Playing plus 322 Theatre for Children or 502 Introduction to Theatre for the Young.

SPH 590, 591, 592 Special Topics in Speech and Dramatic Arts. One, two and three sem hours (Formerly SPH 539, 540, 541)
Students will investigate a particular topic which is approved by the Department of Speech and Dramatic Arts.
Prereq: Graduate students and qualified seniors in speech and dramatic arts.
Departmental permission required.

SPH 606, 607, 608 Colloquium in Speech & Dramatic Arts. One, two and three sem hours
Students will study a special topic area with resource persons from the community as well as members of the speech and dramatic faculty.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 657 Advanced Improvisation. Three sem hours
A study of spontaneous dramatic play meant to develop deeper self-discipline and freedom and to extend resources for teaching, directing, and acting.
Prereq: Graduate in speech and dramatic arts.

SPH 658 Theatre for Children. Three sem hours
An extensive study of the nature and range of theatre experiences for children and adolescents.
Prereq: Graduate in speech and dramatic arts.

SPH 677 Research Techniques in Speech and Dramatic Arts. Two sem hours (Formerly SPH 592)
An introduction to the nature and value of research; the research problem; basic research tools; philosophical foundations of historical, descriptive and experimental research; professional writing.
Prereq: Fifteen hours of credit in speech and dramatic arts and major/graduate.

SPH 679, 680, 681 Special Topics in Speech and Dramatic Arts. One, two and three sem hours
Students will investigate a particular topic which is approved by the Department of Speech and Dramatic Arts.
Prereq: Graduate students in speech and dramatic arts. Departmental permission required.

SPH 682, 683, 684, 685 Workshops in Speech & Dramatic Arts. One, two, three and four sem hours
Students will be provided practical and theoretical study in a selected area.
Prereq: Graduate student in speech and dramatic arts or a related field. Departmental permission required.

SPH 690 Degree Requirement:
Examination. One sem hour (Formerly SPH 689)
An examination over the student's field of study conducted by a departmental faculty committee from assigned readings.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Thesis. One, two and three sem hours
A research-oriented study conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Project. One, two and three sem hours
A theory-application project conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.
OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN SPEECH AND DRAMATIC ARTS

The following courses for advanced undergraduates are also available to graduate students. For description of these courses, see the Undergraduate Catalog.

Communication and Public Address
440 Survey of Public Address. (3)
460 Theory of Speech Criticism (3)
466 Forensic Contest Speaking. (1)
475 Research in Speech Communication. (3)
485 Theories of Speech Communication Behavior. (3)
496 Seminar in Speech. (2)

Radio, Television and Film
431 Advanced Radio Production and Direction. (3)
432 Advanced Television Production and Direction. (3)
445 Film Theory. (3)
446 Broadcasting in Society. (3)
447 Broadcast Management. (3)

Oral Interpretation
410 Interpretation of Shakespeare. (3)
411 Advanced Problems in Interpretation. (3)
412 Interpretation of Poetry. (3)
414 Development and Theory of Oral Interpretation. (3)

Speech Science
400 Phonetics and Dialects of Spoken English. (3)
402 Voice Development. (1)
405 Voice and Dialects. (3)

Dramatic Arts
450 History of the Theatre to 1642 (3)
451 History of the Theatre: 1642 to the Present (3)
452 Theatre Management. (2)
456 Advanced Directing Lab (1)
457 Advanced Acting Lab (1)
458 Advanced Acting (3)
459 Advanced Directing (3)
461 Problems in Acting (2)
462 Problems in Directing (2)
467 Theatre Practice. (1)

Drama for the Young
468 Interpretation. (1)

Special Topics
477 Special Topics (1)
478 Special Topics (2)
479 Special Topics (3)

Additional undergraduate courses are also available to graduate students under special circumstances. On this matter the student should have a clear understanding with the department and the Graduate School before expecting to use such courses toward a Master of Arts in Speech and Dramatic Arts.

Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 690, 691, 692 Degree Requirement: Project. One, two and three sem hours
A theory-application project conducted under the supervision of a departmental faculty committee.
Prereq: Graduate student in speech and dramatic arts and departmental permission.

SPH 693, 694, 695 Seminar in Speech and Dramatic Arts. One, two and three sem hours (Formerly SPH 696)
A research-oriented course for graduate majors in speech and dramatic arts.
Prereq: Graduate major in speech and dramatic arts and departmental permission.

SPH 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly SPH 597, 598, 599)
An intensive study of one or more problems under the direction of a University faculty member.
Prereq: Department permission.
The College of Business offers four graduate degree programs which provide professional preparation for management careers: the Master of Business Administration (MBA) degree which is designed to establish a broad understanding of the business function; the Master of Science in accounting (MSA) degree which is designed to provide an opportunity to specialize in financial management and accounting; the Master of Science in computer-based information systems (MSIS) degree designed to provide the basic conceptual framework and tools of analysis necessary to design, develop, implement and control computer-based information systems; and a new program, the Master of Science in organizational behavior and development (MSOD) degree designed to provide training in solving personnel and organizational development problems.

The primary purpose of these programs is to provide high-level, professional education needed to enhance the career opportunities of men and women currently employed in business, industry and public service positions in Southeastern Michigan.

In addition, these programs provide professional preparation required for men and women who contemplate pursuing management careers in business, industry and government.

The College, in cooperation with the College of Education, offers a graduate program leading to the Master of Business Education (MBE) degree, a professional degree designed to prepare business students for teaching careers in secondary schools and community colleges.

**GENERAL ADMISSION INFORMATION**

Admission to graduate programs in the College of Business will be limited to students showing high promise of success in post-baccalaureate study in business. Various predictive measures of high promise will be used: including (a) candidate's undergraduate grade point average; (b) undergraduate grade point average in the last 60 semester hours; (c) candidate's performance on the Graduate Management Admission Test;* and (d) grades received in post-baccalaureate study.

All applicants for admission must hold either the bachelor's or master's degree from a regionally accredited college or university. Admission to a master's degree program will not be granted until the applicant has completed all degree admission requirements of the Graduate School along with the requirements for the master's degree program selected.

Applicants who hold degrees from foreign colleges or universities must present a Class I or II diploma, or the equivalent thereof. If the applicant's native tongue is not English, a TOEFL (Test of English as a Foreign Language) score of 550 or above, or a score of 85 on the English Language Institute Test, is required.

Specific admission requirements for each master's degree program are indicated in the descriptions of the individual programs.

*The Graduate Management Admission Test is offered four times a year at sites throughout the United States and in most other countries. For information and registration materials write: Graduate Management Admission Test; Educational Testing Service; Box 966; Princeton NJ 08541.

**LENGTH OF PROGRAM**

The length of time required to complete a business master's degree program depends upon the undergraduate preparation of the student. The program is an evening program (Monday through Thursday and Saturday morning). Students with
undergraduate business administration degrees may complete the master's program in less time than students without undergraduate coursework in business. Students who go full-time will take less time than students who go part-time.

**FOUNDATION/PREREQUISITE REQUIREMENT**

Each business master's program has a required common body of knowledge which each student must complete before enrolling in core level graduate courses. Students may demonstrate proficiency in each subject area of the required common body of knowledge by presenting satisfactory grades from appropriate undergraduate coursework, by proficiency examination such as the College Level Examination Program or by completing appropriate foundation and prerequisite coursework.

Eastern Michigan University offers a series of 500 numbered foundation courses, open only to graduate students, which cover most subjects in the common bodies of knowledge. Introductory courses are open to students admitted to any graduate level degree program, including non-business programs. These courses cannot count toward core level requirements in any graduate business program.

**CORE LEVEL REQUIREMENTS**

Core level courses are those graduate courses, both required and elective, which provide the 30–33 hours of advanced coursework for the graduate degree. These courses are reserved for those students admitted to a graduate business program who have completed all foundation/prerequisite requirements.

**GRADUATION REQUIREMENTS**

Graduate business students must complete all foundation/prerequisite and core level requirements for the program in which they are enrolled, maintaining at least a B (3.0) average in courses of this type for which graduate credit is received. Core level courses completed more than six years prior to graduation cannot be used unless validated by examination.

Very few 400 level undergraduate (non foundation) courses are available for graduate credit to students with special interests or needs. Depending on specific program requirements, graduate business students may also include 500 level courses on their programs. The combined total of 400 and 500 level courses included on a program is limited to six hours. Students must have prior written approval of their adviser and must initially enroll in the course for graduate credit.

There are also many business related graduate level electives offered by departments outside the College of Business. Students may include up to six hours of graduate level electives from outside the College of Business if deemed acceptable by their advisers.

**FACILITIES**

The College of Business classrooms and lecture halls are equipped with TV screens and have access to the educational computer facilities in the same building. There are special accounting and business education laboratory facilities. The Operations Research and Information Systems Department maintains a computer laboratory with 14 terminals, some with hard-line connections to the Instructional Computer Center, again in the same building in which the College of Business is located.

**MBA (MASTER OF BUSINESS ADMINISTRATION)**

Charles F. Hoitash  
Coordinator of Advising  
517-B Pray-Harrold  
487-4444

**MBA Program Objectives**

The program is designed to establish a broad understanding of the business function, its relation to society as a whole, as well as the effect of social and political forces on business, and to provide some specialization or concentration to better enable the student to perform in a chosen area of employment.

Concentrations are available in accounting, finance, computer-based information systems, management, marketing or general business.

**MBA ADMISSION CRITERIA**

Admission to the MBA program is granted to those graduates of regionally accredited colleges and universities whose grades and Graduate Management Admission (GMAT) scores indicate an aptitude for advanced study in business. Students cannot be admitted to the MBA program without a GMAT score of at least 400.

**Regular Admission**

The basic standards for regular admission are a 2.5 cumulative undergraduate grade point average (or a 2.75 for the last two years) and a GMAT score of 450.

Formula admission is also possible for some applicants who do not meet the GMAT criteria for regular admission.

**Conditional Admission**

Conditional admission will be granted to a few students whose undergraduate grade point averages are below regular admission standards, whose GMAT scores are correspondingly higher.

Conditionally admitted students must maintain a B (3.0) average in foundation courses and must maintain a B+ average with no grade lower than B and no repeats in the first 12 hours of advisor approved core courses. Conditionally admitted students must have an advisor's written permission to enroll in foundation and core level courses and cannot take more than 12 hours of core as conditional admittees. Students who successfully meet the probationary requirements will be granted regular admission.

**Special Student Status**

Students holding Special Student status are not eligible to enroll in foundation or graduate business courses.

**MBA PROGRAM REQUIREMENTS**

**Foundation/Prerequisite Courses**

Students must complete coursework in each of the following foundation areas unless they have satisfactorily completed the undergraduate equivalent.

<table>
<thead>
<tr>
<th>Undergraduate Equivalent</th>
<th>Foundation Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 501 (3)</td>
<td>Principles of Accounting (6)</td>
</tr>
<tr>
<td>ADS 503 (3)</td>
<td>Legal Environment of Business (3)</td>
</tr>
<tr>
<td>ECO 501 &amp; 502 (6)</td>
<td>Principles of Economics (6)</td>
</tr>
<tr>
<td>FIN 502 (3)</td>
<td>Principles of Finance (3)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>MGT 501</td>
<td>Principles of Management</td>
</tr>
<tr>
<td>MKT 510</td>
<td>Principles of Marketing</td>
</tr>
<tr>
<td>MTH 119 or 120</td>
<td>Calculus (3)</td>
</tr>
<tr>
<td>ORI 501</td>
<td>Business Statistics</td>
</tr>
<tr>
<td>ORI 502</td>
<td>Fortran Programming</td>
</tr>
</tbody>
</table>

*Some students may find it necessary to also complete the prerequisites for MTH 119 or MTH 120.

**Core Level Requirements**

The MBA core consists of 30-33 hours: 21-24 hours of required courses and nine hours of electives. The required courses are:

- ORI 601 Managerial Economics
- ORI 602 Techniques in Business Research
- ORI 603 Quantitative Methods I
- ACC 605 Administrative Controls
- MGT 605 Organizational Theory & Behavior
- MKT 610 Marketing Policies and Problems
- FIN 620 Financial Administration Policies
- MGT 696 Management Strategy and Policy*

*Management Strategy and Policy, a capstone case course taken at or near the end of the program, is designed to improve decision-making ability.

Students who have an undergraduate major in accounting, finance, management, or marketing can waive the required core course for that area.

Electives may be distributed among the functional areas of general business or may be used to develop a concentration in accounting, finance, information systems, management, or marketing. MBA students may not elect more than one graduate course in their undergraduate major field and may elect no more than one 400 level approved undergraduate business course for graduate credit, and must have prior approval of the adviser. Students may, with adviser approval, elect up to six hours of business related graduate credit from outside the College of Business.

**MSA (MASTER OF SCIENCE IN ACCOUNTING)**

**Trihbowan M. Jain**

Coordinator of Advising

516 Pray-Harrold

427-1261

The MSA program is designed to establish an in-depth understanding of theoretical and practical accounting concepts beyond the level attained in the bachelor's degree.

**MSA ADMISSION CRITERIA**

**Regular Admission**

Academic performance, Graduate Management Admission Test score* and work experience are significant factors considered by the MSA Program Committee as a part of the admission process. As a minimum for regular admission, the applicant must have an undergraduate grade point average of 2.80 overall (on a 4.0 scale) or 3.0 in the last 60 hours of undergraduate coursework and a GMAT score of 475.

In addition, each applicant must arrange for two letters of recommendation to be sent to the chairman of the MSA Program Committee. One of the letters should come from a college level instructor and the other from a past or present employer. The committee will also consider other information that the applicant may care to supply, e.g., extra curricular activities.

Formula admission is also possible for some applicants who do not meet the GPA or GMAT criteria for regular admission. The applicant should contact the chairman of the MSA Program Committee to discuss this form of admission.

**Foundation/Prerequisite Courses**

Students must complete coursework in each of the following foundational areas unless they have satisfactorily completed the undergraduate equivalent.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 501</td>
<td>Principles of Accounting</td>
<td>(3)</td>
</tr>
<tr>
<td>FIN 502</td>
<td>Principles of Finance</td>
<td>(3)</td>
</tr>
<tr>
<td>MGT 501</td>
<td>Principles of Management</td>
<td>(3)</td>
</tr>
<tr>
<td>MKT 510</td>
<td>Principles of Marketing</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 501</td>
<td>Business Statistics</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 502</td>
<td>Fortran Programming</td>
<td>(3)</td>
</tr>
<tr>
<td>ADS 503</td>
<td>Legal Environment of Business</td>
<td>(3)</td>
</tr>
<tr>
<td>ECO 501 &amp; 502</td>
<td>Economics (6)</td>
<td></td>
</tr>
<tr>
<td>MTH 118 &amp; 119</td>
<td>Probability &amp; &amp; Calculus (3-6)</td>
<td></td>
</tr>
</tbody>
</table>

* The Graduate Management Admissions Test should be taken at the earliest convenient date to avoid delays in the processing of one's application to the MSA Program.

**MSA PROGRAM REQUIREMENTS**

**Program Design**

Upon admission to the MSA program, each student is required to prepare a total program of coursework leading to the MSA degree. The program is reviewed with the student by the MSA Program Committee (or its representative) to ascertain that the program is suitable for the student's background and career goals. The program of coursework becomes the student's degree requirement when accepted by the student and the MSA Program Committee. Subsequent changes in coursework must be approved by the MSA Program Committee.

**Foundation/Prerequisite Courses**

Students must complete coursework in each of the following foundational areas unless they have satisfactorily completed the undergraduate equivalent.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 501</td>
<td>Principles of Accounting</td>
<td>(3)</td>
</tr>
<tr>
<td>FIN 502</td>
<td>Principles of Finance</td>
<td>(3)</td>
</tr>
<tr>
<td>MGT 501</td>
<td>Principles of Management</td>
<td>(3)</td>
</tr>
<tr>
<td>MKT 510</td>
<td>Principles of Marketing</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 501</td>
<td>Business Statistics</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 502</td>
<td>Fortran Programming</td>
<td>(3)</td>
</tr>
<tr>
<td>ADS 503</td>
<td>Legal Environment of Business</td>
<td>(3)</td>
</tr>
<tr>
<td>ECO 501 &amp; 502</td>
<td>Economics (6)</td>
<td></td>
</tr>
<tr>
<td>MTH 118 &amp; 119</td>
<td>Probability &amp; &amp; Calculus (3-6)</td>
<td></td>
</tr>
</tbody>
</table>

104
In addition the student must complete the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 340</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 341</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACC 342</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 344</td>
<td>Tax Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

**MSA Courses**

The MSA course requirement is presently in the process of revision. The courses listed below constitute the program at the time this catalog went to press. Prospective applicants should contact the MSA Program Committee for information on the latest changes.

The MSA program requires the completion of thirty semester hours of coursework divided into two fifteen hour segments as follows:

**Required Core Courses** (15 semester hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 620</td>
<td>Advanced Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MGT 605</td>
<td>Organizational Theory and Behavior</td>
<td>3</td>
</tr>
<tr>
<td>ORI 603</td>
<td>Quantitative Methods I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 665</td>
<td>Theory of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ORI 602</td>
<td>Techniques in Business Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives Courses** (15 semester hours; at least six hours in accounting must be taken.)

**ACCOUNTING**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 667</td>
<td>Professional Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACC 696</td>
<td>Seminar in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 699</td>
<td>Independent Study</td>
<td>3</td>
</tr>
</tbody>
</table>

**FINANCE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 615</td>
<td>Business Financial Markets</td>
<td>3</td>
</tr>
<tr>
<td>FIN 625</td>
<td>Securities Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 620</td>
<td>Financial Administration Policies</td>
<td>3</td>
</tr>
<tr>
<td>ORI 669</td>
<td>Business Conditions: Analysis &amp; Forecasting</td>
<td>3</td>
</tr>
<tr>
<td>FIN 660</td>
<td>Advanced Financial Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**INTERNATIONAL**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 544</td>
<td>International Taxation and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FIN 540</td>
<td>International Finance</td>
<td>3</td>
</tr>
<tr>
<td>MKT 460</td>
<td>International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MGT 489</td>
<td>Comparative Management Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

**SYSTEMS AND QUANTITATIVE ANALYSIS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 610</td>
<td>Accounting System Design &amp; Installation</td>
<td>3</td>
</tr>
<tr>
<td>ORI 604</td>
<td>Quantitative Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

**TAXATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 585</td>
<td>Business Tax Planning</td>
<td>3</td>
</tr>
<tr>
<td>ACC 672</td>
<td>Estate Tax Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses may be elected from other fields with the advice and consent of the program adviser.

Total semester hours required: 30

**MSIS (MASTER OF SCIENCE IN COMPUTER BASED INFORMATION SYSTEMS)**

Clayton Long
Coordinator of Advising
511-A Pray-Harrold,
487-2454

The MSIS is a program of study for students seeking a solid background in computer programming, computer systems analysis, management of computer related activities, design of information systems, modeling and computer simulation, and data base management.

**MSIS ADMISSION CATEGORIES**

Admission to the MSIS Program is granted to those graduates of regionally accredited colleges and universities whose grades and Graduate Management Admission Test (GMAT) scores indicate an aptitude for advanced study in computer-based information systems.

**Regular Admission**

Regular admission will be granted to students who have completed the GMAT with a score of 450 or higher and who have either (a) a cumulative undergraduate grade point average of 2.75; (b) an undergraduate grade point average of 3.0 for the last 60 hours of the undergraduate degree; or (c) a cumulative graduate grade point average of 3.3 based on at least 12 hours of degree related graduate work.

**Conditional Admission**

Students with a GMAT of 400 to 449 or whose undergraduate grade point average is above 2.5 but below the 2.75 requirements may qualify for conditional admission if:

- $(200 \times \text{undergraduate GPA}) + \text{GMAT} = 950$ or more; or if
- $(200 \times \text{undergraduate GPA}) + \text{GMAT} = 1550$ or more; or if
- $(200 \times \text{undergraduate GPA}) + \text{GMAT} = 1600$ or more.

Graduate hours must be degree related and must total at least 12 hours to be considered in the latter formulae above.

Conditionally admitted students must maintain a B (3.0) average in foundation courses and a B+ average, with no grade below B and no repeats, in 12 hours of adviser approved core courses.

Conditionally admitted students must have an appropriate adviser's written permission to enroll in core courses and will not be permitted to enroll in more than 12 hours as a conditional admittee. Students who successfully meet the probationary requirements will be granted regular admission.
Special Student Status
Students holding Special Student status are not eligible to enroll in foundation or graduate business courses.

MSIS PROGRAM REQUIREMENTS

Foundation/Prerequisite Courses
Students must complete course work in each of the following foundation areas unless they have satisfactorily completed the undergraduate equivalent.

<table>
<thead>
<tr>
<th>Course</th>
<th>Foundation</th>
<th>Undergraduate Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 501</td>
<td>Principles of Accounting</td>
<td>(6)</td>
</tr>
<tr>
<td>ADS 503</td>
<td>Legal Environment of Business</td>
<td>(3)</td>
</tr>
<tr>
<td>ECO 501</td>
<td>Principles of Economics</td>
<td>(6)</td>
</tr>
<tr>
<td>FIN 502</td>
<td>Principles of Finance</td>
<td>(3)</td>
</tr>
<tr>
<td>MGT 501</td>
<td>Principles of Management</td>
<td>(3)</td>
</tr>
<tr>
<td>MKT 510</td>
<td>Principles of Marketing</td>
<td>(3)</td>
</tr>
<tr>
<td>MTH 120</td>
<td>Beginning Calculus</td>
<td>(3)</td>
</tr>
<tr>
<td>MTH 122</td>
<td>Vectors and Matrices</td>
<td>(2)</td>
</tr>
<tr>
<td>MTH 239</td>
<td>Assembly and Machine Language Programming</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 501</td>
<td>Access Methods and Data Structures</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 465</td>
<td>Business Statistics</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 502</td>
<td>Business Statistics</td>
<td>(3)</td>
</tr>
<tr>
<td>ORI 316</td>
<td>COBOL</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Core, Concentration and Elective Requirements
The MSIS requires a minimum of 30 hours of course work in addition to any foundation or prerequisite course requirements. The program consists of a required core directly related to information systems. In addition, students must select one of the following alternative plans:

Plan A
Required Core:
Information Systems (12)

Concentration:
Computer Systems (9)

Electives:
Any combination of courses in Management Science and/or a functional area in business (9)

Plan B
Required Core:
Information Systems (12)

Concentration:
Management Science (9)

Electives:
Any combination of courses in Computer Systems and/or a functional area in business (9)

Plan C
Required Core:
Information Systems (12)

Concentration:
Functional Area (9)

Electives:
Computer Systems of Management Science (9)

Required Core in Information Systems
(12 semester hours)**
All MSIS students take each of the following courses:

- ORI 610 Access Methods and Data Structures (3)
- ORI 614 Project Mgt. for Comp.-Based Inf. Sys. I (3)
- ORI 615 Project Mgt. for Comp.-Based Inf. Sys. II (3)
- ORI 695 Research Seminar in Comp.-Based Inf. Sys. (3)

**Students are required to develop a research paper related to the field of information systems in which they are interested. The research paper is developed as a part of the core requirements. Successful completion of the MSIS Program includes a satisfactory research paper.

Concentration
(9 semester hours)
Select one of these areas: computer systems, management science or a functional area in business.

1. Computer Systems
   - ORI 620 Data Networks (3)
   - ORI 624 Operating Systems and Compiler Analysis (3)
   - ORI 628 Adv. Techniques of Info. Storage and Retrieval

2. Management Science
   - ORI 630 Linear Programming and Extensions (3)
   - ORI 632 Nonlinear Programming (3)
   - ORI 634 Stochastic Models (3)
   - ORI 636 Forecasting Models (3)
   - ORI 638 Simulation and Modeling (3)
   - ORI 640 Operations Management (3)

   *Required courses for an area of concentration.

3. Functional areas in Business
   Options are accounting, finance, marketing, management, operations management or other area approved by adviser.

Electives
(9 semester hours)
Courses from remaining two areas not selected as concentration, i.e., computer systems as concentration, select electives from management science and functional area.

Functional area courses and elective courses do not include ORI 601 and ORI 602 which are primarily service courses for the MBA degree.

Total semester hours required 30.

MSOD (MASTER OF SCIENCE IN ORGANIZATIONAL BEHAVIOR AND DEVELOPMENT)

Gregory E. Huszcz
Coordinator of Advising
504-J Pray-Harrold,
487-0141

In recent years a growing emphasis on human resource development has emerged in all types of organizations. Instead of merely concentrating on the financial material and mechanical aspects of the productive organization, attention has been increasingly directed toward developing human assets. Both production and service types of businesses, governmental agencies at all levels, health care institutions, volunteer service associations and professional forms of all types have become increasingly sensitive to the human potential aspects of their endeavors.

Part of this trend has been brought on by the demands of the new, more socially aware generation of managers and employees who look for psychic benefits from their work as well as material rewards. Also, part of this emphasis stems from the pragmatic recognition that at the organizational level there should be concern for establishing a climate of problem solving around shared goals, rather than a climate of political manipulation.

Demand has now developed, and promises to continue to develop, for especially trained persons (1) to understand and utilize organization development in the organizations they manage or (2) to fill full-time
professional consulting positions in this field. This program is designed to meet these needs.

**MSOD ADMISSION CRITERIA**

Applications for admission to the MSOD program must be received in the Graduate School Office by May 1 and reviewed by the MSOD Advisory Committee. Criteria for possible admission to the MSOD program include:

1. a cumulative undergraduate grade point average of 2.75 (4.00 system) or 3.0 for the last 60 hours;
2. a minimum score of 450 on the Graduate Management Admission Test (GMAT);
3. a letter of application in which the applicant outlines the reasons for desiring admission to the program, overall educational and career objectives and related work experience;
4. prior completion of all foundation course work. If the required courses were not satisfied at the undergraduate level, then they must be taken at the graduate level. An overall graduate grade point average of B+ (3.3) must be achieved in the required courses prior to consideration for admission;

**Foundation/Prerequisite Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Undergraduate Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 501 (3)</td>
<td>Principles of Accounting (6)</td>
</tr>
<tr>
<td>ECO 501 &amp; 502 (6)</td>
<td>Principles of Economics (6)</td>
</tr>
<tr>
<td>FIN 502(3)</td>
<td>Principles of Finance (3)</td>
</tr>
<tr>
<td>MGT 501 (3)</td>
<td>Principles of Management (3)</td>
</tr>
<tr>
<td>MKT 510 (3)</td>
<td>Principles of Marketing (3)</td>
</tr>
<tr>
<td>MTH 118 (3)</td>
<td>Business Math (3)</td>
</tr>
<tr>
<td>ORI 501 (3)</td>
<td>Business Statistics (3)</td>
</tr>
<tr>
<td>ORI 502 (3)</td>
<td>Fortran Programming (3)</td>
</tr>
</tbody>
</table>

5. A selection interview with the applicant. Applicants who did not complete the undergraduate equivalents of the foundation course work can complete the necessary course work at the graduate level as a Special Student. Special Students who plan to enroll in graduate level courses in the College of Business must present proof of a minimum undergraduate grade point average of 2.5 and a GMAT score of 450 or better to the Graduate School, 116 Pierce Hall. An overall graduate grade point average of 3.3 (B+) must be achieved in the required courses.

Inquiries about the program and letters of recommendation should be addressed to the Graduate Business Programs Office, 517 Pray Harrold.

**MSOD PROGRAM REQUIREMENTS**

**Core Level Requirements**

The MSOD core consists of 30-33 hours: 24-27 hours of required courses and 6-9 hours of restricted electives. The required courses are:

- **MGT 576** Corporate Social Policy (3)
- **MGT 605** Organizational Theory and Behavior (3)
- **MGT 628** Human Resource Development (3)
- **MGT 638** Improving the Quality of Work Life (3)
- **MGT 648** Communication and Organization Development (3)
- **MGT 658** Techniques of Organization Development (3)
- **MGT 678** Survey and Diagnostic Methods in Organizational Development (3)
- **MGT 688** Practicum in Organization Development (3)
- **MGT 694** Organization Development Strategy and Policy. (3)

Students who have completed an undergraduate major in management may waive MGT 605, reducing the core requirement to 30 hours. Students who have successfully completed an undergraduate course in corporate social policy (or responsibility) should substitute three hours of electives for MGT 576.

Elective credits must be selected from the list below or must have prior approval by the MSOD Advisory Committee.

- **EDP 612** Behavior Modification Techniques for School Personnel (2)
- **MGT 693** Seminar in Personnel Administration (3)
- **PSY 550** Dynamics of Human Behavior (2)
- **PSY 565** Industrial Psychology (2)
- **SPH 509** Communication for Leaders (2)
- **SPH 584** Studies in Small Group Communication (3)
- **ORI 602** Techniques in Business Research (3)

**MBE (MASTER OF BUSINESS EDUCATION)**

Charles Duncan
Coordinator of Advising
515-B Pray-Harrold
487-0121

**MBE Program Objectives**

This graduate program recognizes the need for broadly educated business teachers. It is planned to qualify students for careers in the field of business education in secondary schools and community colleges. Special opportunity is provided for students wishing to complete academic study required for vocational certification in distributive and office education. Candidates completing the degree must be certified in order to teach business education in the secondary schools of Michigan.

**MBE Program Admission**

Admission standards for the MBE are being revised at this time. Minimum standards for admission to the MBE program will include a 2.5 undergraduate grade point average and either a valid teaching certificate or two years of successful teaching experiences.

For information about current MBE admission policies and criteria please contact the coordinator of graduate business programs (487-4444) or the Department of Administrative Services and Business Education (487-3410).

**MBE Program Requirements**

Upon admission, the candidate and the graduate adviser will jointly agree upon a program leading to the degree. Such a program includes maximum limits of six hours in arts and sciences; six hours in business administration, economics or mathematics; six hours in general education; and the remainder, 18-24 hours, in business education.

All degree programs include only courses taken within a six-year period prior to graduation.

**Cooperative Program with Educational Leadership at the M.A. and S.P.A. Levels**

The Department of Educational Leadership offers a cooperative program in vocational/technical administration. The program combines course work in school administration with courses in vocational/technical education (Industrial
Education, Business Education, or Home Economics). This program is designed for persons seeking a career as either a director or supervisor of industrial vocational education, and is available at either the master's or specialist's level. Interested persons should contact the department head in Educational Leadership.
ACC 501 Accounting Principles. Three sem hours (Formerly ACC 491)
For students who have not had undergraduate accounting. Introductory course on accounting principles and techniques used to measure business transactions and to prepare financial statements.
Prereq: Open only to graduate students who have not had six hours of basic accounting.

ACC 515 Accounting for School Administrators. Two sem hours
Principles, theory and procedures of public school fund accounting; accounting principles, applied to various kinds of public school funds, financial statements and reports, internal accounting control, payroll accounting, business papers and procedures.

ACC 544 International Taxation and Accounting. Three sem hours
International accounting problems; the interaction of tax laws of the United States and selected foreign countries.
Prereq: Completion of MSA Core.

ACC 585 Business Tax Planning. Three sem hours
Covers the taxation of corporation income, retirement plans, mergers and other corporate reorganizations, transfers and liquidation.
Prereq: A basic income tax course (ACC 344); or departmental permission. Open only to students admitted to graduate programs in the College of Business.

ACC 605 Administrative Controls. Three sem hours (Formerly ACC 584)
Areas covered include cost analysis; cost allocation to profit and investment centers; profit planning; cash flow analysis; inventory control; control of decentralized operations. Both text and cases are used.
Prereq: Completion of MBA Core. Not open to those MSA students who have taken a cost accounting course.

ACC 610 Accounting System Design and Installation. Three sem hours
Provides the fundamentals of developing and analyzing accounting systems to produce efficient recording, optimum data processing procedures and appropriate analysis and interpretation for management. Case studies are used.
Prereq: ACC 605 Administrative Controls or ACC 620 Advanced Managerial Accounting.

ACC 615 Corporate Financial Reporting. Three sem hours
Study of authoritative pronouncements on accounting principles which guide reporting financial position, results of operations and changes in fund flows. May include case studies or analysis of published financial reports.
Prereq: ACC 605 Administrative Controls or ACC 620 Advanced Managerial Accounting.

ACC 665 Theory of Accounting. Three sem hours
A study of the objectives, history and development of financial accounting theory; introduces advanced accounting problems in the areas of inventory accounting, intangibles, consolidations, partnership accounting, leases, pensions and prior period adjustments. ACC 665 is a capstone course which integrates the theoretical concepts and practical applications of the accounting discipline.
Prereq: ACC 615 Corporate Financial Reporting or six hours of intermediate accounting.

ACC 667 Professional Auditing. Three sem hours
A study of auditing concepts, objectives and procedures, and of the literature as it relates to current audit problems.
Prereq: ACC 615 Corporate Financial Reporting or six hours of intermediate accounting.

ACC 672 Estate Tax Planning. Three sem hours
Study of the Federal taxation of estates, gifts and trusts, particularly as they affect family financial planning, and the preparation of federal estate tax, gift tax and fiduciary tax returns.
Prereq: A basic income tax course (ACC 344) or departmental permission.

ACC 695 Seminar in Accounting. Three sem hours (Formerly ACC 696)
Study of selected problems in accounting. A contemporary issues seminar.
Prereq: ACC 615 Corporate Financial Reporting or departmental permission.

ACC 699 Independent Studies. Three sem hours
Directed study of problems in accounting or finance not otherwise treated in department courses.
Prereq: Completion of MSA core or departmental permission.

ACC 502 Financial Principles. Three sem hours (Formerly FIN 492)
An introduction to financial management of the business firm. Covers techniques and theory of asset
management, financing and dividend
decisions.

Prereq: ACC 501 Accounting Principles.
Open only to graduate students who have
not had six hours of basic finance.

FIN 540 International Finance. Three
sem hours (Formerly FIN 685)
Study of international monetary system,
the environment of foreign investment
decisions, financial control in
multinational companies.
Prereq: FIN 620 Financial Administration
Policies or departmental permission.

INS 586 Risk and Risk Management.
Three sem hours
Study of the nature of risk and the
principles and methods used in risk
management. Emphasis on use of
insurance in handling business risks.
Prereq: FIN 502 Financial Principles.

OPEN ONLY TO STUDENTS
ADMITTED TO GRADUATE
PROGRAMS IN THE
COLLEGE OF BUSINESS

FIN 615 Business Financial Markets.
Three sem hours (Formerly
Finance 553)
Study of the institutions from which
long-term investment capital is obtained
by a corporation through the several
markets, and the allocation of funds
among competing users.
Prereq: FIN 502 Financial Principles or
departmental permission.

FIN 620 Financial Administration
Policies. Three sem hours
(Formerly FIN 683)
The internal policies and problems of
financial management encountered in
business. Developing administrative
insights in funds administration
planning, capital structure planning,
security distribution arrangements and
timing, expansion financing and
solvency maintenance.
Prereq: Completion of MBA Core or
departmental permission.

FIN 625 Securities Analysis. Three
sem hours (Formerly Finance
573)
An advanced course for the professional
investment manager covering the areas
of economic policy and forecasting,
security valuation, technical analysis,
portfolio methods and procedures
applied to institutional portfolio
management, trust financial
management.
Prereq: FIN 502 Financial Principles or
departmental permission.

FIN 660 Advanced Financial
Management. Three sem hours
(Formerly FIN 693)
Provides in-depth study of the central
issues of corporate financial
management, analysis of policies for
high level financial decision making on
capital budgeting and capital acquisition
decisions.
Prereq: FIN 620 Financial Administration
Policies or departmental permission.

FIN 681 Special Topics in Finance.
Three sem hours (Formerly FIN
694)
An in-depth study of a specialized area
in accounting or finance.
Prereq: FIN 620 Financial Administration
Policies or departmental permission.
OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

ADS 503 Legal Environment of Business. Three sem hours (Formerly ADS 493)
The nature and operation of the American legal system; legal concepts of contract, property, tort; legal constraints on business activities. Law as an expression of social and political forces and as an instrument of economic and political change.

ADS 530 Modern Commercial Law. Three sem hours
Designed for students desiring a detailed knowledge of modern business law. Provisions of the Uniform Commercial Code are emphasized. Aspects of the law of sales; negotiable instruments, including effects of different endorsements; secured transactions, commercial financing and bankruptcy, bailments, bills of lading and letters of credit.
Prereq: Previous credit in law.

OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

ADS 626 Administrative Practices in the Contemporary Office. Three sem hours
Contemporary office administration practices are studied and related competencies developed. Specific activities in office management are dealt with; technical work tasks and personnel responsibilities are applied to various office situations.

ADS 695 Seminar in Business Law. Three sem hours (Formerly ADS 696)
A study of selected business law issues and topics which may vary from term to term.
Prereq: ADS 503 Legal Environment of Business; completion of MBA core.

BED 568 Coordination of Cooperative Programs in Business Education. Three sem hours
Emphasizes the function and scope of the teacher-coordinator's duties and responsibilities. Required of all potential coordinators. Recommended for school administrators.

BED 569 Foundations of Business Education. Two sem hours
Principles and developments in business education for school administrators and business teachers. The objectives and curricular patterns in business for different types of educational institutions; professional leadership and current research in the field.

OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

BED 611 Curriculum Models in Business Education. Three sem hours
Objectives, levels, and patterns of business education programs will be studied and comparisons made with recent research.
Prereq: Business education major or permission of department.

BED 630 Psychological Development of Office Skills. Three sem hours
Psychological techniques and procedures for developing both basic and higher levels of facility in typewriting and shorthand courses.
Prereq: Business education major or permission of the department.

BED 672 Administration of Business Education. Two sem hours (Formerly BED 572)
Analyzes administrative and supervisory duties and responsibilities. Local, state, and federal programs, finance and budgeting, physical facilities, selection and placement of teaching staff, public relations and publicity, equipment selection and maintenance.

BED 675 Office Education Block. Three sem hours (Formerly BED 580)
Study of philosophy, planning and evaluation procedures for office education block programs. Prepare instructional materials for block programs.
Prereq: Graduate standing.

BED 678 Research in Business Education: Analysis and Application. Three sem hours
A review of basic research techniques applied to business education, including office and distributive education areas. Studies completed in business education are analyzed in light of research processes and conclusions. Students become involved in the design and application of research methodology to
projects appropriate to business education classes.

BED 680 Special Topics in Business Education. Two sem hours (Formerly BED 539)
Provides for intensive study of selected topics drawn from current developments in the total field of business education.
Examples of topics:
- Word Processing
- Career Education
- Consumer Education
Prereq: Business Education major or department permission.

BED 681 Special Topics in Business Education. Three sem hours (Formerly BED 540)
Provides for intensive study of selected topics drawn from current developments in the total field of business education.
Examples of topics:
- Exploring Careers in Business
- Competency-Based Education
- Operation of School Stores
- Youth Groups in Vocational Education
- Meeting Needs of Slow Learners
- Research in Business Education
Prereq: Business Education major or department permission.

BED 683 Workshop in Business Education. Two sem hours (Formerly BED 595)
Modern methods, procedures and materials for improving the effectiveness of the classroom teacher in the areas of shorthand, typewriting, bookkeeping and basic business.

BED 695 Seminar in Business Education. Three sem hours (Formerly BED 696)
In-depth study of a selected problematic area of business education on the secondary and community college level. Lectures and discussions will be supplemented by library and experimental researches.

BED 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly BED 597, 598, 599)
An intensive study of a problem or group of problems under the direction of a University faculty member. Departmental permission.
MANAGEMENT

Floyd Patrick
Department Head
504 Pray-Harrold,
487-3240

OPEN ONLY TO STUDENTS ON A DEGREE ADMISSION

MGT 501 Management: Concepts, Principles and Practice. Three sem hours (Formerly MGT 491)
The basic managerial functions are studied primarily from the perspective of the process design, but the behavioral, management science and other disciplinary schools of thought are also carefully examined.
Prereq: Open only to graduate students who have not had a basic management course.

MGT 576 Corporate Social Policy. Three sem hours
The subject of business and its social, economic and political environments covers relationships of a business institution to the broader society outside its own formal organization. Technological changes, demographic and ecological changes, urbanization, developments in transportation and communication, the expanded role of government, sophistication and extension of research and development, and changes in education are sectors relevant to the development and expansion of the American business system.

MGT 580 Management of Organizational Behavior. Three sem hours
A survey and synthesis of behavioral science theories relevant to management of business and non-business organizations. This course is not open to students enrolled in a College of Business program.
Prereq: MGT 501 or equivalent.

MGT 592 Special Topics in Management. Three sem hours
Selected topic(s) from the field of management.

OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

MGT 605 Organizational Theory and Behavior. Three sem hours (Formerly MGT 585)
The objective is to apply social science concepts to organizational structure and design. Case studies are used to relate theory and behavior.
Prereq: MGT 501 Management: Concepts, Principles and Practice or equivalent; completion of graduate prerequisites.

MGT 628 Human Resource Development. Three sem hours (Formerly MGT 586 Training and Organizational Development)
Course is designed to educate students in training needs analysis and program design; implementation of training programs; training evaluation procedures; human resource cost-effectiveness plans, organization development strategy.
Prereq: MGT 501 Management: Concepts and Practice or MGT 605 Organizational Theory and Behavior.

MGT 638 Improving the Quality of Worklife. Three sem hours (Formerly MGT 587)
A historical and overview consideration of the newly developed field of organizational development in the private and public sectors as a means of increasing employee satisfaction and productivity in the workplace.
Prereq: MGT 605 Organizational Theory and Behavior.

MGT 648 Communication and Organization Development. Three sem hours (Formerly MGT 588)
The development of communication understanding and skills as required in organizational management and interaction by internal and external change agents.
Prereq: Department Permission.

MGT 658 Techniques of Organizational Development. Three sem hours (Formerly MGT 589)
The study and development of specific skills in the techniques of organization development as perfected in the field in recent years and as currently applied in modern service and profit oriented organizations.
Prereq: MGT 605 Organizational Theory and Behavior and MGT 638 Improving the Quality of Work Life.

MGT 678 Survey and Diagnostic Methods in Organizational Development. Three sem hours (Formerly MGT 590)
The study and applications of varied methodologies in problem diagnosis, field survey, action research, team effectiveness analysis, organization renewal inventory and related instruments as applied in the organization development process.
Prereq: MGT 605 Organizational Theory and Behavior, MGT 638 Improving the Quality of Work Life, MGT 658 Techniques of Organizational Development.

MGT 681 Special Topics in Management. Three sem hours
Selected topic(s) from the field of management.
Prereq: Admission to a graduate business program.

MGT 688 Practicum in Organization Development Training. Three sem hours (Formerly MGT 593)
The opportunity to participate in an organization development project in an active organization under the close guidance of a practicing consultant.
MGT 693 Seminar in Personnel Administration. Three sem hours (Formerly MGT 687)
Problems actually faced by executives, line and staff, in all levels of an organization in carrying out their responsibility for personnel administration.
Prereq: MGT 605 Organizational Theory and Behavior or permission of department.

MGT 694 Organizational Development Strategy and Policy. Three sem hours
The development and application of overall organization development policies and strategies in one or more active organizations in the private and/or public sector with the consultation and guidance of a qualified practitioner in the field.
Prereq: Completion of a substantial portion of the MSOD core and permission of the MSOD Advisory Committee.

MGT 695 Seminar in Management. Three sem hours
A study of selected management issues and problems. Specific topics vary from term to term.
Prereq: MGT 605 Organizational Theory and Behavior.

MGT 696 Management Strategy and Policy. Three sem hours
The development of overall strategy and supportive policies of the firm operating under competitive conditions, from the point of view of general management. Improvement of decision-making skills through case analyses of actual situations. Offered fall and winter semesters only.
Prereq: Completion of MBA operational areas.

MGT 697, 698, 699 Independent Studies. One, two or three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: MBA or MSOD core, MGT 605 Organizational Theory and Behavior and departmental approval.
MKT 510 Marketing. Three sem hours (Formerly MKT 501/491)
The development of skills in the analysis and resolution of management problems related to the marketing process; economic, psychological and sociological characteristics of demand for various products; marketing research; channels of distribution; advertising; personal selling; pricing policies; and regulation of marketing. Open only to graduate students who have not had a basic marketing course.

MKT 520 International Business.
Three sem hours (Formerly MKT 472 International Business)
Analysis of the global economic, political, cultural and geographic environments and their impact on market entry. Strategies of multi-national firms; and survey of changes in marketing, finance, personnel and production policies resulting from international environmental differences. Prereq: MKT 510 Marketing.

MKT 592 Special Topics in Marketing. Three sem hours (Formerly MKT 693)
The course involves daily visitations to various types of domestic and/or foreign business enterprises where discussions are held in seminar fashion concerning marketing and other business affairs. Subsequent seminar sessions are held by the instructor at a classroom arranged prior to the trip. Credit/No Credit.

OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

MKT 610 Marketing Policies and Problems. Three sem hours (Formerly MKT 518)
Analysis of current marketing problems and their implications relative to the firm’s marketing mix and external economic, social, cultural, legal and political environments. Prereq: MKT 510 Marketing or equivalent.

MKT 630 Sales Operations Management. Three sem hours (Formerly MKT 565)
An intensive investigation of the sales function and its relationship to the total marketing program. Topics considered include setting sales objectives, formulation of sales strategy, development of a sales organization, relationships with distributors and dealers, public policy as it relates to the sales function, analytical tools for forecasting sales, qualitative and quantitative measures of sales performance, control of sales operations, and integration of sales and other marketing functions. Reviews of the literature in the sales field and cases stressed. Prereq: MKT 610 Marketing Policies and Problems.

MKT 640 Promotions Management. Three sem hours (Formerly MKT 575)
An integrative decision oriented course emphasizing the strategic function of an effective program of corporate promotions employing mass communications, personal selling, sales promotion, publicity and public relations. Prereq: MKT 610 Marketing Policies and Problems.

MKT 650 Channels of Distribution and Logistics. Three sem hours (Formerly MKT 577)
Identification and analysis of problems involved in the development and operation of channels of distribution. Issues of trade structure and methods of cooperation among channel members are discussed from legal and managerial points of view. Specific analytical tools are developed for the individual firm in analyzing spatial arrangements of markets, plant and warehouse location, inventory systems and selection of carrier alternatives. Lecture, discussion and cases. Prereq: MKT 610 Marketing Policies and Problems.

MKT 675 Market Planning and Forecasting. Three sem hours (Formerly MKT 680)
Development of student skills and techniques for strategic marketing planning and forecasting. Concepts relating to the mission, opportunity analysis, objectives, goals and programs will be explored. Individual planning and forecasting projects and exercises will be emphasized. Prereq: MKT 610 Marketing Policies and Problems.

MKT 681 Special Topics in Marketing. Three sem hours (Formerly MKT 694)
Selected topic(s) from the field of marketing. Prereq: MKT 610 Marketing Policies and Problems.

MKT 695 Seminar in Marketing. Three sem hours (Formerly MKT 696)
The purpose of this seminar is to develop both an understanding of and a point of view toward some of the major problems of marketing which are dealt with briefly or not at all in required course work. Topics vary from year to year in accordance with the needs and interests of the students. Prereq: MKT 610 Marketing Policies and Problems.

MKT 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem under the direction of graduate faculty members. Prereq: MKT 610 Marketing Policies and Problems.
OPERATIONS RESEARCH and INFORMATION SYSTEMS

Clayton Long
Acting Department Head
511 Pray-Harrold,
487-2454

OPEN ONLY TO STUDENTS ON A DEGREE ADMISSION

ORI 501 Introductory Probability and Statistics for Business. Three sem hours (Formerly OR! 494)
Fundamental concepts of quantitative analysis for business and economics. Emphasis on probability as a basis for statistics, probability distribution, sampling distributions, regression, correlation and time series.
Prereq: Open only to graduate students who have not had a basic statistics course.

ORI 502 Introduction to Computers and Programming. Three sem hours (Formerly OR! 495)
An introduction to the computer with emphasis on its use in solving problems related to business organizations. Includes elements of computer hardware and software systems, management information systems and actual programming experience. Designed for graduate business students with deficiency in the area of computers.
Prereq: Open only to graduate students who have not had a basic computer programming course.
OPEN ONLY TO STUDENTS ADMITTED TO GRADUATE PROGRAMS IN THE COLLEGE OF BUSINESS

ORI 601 Managerial Economics.
Three sem hours (Formerly ORI 588)
Application of economic theory to problems facing business management. Emphasis on economics as a business tool that facilitates decision making. Topics considered include optimization techniques, uncertainty, demand, production, cost and anti-trust economics.

ORI 602 Techniques in Business Research. Three sem hours (Formerly ORI 592 Business Research)
Scientific research; basic considerations in research methodology; economic analyses. Oral and written reports.

ORI 603 Quantitative Methods I.
Three sem hours (Formerly ORI 586 Quantitative Analysis for Business)
Business decision making; complex problems of the modern business enterprise. Quantification and measurement, statistical decision making, linear programming, game theory, inventory control, replacement decisions and various techniques of statistical optimization.

ORI 604 Quantitative Methods II.
Three sem hours (Formerly ORI 687 Advanced Quantitative Methods)
Transportation networks. Queuing theory, Bayesian Inference, Regression and Correlation Analysis, in addition to various Discrete Mathematical Programming Topics of contemporary interest.
Prereq: ORI 502 Introduction to Computers and Programming and ORI 603 Quantitative Methods I or department permission.

ORI 610 Access Methods and Data Structures. Three sem hours (Formerly ORI 510)
The primary emphasis is on those aspects of the design of a Management Information System that result in an efficient program and data file system. This includes the study of direct access methods, sorting and searching techniques, and data structures.
Prereq: ORI 502 Introduction to Computers and Programming or equivalent.

ORI 614 Project Management for Computer-Based Information Systems I. Three sem hours (Formerly ORI 514)
Techniques of managing the design, development, and implementation of large scale computer-based information systems are discussed. Particular emphasis will be placed on automated PERT, progress feedback for control and economic evaluation of information system resources.
Prereq: One programming course and statistics.

ORI 615 Project Management for Computer-Based Information Systems II. Three sem hours
A practicum in the design, programming, and implementation of large scale computer-based information systems. Staging of data elements in order to investigate various information accessing techniques is discussed. Information systems are tested with various functional transactions, and alternative designs undergo a comparative analysis.
Prereq: ORI 610 Access Methods and Data Structures.

ORI 620 Data Networks. Three sem hours (Formerly ORI 520)
Fundamental concepts and techniques needed in the design of data transmission networks. The emphasis will be on the techniques needed in analysis of the system and various trade-offs within it.
Prereq: MTH 119 Mathematical Analysis for Social Sciences II and ORI 502 Introduction to Computers and Programming or equivalent.

ORI 624 Operating Systems and Compiler Analysis. Three sem hours
Coverage of the full spectrum of systems programming activities, including the use and implementation of assembler, compilers, and various types of operating systems, and the evaluations of software packages.
Prereq: ORI 447 Basic Assembly Language and ORI 610 Access Methods and Data Structures or equivalent.

ORI 628 Advanced Techniques of Information Storage and Retrieval. Three sem hours
The techniques, concepts and theory relating to the analysis and design of Information Storage and Retrieval Systems will be studied.
Prereq: ORI 610 Access Methods and Data Structures.

ORI 630 Linear Programming and Extensions. Three sem hours (Formerly ORI 530)
An introduction to the theory, computational techniques and business applications of linear programming. Topics include solution techniques; duality theorem; sensitivity analyses, Gomory's integer programming algorithm; transportations, transhipment, and assignment models; and zero-sum game models.
Prereq: MTH 118 Mathematical Analysis for Social Sciences I or MTH 122 Elementary Linear Algebra or equivalent.

ORI 632 Non-linear Programming. Three sem hours
An introduction to the theory, computational algorithms and business applications of various types on non-linear programming models. Topics include separable programming, classical theory of optimization, searching techniques, goal programming, Branch and Bound, and dynamic programming.
Prereq: ORI 630 Linear Programming and Extensions or equivalent.

ORI 634 Stochastic Models. Three sem hours
An introduction to Stochastic Models. Topics include Markov models, queuing models, Stochastic programming, and
renewal theory. Applications of these models in various operating systems are emphasized.

Prereq: ORI 630 Linear Programming and Extensions or equivalent.

ORI 636 Forecasting Models. Three sem hours (Formerly ORI 536)
An introduction to forecasting models. Topics include linear and non-linear regression models; moving average method; exponential smoothing; fourier series method; Leontief’s input-output model; and Markov model. Use of these models in making forecasts in business and industry is considered.

Prereq: ORI 465 Business Statistics II or equivalent.

ORI 638 Simulation and Modeling. Three sem hours (Formerly ORI 538)
Introduction to digital simulation techniques as they apply to business. The course presents the basic concepts involved in simulation, describes applications of simulation to business problems, and discusses technical problems associated with the use of simulation. Emphasis is on the design and operation of computer models.


ORI 640 Operations Management. Three sem hours (Formerly ORI 540)
This course will investigate the use of “management science” techniques to analyze and solve various problems related to the design, operation and control of operating systems. Operating systems are broadly defined here to include service organizations (e.g. hospitals, banks) as well as manufacturing organizations. Topics included are process planning; location and layout of the production facilities; forecasting of demand; aggregate planning; inventory control; loading and sequencing jobs on facilities; statistical quality control; and management information systems.

Prereq: ORI 603 Quantitative Methods I or department permission.

ORI 669 Business Conditions: Analysis and Forecasting. Three sem hours (Formerly ORI 689)
Macroeconomic activity as a major determinant of firm operations.

Short-term economic forecasting: econometric models, opportunistic models, economic indicators. Forecasting business investment, housing, consumer purchases, other GNP components. Seasonal variation and methods of seasonal adjustment.

Prereq: ORI 601 Managerial Economics.

ORI 681 Special Topics in Operations Research and Information Systems Three sem hours (Formerly ORI 694)
This course will be offered periodically to review selected contemporary topics in quantitative analysis, business computer systems, and/or managerial and business economics.

Prereq: Completion of MBA core.

ORI 695 Research Seminar in Computer-Based Information Systems. Three sem hours (Formerly ORI 619)
This capstone course integrates MIS with the fundamental areas of business. The impact of MIS in the organization is analyzed in terms of current design and implementation techniques and followup evaluation of business systems. The student writes an original research paper in the area of management information systems.

Prereq: All other core courses ORI 610 Access Methods and Data Structures, ORI 614 Project Management for Computer-Based Information Systems I and ORI 615 Project Management for Computer-Based Information Systems II must be completed prior to this course.

ORI 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.

Prereq: Completion of required core.

TENTATIVE SCHEDULE
Course	Winter	Spring	Summer	Fall
ORI 501	X	X	X	X
ORI 502	X	X	X	X
ORI 601	X	X	X	X
ORI 602	X	X	X
ORI 604	X	X
ORI 610	X	X
ORI 614	X
ORI 615	X
ORI 620	X
ORI 624	X
ORI 628	X
ORI 632	X
ORI 634	X
ORI 636	X
ORI 638	X
ORI 640	X
ORI 669	X
MBA students wanting to obtain a concentration in computer systems should elect nine hours from the following courses.

426 Advanced Structured COBOL Programming (3) (Course description in Undergraduate Catalog)
610 Access Methods and Data Structures (3)
614 Projects Management for Computer-Based Information Systems I (3)
620 Data Networks (3)
638 Simulation and Modeling (3)

Those wanting a concentration in management science or operations research should elect nine hours from the following courses.

604 Advanced Quantitative Methods II (3)
630 Linear Programming and Extensions (3)
636 Forecasting Models (3)
638 Simulation and Modeling (3)
640 Operations Management (3)
COLLEGE OF
EDUCATION

DEAN: W. Scott Westerman
ACTING ASSOCIATE DEAN:
Mary A. Green

DEPARTMENTS

Educational Leadership
Educational Psychology
Guidance and Counseling
Health, Physical Education, Recreation
and Dance
Special Education
Teacher Education (Formerly
Curriculum and Instruction and Social
Foundations)

EDUCATIONAL
LEADERSHIP

Jack D. Minzey
Department Head
101 Boone Hall,
487-0255

Bruce K. Nelson
Coordinator of Advising
101-C Boone Hall,
487-0255

Center for Community Education
1017 Avon
Flint, MI 48503
238-0463

The Department of Educational Leadership offers programs leading to the Master of Arts degree and the Specialist in Arts degree, as well as individual courses which are of interest and assistance to professional educators generally. For prospective or practicing administrators, the programs provide basic administrative course offerings, as well as opportunities to specialize in administration at the elementary, middle and secondary schools, the central office, and community college levels. In addition, persons preparing for leadership positions in the many other areas of education (e.g., adult education, business management, career education, community education, personnel, public relations, administration of vocational and technical education, etc.) will find an appropriate selection of courses. Many courses offered by the department are excellent electives for students pursuing advanced degrees in other departments.

Program formats have been designed in order to provide flexibility in course selection to accommodate each student's unique experience and future career goals. Course selections should reflect the student's career aspirations. The program is usually planned to prepare the student for a specific educational administrative position. More complete information may be obtained by contacting one of the advisors in the department.

MASTER OF ARTS

Admission Requirements
1. Must meet degree admission requirements of the Graduate School.
2. A valid undergraduate degree from an accredited four-year institution of higher education. (Undergraduates may apply after final semester's registration is completed.)
3. A 2.5 undergraduate grade point average, or a 2.75 undergraduate grade point average for the last 60 hours, or a favorable Miller Analogies test score. (Applicants for a second master's degree must have had a 3.0 graduate grade point average on the first master's degree program.)
4. A valid teaching certificate. (See adviser for waiver provisions.)
5. Program planning interview with an adviser.

NOTE: International students should consult with an adviser regarding their admission.

Program Requirements
Following admission, and prior to initial registration for classes, the student should select and consult with a departmental adviser, who will assist in the development of an official program of study. The requirements for graduation are:

Candidates for the master's degree in educational leadership must satisfactorily complete all work of the program of study, including the following:
A minimum of 30 semester hours of graduate credit applicable to the
program. The requirements outlined below provide the basic guidelines within which students' programs are developed.

1. Core requirements (16 semester hours)
   Six semester hours required:
   - EDP 677 Research Techniques
   - EDL 510 Educational Organization
   - EDL 514 Educational Leadership

   Two semester hours chosen from the following:
   - EDL 618 Elementary School Principalship
   - EDL 619 Middle School Junior High School Administration
   - EDL 620 Senior High School Principalship
   - EDL 621 Community Education Administration
   - EDL 622 Organization and Administration of the Community College
   - EDL 623 Adult Education Administration

   Eight semester hours in educational leadership courses selected with approval of the adviser and reflecting the student's professional needs and objectives.

2. Supportive area (14 semester hours)
   Supportive courses may be selected from educational leadership (limitation six semester hours), other College of Education courses, or courses outside the College of Education (limitation six semester hours). These courses should support the student's professional objectives and be approved by an adviser.

3. Concentration area (14 semester hours)
   These courses in educational leadership are selected with approval of the adviser and reflect the student's professional needs and objectives.

4. Applied Research (six semester hours)

5. Cognates (six semester hours)

6. Residency Requirement

**Admission Requirements for Specialist's Candidates Holding a Master's Degree**

1. Must meet specialist's degree admission requirements of the Graduate School.
2. A valid master's degree from an accredited graduate school.
3. A 3.3 (B+) graduate grade point average in the completed master's degree or a favorable score on the Miller Analogies Test.
4. A valid teaching certificate. (See adviser for waiver provisions.)
5. A year or more of successful teaching or educational administrative experience, or equivalent acceptable to the adviser.
6. Three favorable recommendations from supervisors in educational experience.
7. A program planning interview with an adviser.

**Program Requirements**

The specialist's degree program requires a minimum of 32 semester hours beyond the master's degree. Students who have earned their master's degree from other departments at Eastern Michigan University or at other institutions will be required to remove master's degree level deficiencies. Students work closely with their adviser in developing a program which will prepare them for their career goal. Candidates for the specialist's degree in educational leadership must satisfactorily complete all work on the program of study, including the following:

A minimum of 62 semester hours of graduate credit applicable to the program (32 semester hours beyond the 30 semester hour master's degree program). The requirements outlined below provide the basic guidelines within which the students' programs are developed.

1. Completion of a master's degree in educational administration or equivalent course work.
2. Core courses (six semester hours)
   - EDL 710 Leadership Theory
   - EDL 712 Behavioral Science in Administration and Supervision
   - EDL 713 Practicum
3. Concentration area (14 semester hours)
4. Applied Research (six semester hours)
   - EDL 786, 787, 788, 789 Internship or Thesis (EDL 790, 791 and 792) or statistical block (EDP 621 or EDP 651, and EDP 678).
5. Cognates (six semester hours)

Additional Program Information

Course Substitutions/Program Changes: Changes in the student's official program and substitution of courses must be approved by the adviser prior to registration. With the approval of the student's adviser, one course may be substituted from another area for a course in the educational leadership core if the course is administrative in nature. Such a course cannot carry more than three hours of credit.

Courses Outside the Department: A suggested list of courses has been prepared by the department. Other courses may be used in this area if they are approved by the student's adviser.

Internships: A program of on-the-job administrative training is available under the direction of experienced school administrators. Further information is available from the director of internship programs. Internship placements should be arranged at least one year in advance.

COURSE OFFERINGS

EDL 510 Educational Organization. Two sem hours (Formerly EDL 502)
Organization of American public schools; authority, functions and relationships of federal, state and local governments to education. Methods of organization within school districts; non-graded organizational patterns. Open to non-majors and majors.

EDL 511 Community Organization. Two sem hours (Formerly EDL 540)
An understanding of the community as a social group. Emphasis on community analysis, leadership, criteria of a good community, principles of change and action. Open to non-majors and majors.

EDL 512 Community Education. Two sem hours (Formerly EDL 556)
The basic principles and philosophy of community education; its current status and relationship to education. Open to non-majors and majors.

EDL 513 School and Community Understanding. Two sem hours (Formerly EDL 560)
Interpreting the school to the community with emphasis on improving relationships between the school and the community. Assessing community opinion on education and educators. Open to non-majors and majors.

EDL 514 Educational Leadership. Two sem hours (Formerly EDL 562)
The process and function of various school leadership positions are explored including current practices, theories and concepts of educational administration. Open to non-majors and majors.

EDL 515 Supervision of Instruction. Two sem hours (Formerly EDL 566)
Development of those attitudes and skills necessary for school administrators as they plan and maintain effective, positive instructional programs. Designed to provide appropriate educational opportunities for all students. Open to non-majors and majors.

EDL 516 School Law for Teachers. Two sem hours (Formerly EDL 580)
Legal principles underlying day-to-day teaching activities; how laws operate and legal principles develop. Open to non-majors only.

EDL 517 Evaluating Educational Services. Two sem hours (Formerly EDL 587)
Problems, principles and procedures involving the evaluation of school facilities, curriculum, teachers and administrators. Evaluation instruments will be developed, applied and analyzed. Open to non-majors and majors.

EDL 518 Elementary School Supervision. Two sem hours (Formerly EDL 671)
The examination of the elementary school principal's role in improving the building. Open to non-majors and majors.

EDL 519 Economics of Public Education. Two sem hours (Formerly EDL 615)
Problems and procedures, revealed through a plant-planning chronology which includes hiring the architect, the attorney's role, site acquisition, involving citizens, utilizing staff, the bond issue, designing and constructing the building. Open to non-majors and majors.

EDL 520 Business Administration. Two sem hours (Formerly EDL 650)
Principles, theory and procedures of public school fund accounting; accounting principles as applied to various kinds of public school funds, financial statements and reports, internal accounting control, payroll accounting, business papers and procedures. Not open to business administration majors. Offered cooperatively with the College of Business. Open to non-majors and majors.

EDL 521 Introduction to Adult Education. Two sem hours (Formerly EDL 550 Adult Education)
A general overview of the topic of adult education to students for introductory purposes and a basis for further concentration and study in selected advanced areas of adult education. The course should be a prerequisite for advanced study and would include: philosophy, history, identification of adult objectives, knowledge of adult learners, contemporary status, trends and issues in adult education. Open to non-majors and majors.

EDL 522 Philosophy and Purposes of the Community College. Two sem hours (Formerly EDL 613)
An overview of the development of the two-year college, its origins, major characteristics and prospects with special emphasis on philosophy and purposes. Fundamental issues identified and conflicting positions investigated. Open to non-majors and majors.

EDL 523 Law of Higher Education. Two sem hours (Formerly EDL 614)
Examines the major legal aspects of the administration of institutions of higher learning. Prereq: Six hours of educational leadership; not open to students with credit in EDL 630, Legal Aspects of Administration.

EDL 524 Collective Negotiations in Education. Two sem hours (Formerly EDL 651)
An analysis of negotiations; issues which may be encountered by school administrators and teachers in collective negotiations in education. Open to non-majors and majors.

EDL 525 School Plant Planning. Two sem hours (Formerly EDL 616)
Problems and procedures, revealed through a plant-planning chronology which includes hiring the architect, the attorney's role, site acquisition, involving citizens, utilizing staff, the bond issue, designing and constructing the building. Open to non-majors and majors.

EDL 526 School Personnel Administration. Two sem hours (Formerly EDL 678)
For prospective and practicing administrators and classroom teachers. Assists in the development of an understanding of the issues, problems and practices involved in administration of the public school personnel program. Explores in depth the basic principles of staff relationships, legal requirements and policies necessary for effective personnel administration and high-level morale. Open to non-majors and majors.

EDL 527 Elementary School Principalship. Two sem hours (Formerly EDL 671)
The examination of the elementary school principal's role in improving
EDL 619 Middle School/Junior High School Administration. Two sem hours (Formerly EDL 672)
An examination of the characteristics of the middle school/junior high school and the organization necessary to provide those experiences and instruction necessary to assist early adolescents in making the transition from childhood dependence to adult independence, including approaches to instruction, scheduling procedures, exploratory and enrichment studies, evaluation methods, student services and community relations.
Prereq: Six hours credit in administration.

EDL 620 Senior High School Principalship. Two sem hours (Formerly EDL 673)
Educational leadership in the secondary school, including approaches to school-community relations, curriculum, instruction, special services, buildings and equipment, pupil relations, personnel relations, scheduling and innovative practices.
Prereq: Six hours credit in administration.

EDL 621 Community School Administration. Two sem hours (Formerly EDL 674)
Principles and techniques of administering community education.
Prereq: EDL 512 Community Education.

EDL 622 Organization and Administration of the Community College. Two sem hours (Formerly EDL 675)
An understanding of the two-year college; its legal bases, external and internal constraints, functional patterns, administrative staff roles and responsibilities, faculty organization and authority, student participation in organizational structure. Open to non-majors and majors.

EDL 623 Adult Education Administration. Two sem hours (Formerly EDL 676)
An in-depth study of the leadership necessary to administer and manage adult education programs in the public and private sector. A practical knowledge of adult education administration will also be obtained.
Prereq: EDL 611 Introduction to Adult Education or permission of the instructor.

EDL 624 School Business Management. Two sem hours (Formerly EDL 677)
School business procedures; budgeting, construction, purchasing, salary schedules, school indebtedness and insurance problems.
Prereq: 612 Economics of Public Education.

EDL 630 Legal Aspects of Administration. Two sem hours (Formerly EDL 680)
Operation of laws; development of legal principles; federal and state relationships to education; authority and liability of school boards, administrators and teachers; negligence, discipline and control. Open to non-majors and majors.
Prereq: Will be determined on the basis of the course being offered.

EDL 679, 680, 681 Special Topics. One, two and three sem hours (Formerly EDL 539)
These course numbers are used for special offerings of the department whenever a course is being used on an experimental basis.
Prereq: Will be determined on the basis of the course being offered.

EDL 682, 683, 684, 685 Workshops in Educational Leadership. One, two, three and four sem hours (Formerly EDL 595)
Concerned with special topics of educational leadership. Designed to maximize student participation. Workshop method of teaching and learning emphasized. Topics to be selected (see current schedule).
Prereq: Will be determined on the basis of the workshops being offered.

EDL 686, 687, 688, 689 Master's Internship in Educational Leadership. One, two, three and four sem hours (Formerly EDL 594)
Training in administration through actual supervised experience. Arrangements must be approved by adviser and director of intern program prior to registration. Enrollments limited.
Prereq: Departmental permission. Majors only.

EDL 694, 695, 696 Seminars in Administration and Supervision. One, two and three sem hours.
(Formerly EDL 596)
Concerned with broad or special topics of educational leadership. (Students are limited to four hours of seminar credit on master's degree program.) Topics to be selected (see current schedule).
Prereq: Will be determined on the basis of the seminar being offered.

EDL 693, 694, 695, 696 Independent Studies. One, two and three sem hours (Formerly EDL 597, 598, 599)
Prereq: Permission of the adviser and ten hours in educational leadership.

EDL 710 Leadership Theory. Two sem hours (Formerly EDL 605)
Theories and models of administration and leadership; general theories and research in leader behavior.
Prereq: Open to majors.

EDL 711 Advanced School Finance. Two sem hours (Formerly EDL 653)
Designed to acquaint students with specific areas of school finance. Probable
areas for study are (1) the capital outlay program, (2) the school bond market, (3) the bond prospectus, (4) model state foundation programs, (5) the development of sound debt management policies.

Prereq: EDL 612 Economics in Public Education.

EDL 712 Behavioral Science in Administration and Supervision.
Two sem hours (Formerly EDL 683)
Emphasizes contributions of research in the behavioral sciences to educational leadership. Critical readings of the research of psychologists, sociologists, political scientists and others that have special meaning in understanding such concepts as leadership, organization, power, authority, communication, innovation and decision making.
Prereq: Six hours in administration and EDP 677 Research Techniques.

EDL 713 Practicum. Two sem hours (Formerly EDL 693)
Development of a study proposal for the thesis or the internship. EDL 713 must be taken prior to the Thesis (790, 791, 792) or Internship (786, 787, 788, 789).
Prereq: EDP 677 Research Techniques, EDL 712 Behavioral Science in Administration and Supervision and permission of the adviser.

EDL 779, 780, 781 Special Topics Seminar. One, two and three sem hours (Formerly EDL 686)
An intensive study of a topic of current relevancy.
Preq: Will be determined on the basis of the topic being offered.

EDL 786, 787, 788, 789 Internship in Educational Administration.
One, two, three and six sem hours (Formerly EDL 694)
Provides an opportunity for the graduate student, teacher or administrator to develop administrative skills by working under the direction of an experienced public school, intermediate district, community college or four-year institution administrator. Is completed in a system which has contracted with the University to conduct this program.
Arrangements must be approved by adviser and director of Intern Program prior to registration.
Prereq: See course prerequisite for internship (available from department).

EDL 790, 791 and 792 Thesis. One, two and three sem hours
(Formerly EDL 690, 691, 692)
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Approval of adviser and departmental requirements for thesis.

EDL 794, 795, 796 Advanced Seminar in Administration and Supervision. Two, three and four sem hours (Formerly EDL 696)
An intensive study of selected problems in administration and supervision. Students are limited to four hours of seminar credit on specialist’s degree program.
Prereq: Six hours toward Specialist in Arts degree.

EDL 797, 798, 799 Independent Studies. One, two and three sem hours (Formerly EDL 697, 698, 699)
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Approval of adviser and ten hours in educational leadership.

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDL 510</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDL 511</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 512</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 513</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 514</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDL 515</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 516</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 517</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDL 610</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 611</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 612</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 613</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 614</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 615</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 616</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 617</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 618</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 619</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 620</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 621</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 622</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 623</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 624</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 630</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 686</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 687</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 688</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 689</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 694</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 695</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 696</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 710</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 711</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDL 712</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 713</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 786</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 787</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 788</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 789</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 794</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EDL 795</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EDL 796</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

The above schedule is subject to modification because of personnel and enrollment changes. Consult the official class schedule for each term. Courses are offered each term through Continuing Education as a supplement to the above schedule.
EDUCATIONAL PSYCHOLOGY

Wilbur A. Williams
Department Head
228 Boone Hall,
487-1013

N. Kishor Wahi
Coordinator of Advising
228-G Boone Hall,
487-0219

OBJECTIVES

The Graduate Program in Educational Psychology offers two areas of concentration: development and personality and research and technology. Upon completion of the core courses students will:

1. be familiar with major theories and principles of learning and their application to classroom management and instruction (EDP 603);
2. understand the construction and use of teacher-made tests, rating scales, questionnaires, checklists and the administration and utilization of standardized tests (EDP 631);
3. be able to organize data, apply and interpret descriptive statistics (EDP 621);
4. develop skills in locating, reading, interpreting, summarizing and evaluating various types of research reports (EDP 677);
5. integrate, synthesize and explore in-depth significant issues in educational psychology (EDP 694).

Students who select the development and personality concentration will become familiar with:

1. theories, research and issues regarding the growth, development and learning of children, adolescents and adults and the application of this knowledge to classroom practice and everyday living (EDP 501, EDP 600, and EDP 610);
2. theories, conditions and practices which promote mental, emotional and social well-being in the home, school and other social settings (EDP 509 and EDP 605);
3. the body of knowledge and skills in their chosen areas of personal interest such as techniques for modifying behavior, the role of play in development, recognition and facilitation of the creative process and identification of exceptional children and the use of appropriate classroom methodology (EDP 611, EDP 612, EDP 614, and EDP 618).

Students who select the research and technology concentration will become familiar with:

1. parametric and non-parametric statistical techniques and the application of these tests to the verification of hypotheses (EDP 651);
2. methods of conducting educational research which include problem formulation, review of related research, research designs, measurement procedures, data analyses and interpretations (EDP 678);
3. the field of data processing, the use of computers and other technology in instruction (EDP 617).

In addition to the above, this program provides a foundation for the pursuit of advanced degrees in educational psychology or allied fields.

ADMISSION TO THE PROGRAM

Students must meet the degree admission requirements of the Graduate School of Eastern Michigan University. Generally, students entering this program possess the teaching certificate. However, those with vocational objectives clearly of an educational nature but not centered in a public school setting may request that teacher certification be waived.

In addition, students must apply to the chairman of the Graduate Instruction Committee in Educational Psychology for admission to the program. The procedure for application for this program is as follows:

1. submit the completed departmental application form obtainable from the secretary of the Department of Educational Psychology;
2. submit transcripts of all undergraduate and graduate work to the Graduate School and complete Graduate School application form;
3. submit Miller Analogies Test score to the Graduate School. Arrangements for the MAT may be made with the secretary of the Department of Educational Psychology.

Once this information has been received, it is reviewed by the Graduate Instruction Committee in Educational Psychology. The undergraduate grade point average (a 2.5 average on a 4.0 scale is required), satisfactory performance on the MAT, experience in related fields, and personal recommendations will be considered when determining readiness for graduate study in this degree program.
DEGREE REQUIREMENTS

Candidates for the master's degree in educational psychology must satisfactorily complete all work of the program of study, including the following:

1. a minimum of 30 semester hours of graduate credit applicable to the program;
2. the 30 semester hours must include six (6) hours of cognates, i.e., courses elected from departments other than Educational Psychology and approved by the adviser;
3. a "B" average for all work applicable to the degree;
4. the recommendations of the adviser, the Graduate Instruction Committee in Educational Psychology and the Graduate School;
5. all other requirements for a master's degree adopted by the Graduate School of Eastern Michigan University.

ADVISING

The Graduate Instruction Committee in Educational Psychology is responsible for the admission and advisement of graduate students in the program. The evaluation and recommendations for modification of the program are also the responsibilities of this committee. When a student is granted admission to the program an adviser is immediately assigned.

The responsibilities of the adviser include:

1. assisting the student in the development of a program of study. This will include the selection of a concentration area and the choice of appropriate required and elective courses;
2. determining the applicability of transfer credit to the student's program of study;
3. conferring with the advisee concerning the nature of academic progress;
4. filing copies of the advisee's program of study with the Graduate School Office, the chairman of the Graduate Instruction Committee in Educational Psychology, and the adviser.

Upon admission to the program the student is expected to assume the following responsibilities:

1. consulting with an adviser in the Department of Educational Psychology before registration for the first session or semester in the degree program;
2. preparing a program of study with the assistance and approval of the adviser;
3. obtaining permission of the adviser before making substitutions or altering the program of study which has been previously approved;
4. applying for graduation. Forms are available in the Graduate School Office.

PROGRAM REQUIREMENTS

Each program of study must indicate which area of concentration (development and personality or research and technology) is being pursued.

The core courses (ten semester hours) are the same for both concentration areas. The first four courses (Principles of Classroom Learning, Statistics I, Measurement and Evaluation and Research Techniques) should be elected at the beginning of the program. The Seminar in Educational Psychology should come toward the end of the program.

The supportive courses may include Independent Study and Thesis credits. However, students seeking to gain admission to such must file an application (available in the office of the Department of Educational Psychology).

All students must complete a minimum of six semester hours of cognate work. These must be outside of the Educational Psychology Department and related to the area of concentration.

EDP 501 Psychology of Adolescence. Two sem hours

Study of the physical, cognitive, affective and social behavior and development of the adolescent; of his relation to family, peer group, school and society; and of youth here and abroad.

EDP 502 Basic Concepts in Educational Psychology. Two sem hours

Review and critical assessment of major issues in the areas of human growth and development; learning and technology; personality and mental hygiene; and measurement and evaluation.

EDP 509 Problems in Child Psychology. Two sem hours

Deals theoretically and practically with the many concerns felt by teachers and parents in regard to the various problems children face. Includes home, family and school influences as creators of problems and approaches for dealing with these problems.

EDP 535 Measurement and Evaluation of Adult Learners. Two sem hours

Designed to assist teachers of adults to become familiar with the construction and uses of teacher-made and selected standardized tests suitable for placement, diagnosis, individualizing instruction, and evaluating student achievement. Treats measurement issues unique to adult learners.

Prereq: Admission to a degree program for teachers of adults, or departmental permission.

EDP 590, 591, 592 Special Topics. One, two and three sem hours

The content will include current relevant topics and will vary from term to term. Special topics not included in the usual course offerings but within the domain of educational psychology will be considered. See appropriate schedule.

EDP 600 Human Development. Two sem hours (Formerly EDP 500)

The study of social, emotional, physical and mental growth; processes and developmental stages throughout the life cycle and their implications for learning and teaching. Students are expected to pursue an in-depth analysis of research, theory and issues in the field commensurate with the experiential background which they bring to the course.

EDP 602 Psychology of the Adult Learner. Two sem hours

The course focuses on characteristics of the adult learner, adult learning styles, understanding learning theories, information processing, and principles of learning and motivation. Participants will discover their own strategies of learning, motivation and decision-making, and skills in creating rapport with adult learners. Emphasis will be on the application of learning theory concepts and teaching skills to the participant's instructional setting.
Prereq: Admission to a degree program for teachers of adults, or departmental permission.

EDP 603 Principles of Classroom Learning. Two sem hours
(Formerly EDP 503)
Major principles of learning are examined for their applications in a classroom setting. Recent contributions are studied, and the value of learning theories for the teacher is discussed. Prereq: At least one course in human growth and development or psychology.

EDP 604 Essentials of Programmed Instruction. Three sem hours
(Formerly EDP 504)
Principles of programmed instruction are discussed and students examine programs and evaluate them. Students construct short programs in their areas of interest and revise and evaluate them. This is not a course in computer programming. Prereq: At least one course in educational psychology, human growth and development or psychology.

EDP 605 Mental Hygiene. Two sem hours
(Formerly EDP 505)
A study of the conditions and practices which promote mental, emotional and social well-being. Concepts are explored in terms of restoration, preservation and elevation of mental health goals. The course emphasizes introspection and self-awareness, techniques and skills relevant to interpersonal relationships, and the application of principles and concepts to home, school and other social settings.

EDP 606, 607, 608 Colloquim. One, two and three sem hours
Academic seminars centered upon a broad field of study involving several different lecturers from within and outside of the department. See appropriate schedule for announcement.

EDP 610 Personality Theories for Educators. Two sem hours
(Formerly EDP 510)
A study of cognitive, psychoanalytic and social learning personality theories primarily for graduate students in educational psychology. The focus of the course will be on implementation of these theoretical approaches for problems in the classroom.

Prereq: EDP 600 Human Development or equivalent or departmental permission.

EDP 611 Piaget for Educators. Two sem hours (Formerly EDP 511)
A systematic analysis of Piagetian research and theories. Applications to curriculum from pre-school through secondary will be made. Students will conduct interviews and tests with children and adolescents and make recommendations for their teaching. Students will also evaluate educational materials and teaching strategies. Prereq: EDP 600 Human Development or equivalent.

EDP 612 Behavior Modification Techniques for School Personnel. Two sem hours
(Formerly EDP 512)
This course is designed for school personnel who are desirous of developing skills in the use of behavior modification in their settings. Students will learn and apply the principles of behavior modification to projects conducted in their institutions. Students who enroll in this course should presently be teaching or employed in an instructional setting. Prereq: Current employment in an instructional setting or permission of the instructor.

EDP 614 Psychology of Creativity for Educators. Two sem hours
(Formerly EDP 514)
A study of the various aspects of creativity: the person, the environment, the process, with emphasis on their implications for teaching. The course will also focus on teacher procedures and methods for facilitating student creative behavior in the classroom. Prereq: EDP 600 Human Development or equivalent or departmental permission.

EDP 615 Psychoanalytic Theory and Education. Two sem hours
(Formerly EDP 584)
Major psychoanalytic concepts will be discussed and compared. Applicability of psychoanalytic theories to problems of education will be explored. Prereq: EDP 600 Human Development or equivalent.

EDP 616 Technology of Instruction. Two sem hours (Formerly EDP 506)
Classroom management of learning and instruction; the tools of instruction. Educational technology is more than the study of machines used in education. Prereq: At least one course in educational psychology, or human growth and development or psychology.

EDP 617 Computer Applications in Education. Two sem hours
(Formerly EDP 508)
An overview of the field of data processing in terms of computer hardware and computer languages (software); educational uses of the computer in instruction, guidance and counseling and school administration. Permission of instructor required for students with background in computers.

EDP 618 Play and Development. Two sem hours (Formerly EDP 518)
The phenomena of play for all ages and their relationship to developmental processes will be investigated. Definitions, viewpoints, history and theories of play and play movements will be analyzed. Students will conduct interviews and observations with children, adolescents and adults. Prereq: EDP 600 Human Development or equivalent.

EDP 621 Statistics I: Descriptive Statistics. Two sem hours
(Formerly EDP 521)
The organization of data, and application and interpretation of descriptive statistics. Includes levels of measurement, frequency distributions and graphs, measures of central tendency, dispersion, relative position, relationship and prediction.

EDP 631 Measurement and Evaluation. Two sem hours
(Formerly EDP 531)
A study of the construction and use of teacher-made tests, rating scales, questionnaires, check lists and similar measures. Also includes the administration of standardized tests and utilization of their results.
EDP 633 Systematic Observation, Checklists and Rating Scales. Two sem hours (Formerly EDP 533)
An introduction to the techniques and tools of systematic observation; uses and limitations of checklists and rating scales in educational settings; and methods of estimating and improving the reliability and validity of such techniques and tools.
Prereq: EDP 631 Measurement and Evaluation and/or statistics or departmental permission.

EDP 651 Statistics II: Inferential Statistics. Two sem hours (Formerly EDP 551)
Inferential statistics, both parametric and non-parametric; theory of hypothesis testing.
Prereq: EDP 621 Statistics I: Descriptive Statistics or equivalent.

EDP 652 Statistics III: Analysis of Variance. Two sem hours (Formerly EDP 631)
Involves statistical principles in experimental design through the study of single and multi-factor analyses of variance.

EDP 677 Research Techniques. Two sem hours (Formerly EDP 631)
Basic concepts, procedures and language of research; facets of research, i.e., problem formulation, research design, data collection, data analysis and interpretation. Critical appraisal of published research.

EDP 678 Empirical Methods for Educational Research. Three sem hours (Formerly EDP 650)
Emphasis is on the understanding of advanced empirical methods in education. Topics included are measurement procedures, research designs, data analyses and interpretations, and the use of the computer terminal.
Prereq: EDP 621 Statistics I: Descriptive Statistics or EDP 651 Statistics II: Inferential Statistics and EDP 677 Research Techniques (or permission of instructor).

EDP 679 and 680 Special Topics. One and two sem hours (Formerly EDP 539)
An experimental course designed to include specific topics of concern in Educational Psychology.
Prereq: Permission of the instructor.

EDP 682, 683, 684, 685 Workshop. One, two, three and four sem hours
Particular topics of investigation in educational psychology. Designed to emphasize student participation. Workshop method of teaching and learning. See schedule for announced workshops.

EDP 690, 691 and 692 Thesis. One, two and three sem hours
Prereq: Permission of the graduate adviser.

EDP 694 Seminar in Educational Psychology. Two sem hours (Formerly EDP 596)
This course provides students with the opportunity for in-depth exploration and examination of significant issues in educational psychology as they relate to their professional goals.
Prereq: Admission to the M.A. degree program in educational psychology and nearing completion of the program.

EDP 697, 698, and 699 Independent Study. One, two and three sem hours (Formerly EDP 597, 598, 599)
Prereq: Permission of the graduate adviser.

SPECIALIST IN SCHOOL PSYCHOLOGY

The Department of Educational Psychology is cooperating with the Departments of Psychology and Special Education in a program designed to prepare school psychologists. A complete description of this program is available in the Psychology Department section of this catalog.

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 501</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 502</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 509</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 600</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 603</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 604</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 605</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 610</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 611</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 612</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 614</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 615</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 616</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 617</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 618</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 621</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 631</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 633</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 651</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 652</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 677</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EDP 678</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDP 694</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above schedule is subject to modification because of personnel and enrollment changes. Consult the official class schedule for each term. Courses are offered each term through Continuing Education as a supplement to the above schedule.
GUIDANCE, COUNSELING and PERSONNEL WORK

John G. Pappas
Department Head
13 Boone Hall, 487-3270

B.W. Van Riper
Coordinator of Advising
13 Boone Hall, 487-3270

Graduate study in the Department of Guidance and Counseling consists of the Master of Arts degree program, the Specialist in Arts degree program, and service course offerings for classroom teachers and graduate students in related fields.

The master’s degree program provides entry level competencies and proficiencies for such positions as elementary school counselors, secondary school counselors and college student personnel workers. In addition, counselors and personnel workers in non-education settings, e.g., employment counselors, vocational rehabilitation counselors, public offender counselors, community/agency personnel and business/industry personnel, receive education and training which improves their effectiveness.

The specialist’s degree program provides individuals with advanced competencies and proficiencies, enabling them to assume leadership positions in guidance and personnel programs. This advanced program of graduate study is directed to those persons aspiring to such positions as director of guidance, coordinator of pupil personnel services, director of student personnel services, director of testing, counseling supervisor, guidance consultant and similar positions in the helping professions.

MASTER OF ARTS

Admission Requirements
1. Meet Graduate School degree admission requirements.
2. A valid teaching certificate (elementary and/or secondary) for those students pursuing the school counselor endorsement program.
3. A 2.50 undergraduate grade point average overall or a 2.75 grade point average in the last half of undergraduate degree program. OR
   Students who have an undergraduate grade point average below 2.50 may take the Miller Analogies Test (MAT); those who achieve a score of 37 or above on the MAT will be eligible for admission.
4. Completion of Personal Data Form.
5. A personal interview with an assigned adviser.
   A program adviser will be assigned to each student when records are received from the Graduate School. At this time, the student will be notified and should arrange for a personal interview. The adviser will assist the student in developing a planned program of graduate study. All courses and subsequent changes in the program must be approved by the adviser. Persons desiring further clarification of admission requirements or information related to alternative admission should contact Dr. B. W. Van Riper, coordinator of advising, 13 Boone Hall.

Program Requirements
A master’s degree program consists of two major components, a major concentration in guidance and counseling and appropriate courses in cognate areas. Students pursuing graduate study in school counseling and endorsement as elementary or secondary school counselors in Michigan follow the program outline, “School Counselor Endorsement Program.” Students pursuing graduate study in college student personnel work or in areas of community/agency counseling or personnel work follow the program outline, “College and Community Personnel Program.”

SCHOOL COUNSELOR ENDORSEMENT PROGRAM

The following outline describes the general program requirements leading to a minimum of 32 semester hours of graduate study for those students seeking training and endorsement as elementary or secondary school counselors:

Major Concentration in Guidance and Counseling 18–22 sem hours
1. Required Courses (16 sem hours)
   G&C 500 Helping Relationships: Basic Concepts and Services
   G&C 505 Counselor Development: Basic Skills
   G&C 510 Counselor Development: Counseling Process
   G&C 520 Standardized Group Testing
   G&C 530 Educational and Occupational Information
   G&C 540 Group Process I
   G&C 611 The Elementary School Counselor, or
   G&C 613 The Secondary School Counselor
   G&C 686 Counseling Practicum II
2. Elective Courses (2–6 sem hours)
   These guidance and counseling courses are selected with approval of the adviser and reflect the student’s professional needs and objectives.

Cognate Areas (10–14 sem hours)
1. Required Courses
   EDP 621 Statistics I: Descriptive Statistics (2 sem hours) or equivalent
   Behavioral Sciences (4–6 sem hours)
   These courses are usually taken in departments such as Psychology, Sociology, Educational Psychology and Special Education; intended to strengthen the students’ knowledge of human development and their understanding of humanistic approaches.
2. Elective Courses (4–6 sem hours)
These courses are elected to provide knowledge and understanding of the educational setting in which the student will be employed and to meet career-related objectives.

Students seeking counselor endorsement of their teaching certificates must provide evidence of their valid Michigan teaching certificates at the time of admission. These students are eligible to apply for counselor endorsement of their teaching certificates at the completion of their graduate program of study.

COLLEGE AND COMMUNITY PERSONNEL PROGRAM

The following outline describes the general program requirements leading to a minimum of 32 semester hours of graduate study for those students seeking training and education as college student personnel workers or as counselors and personnel workers in community/agency settings:

Major Concentration in Guidance and Counseling 18–22 sem hours
1. Required Courses (14 sem hours)
   G&C 500 Helping Relationships: Basic Concepts and Services
   G&C 505 Counselor Development: Basic Skills
   G&C 510 Counselor Development: Counseling Process
   G&C 520 Standardized Group Testing
   G&C 540 Group Process I
   G&C 686 Counseling Practicum I, or
   G&C 689 Field Work Experience
   G&C 694 Seminar in Guidance Personnel Work
2. Elective Courses (4–8 sem hours)
   These guidance and counseling courses are selected with approval of the adviser and reflect the student's professional needs and objectives.

Cognate Courses (8–12 scm hours)
of human development and their understanding of humanistic approaches.
2. Elective Courses (6–10 sem hours)
   These courses are elected from various departments to provide knowledge and understanding of the work setting in which the student will be employed and to meet career-related objectives.

SPECIALIST IN ARTS

Admission Requirements
1. Meet specialist's degree requirements of the Graduate School.
2. A master's degree in guidance and counseling or its equivalent from an accredited institution.
3. A 3.3 graduate grade point average.
4. Evidence of successful experience in a helping profession.
5. Submission of score on the Miller Analogies Test (MAT).
6. Two letters of recommendation, one of which is from an immediate supervisor.
7. A written expression of personal and professional reasons for pursuing this degree program.
8. A personal interview with an assigned adviser.

The graduate admissions committee in the Department of Guidance and Counseling makes final admission decisions consistent with the needs of the profession and the ability of the department to effectively train its students at this advanced level of graduate study. Prior to application to this program, students should contact Dr. B. W. Van Riper, coordinator of advising, or Dr. John G. Pappas, department head, 13 Boone.

Program Requirements
   The Specialist in Arts degree program requires a minimum of 33 semester hours beyond the master's degree. Students work closely with their assigned adviser in developing a program which will prepare them for their career goal. The following outline describes the program requirements of the specialist's degree program:
   Foundation Courses (6 sem hours)
   This requirement is designed to provide counselors with greater ability to relate to the total functioning of their settings. It is also designed to insure that the counselor has sufficient research skills to successfully pursue the graduate study demanded by an advanced program. Therefore, all students are required to take EDP 677 Research Techniques for one of these experiences.

Area of Concentration (17–23 sem hours)
1. Didactic Courses (10–14 sem hours)
   G&C 610 Theories of Counseling
   G&C 640 Group Process II
   G&C 650 Organization and Administration of Guidance Services
   Electives-600 level graduate courses in guidance and counseling
2. Supervised Experiences (4–6 sem hours)
   G&C 687 Counseling Practicum II
   G&C 688 Supervision of Counseling Practicum
   G&C 689 Field Work Experience
3. G&C 699 Specialist's Project (3 sem hours)
   Cognate Courses (8–12 sem hours)
   These courses should be elected to strengthen the counselor's background and understanding in the social and behavioral sciences related to guidance and counseling. Courses in such areas as psychology, sociology, special education, educational leadership, educational psychology, economics and business management are of special value in this component of the program.

COURSE OFFERINGS

G&C 500 Helping Relationships:
Basic Concepts and Services
(Formerly Introduction to Guidance and Counseling). Two
sem hours
An introduction to concepts and principles used in helping relationships and an overview of services offered by helping professions. The course provides experiences in interpersonal relations and opportunities for self-development.

G&C 501 Guidance in the Elementary School. Two sem
hours
The unique contributions of guidance to the work of the classroom teacher and other staff in the elementary school are surveyed. Relationships between guidance, instruction and administration in the elementary school are explored.
G&C 504 Human Relations Concepts and Skills for Adult Education Teachers. Two sem hours
This course provides an introduction to human relations training. Major emphasis is given to helping concepts, relating skills, self-assessment procedures, and a step-by-step process for more effective interpersonal relationships in learning environments. Experiential activities are provided to assist teachers/facilitators of adult learning programs.

G&C 505 Counselor Development: Basic Skills. Two sem hours
Designed to train prospective counselors for competencies in beginning counseling skills. Individuals assess their potential for counseling. Expectations are clarified for program, professional, and certification requirements; career opportunities are explored.

G&C 510 Counselor Development: Counseling Process. Two sem hours
The course is designed to assist counselor trainees in understanding the counseling process. Opportunities are provided for continued training and integration of counseling skills. Various counseling theories are examined. Consulting skills and processes are introduced.
Prereq: G&C 500 Helping Relationships: Basic Concepts and Services; G&C 505 Counselor Development: Basic Skills.

G&C 520 Standardized Group Testing. Two sem hours
This course is designed to familiarize students with various standardized group tests used in guidance and personnel programs. Emphasis is given to the development of school-wide testing programs and to the interpretation and use of test results.

G&C 530 Educational and Occupational Information. Two sem hours (Formerly G&C 630)
An introduction to the psychology, sociology and economics of work and vocational development theory. Study of informational services in guidance including sources, organization and evaluation of educational and occupational information.
Prereq: Six semester hours in guidance and counseling courses.

G&C 531 Career Education in the Guidance Program. Two sem hours (Formerly G&C 530)
Students will learn to implement the guidance component of career education. Background, content and implications of the concept are presented. Class participants will develop action programs based upon the Michigan Guidance Infusion Model.
Prereq: G&C 500 Helping Relationships: Basic Concepts and Services or equivalent; or permission of instructor.

G&C 534 Career Education for Adult Education Teachers. Two sem hours
This course is designed to prepare teachers of adults to meet the career guidance needs of their students. Specifically, the content will enable teachers to assist adult learners in assessing vocational behavior, improving self-concept, improving work adjustment, and coping with the realities of the labor market.

G&C 540 Group Process I. Two sem hours
The course is designed to develop competencies in basic group facilitation skills, and to identify verbal and non-verbal behaviors and group interactive processes. Opportunities are provided for participation in a small group. Information is presented on the development and rationale of groups.
Prereq: G&C 500 Helping Relationships: Basic Concepts and Services; G&C 505 Counselor Development: Basic Skills.

G&C 550 Student Personnel Services in Higher Education. Two sem hours (Formerly G&C 601)
Overview of student personnel services in higher education; their evolution and growth; educational significance; administrative aspects; and survey of the various student services. Major emphasis will be given to role of personnel work in the educative process of students in colleges and universities, including junior and community colleges.

G&C 551 Contemporary College Students. Two sem hours
An examination is made of the changing undergraduate lifestyle, attitudes, and characteristics. Focus is given to the dimensions of career education, outcomes/benefits of a higher education, and the student as a learner. Attention is given to both the traditional and nontraditional college population in two- and four-year institutions.
Prereq: Open to guidance and counseling majors and graduate students in related fields.

G&C 590, 591 Special Topics. One and two sem hours (Formerly G&C 596 Seminar in Counselor Development)
Special courses and seminars will be offered dealing with contemporary topics and issues in the guidance and counseling field. These counselor development offerings will be designed primarily for graduate students and practitioners in the helping professions.

G&C 595 Workshop in Selected Areas. Two sem hour
Workshops will be offered dealing with selected areas within the guidance and counseling field. Such workshops may include areas such as the self-concept, career education, psychological education and other relevant topics of interest.
Prereq: Open to guidance and counseling majors and graduate students in related fields.

G&C 610 Theories of Counseling. Two sem hours
The rationale, historical development and research underlying selected theories of counseling with emphasis on the implication of each theory for practice. Students are encouraged to develop a theoretical basis for their own counseling practice.
Prereq: Ten semester hours in guidance and counseling courses.

G&C 611 The Elementary School Counselor. Two sem hours
The function of elementary school counselors, their evolving role and relationship to students, teachers, parents and special service personnel. Emphasis will be placed on techniques for the early identification of pupil's intellectual, emotional, social and physical characteristics; diagnosis of learning difficulties; and early use of available resources to meet student needs.
Prereq: Ten semester hours in guidance and counseling courses.
G&C 613 The Secondary School Counselor. Two sem hours
Students will have the opportunity to further develop skills and techniques for working effectively with secondary school students. Consulting and coordinating skills for working with teachers, parents, administrators, referral agencies and pupil personnel staff will also be developed.
Prereq: Ten semester hours in guidance and counseling courses.

G&C 620 Individual Appraisal in Guidance and Counseling. Two sem hours
Testing and non-testing procedures, techniques and the processes of psychoeducational appraisal and their application to counseling, guidance and personnel work. Major emphasis is placed on the relevance of individual assessment to an increase in self-understanding.

G&C 622 Case Studies in Counseling. Two sem hours (Formerly G&C 612)
An opportunity for advanced students to make an intensive study of selected counseling cases. Analysis of these cases will enable students to develop competencies in case study techniques, appraisal of critical counseling areas and consultation with other professional staff.
Prereq: Ten semester hours in guidance and counseling courses.

G&C 631 Dynamics of Vocational Development. Two sem hours
An in-depth study will be made of the process of vocational development in educational and other settings as it relates to general human development and the economics and sociology of work. Theoretical constructs and significant research findings will be examined. Implications will be drawn for professional workers in guidance and counseling and related to manpower resources, locally and in the community at large.
Prereq: G&C 530 Educational and Occupational Information.

G&C 632 Vocational Rehabilitation Counseling. Two sem hours
Division of Vocational Rehabilitation: history, organization, legislation, role of the vocational rehabilitation counselor; principles and practices of vocational rehabilitation counseling; interviewing, referrals, establishing eligibility, determining vocational objectives, case reporting, adjustment counseling, selective placement and follow-up; counseling needs of physically and mentally handicapped clients; case studies and visits to rehabilitation agencies.
Prereq: G&C 530 Educational and Occupational Information.

G&C 640 Group Process II. Two sem hours (Formerly G&C 542)
This course provides an experiential learning situation for students as they participate in and examine interpersonal relationships within a small group setting. Opportunities will be provided for participants to develop and assess group facilitation skills.
Prereq: G&C 540 Group Process I or equivalent.

G&C 650 Organization and Administration of Guidance Services. Two sem hours
A study of the philosophy and principles of guidance as implemented into practice. The organization and administration of the various guidance services and the guidance functions of various school staff members will be examined.
Prereq: Ten semester hours in guidance and counseling courses.

G&C 686 Counseling Practicum I. Two sem hours (Formerly G&C 680)
An introduction to supervised counseling experiences. Students are involved in a variety of counseling relationships, assisting individuals with personal, educational and vocational goals and decisions. Systematic analysis of counseling effectiveness is facilitated through a process of self, peer and supervisor evaluation.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 687 Counseling Practicum II. Two sem hours (Formerly G&C 685)
An advanced course in supervised counseling experiences. Students are involved in diverse counseling relationships designed to facilitate higher levels of counseling effectiveness.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.
G&C 688 Supervision of Counseling Practicum. Two sem hours (Formerly G&C 686) Provides enrollees with the opportunity to supervise students in a counseling practicum experience. Includes the critiquing of tapes, leading group discussions and evaluating the growth of beginning counselors. 

Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 689 Field Work in Guidance, Counseling and Personnel Work. Two sem hours (Formerly G&C 681) On-the-job experiences under professional supervision that afford the student practical experiences in counseling and personnel work. Settings for the field work may include elementary and secondary schools, colleges and universities, social and community agencies or other approved settings.

Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 694 Seminar in Guidance/Personnel Work. Two sem hours (Formerly G&C 696 Seminar in Guidance/College Personnel Work) An integrating experience for the College and Community personnel program. Includes topics such as organization and administration of guidance and personnel programs, issues related to professional rights and responsibilities and other selected areas for intensive study.

Prereq: Ten semester hours in guidance and counseling courses.

G&C 697, 698 Independent Studies. One and two sem hours An opportunity to explore topics of interest to the student in an intensive and independent manner. Topics must be selected and an independent study pursued with the approval and supervision of a member of the faculty in guidance and counseling.

Prereq: Permission of the adviser.

G&C 699 Specialist in Arts Project. Three sem hours A project required of each candidate for the Specialist in Arts degree. The project requirement can be satisfied by writing a descriptive report or review, developing informational materials or resources, or conducting a research or evaluation study in guidance and counseling. Each student will be supervised by a committee consisting of a chairman and one additional member of the Graduate Committee.

Prereq: Permission of the adviser.

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>G&amp;C 500</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 505</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 510</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 520</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 530</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 531</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 540</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 550</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 551</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 610</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 611</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 613</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>G&amp;C 620</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>G&amp;C 621</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 631</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 632</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 640</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 650</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G&amp;C 686</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 687</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 688</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 689</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>G&amp;C 694</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

† Courses offered on a two (2) year cycle.
4. Utilize sound administrative techniques in solving typical administrative problems in the area of physical education.
5. Interpret current research as it applies to their own teaching.
6. Acquire knowledge in greater depth in the areas of teaching selected by the individual student.
7. Acquire skills, knowledges and experiences in areas which extend beyond their undergraduate preparation that would enhance their abilities to teach more effectively.

ADMISSION REQUIREMENTS
1. Meet Graduate School degree admission requirements.
2. A baccalaureate degree from an accredited institution.
3. A major, minor or the equivalent in physical education or one of the associated areas.
4. A minimum of eight (8) semester hours in the basic sciences and one (1) course in evaluation.

DEGREE REQUIREMENTS
1. Must have earned a minimum of 30 semester hours of graduate credit applicable to the program.
2. Must have completed a minimum of 20 semester hours of acceptable graduate credit in H.P.E.R.&D. Each candidate must take six required classes in the core program and complete the total hours through electives.
3. Must receive the recommendation of the coordinator of advising and department head.

CURRICULUM REQUIREMENTS
Candidates will have the responsibility of scheduling conferences with their graduate H.P.E.R.&D. adviser to complete the following:
1. Core Courses (12 Sem Hours)
   PED 585 Physical Education in Elementary Schools, or PED 586 Physical Education in Secondary Schools
   PED 587 Philosophy of Physical Education
   PED 588 Administrative Problems in Physical Education
   PED 589 Advanced Physical Testing
   PED 677 Research Techniques
   PED 698 Independent Study
2. Professional Courses (electives in H.P.E.R.&D.) (12–18)
3. Cognate Courses (0–6)

ATHLETIC COURSES (ATH)
These were formerly PED courses.

ATH 510 Administration of Athletics. Two sem hours
Problems related to interscholastic and intercollegiate athletic programs; for administrators, supervisors, coaches and others having a part in the control of athletics.

ATH 511 Advanced Techniques in Coaching Swimming: Stroke Technique. One sem hour
A course to provide the scientific and technical background to coach and teach competitive swimming strokes.

ATH 512 Advanced Techniques in Coaching Swimming: Training Methods. One sem hour
A course to provide the practical and scientific background for a swimming coach to design a competitive training program, a physical educator to make aquatics a meaningful fitness tool.

ATH 513 Coaching Women’s Gymnastics. 2 Credit Hours
A lecture-demonstration course in the problems and techniques of advanced coaching theories of women’s gymnastics. Prereq: One course in gymnastics or permission of instructor.

ATH 514 Judging Women’s Gymnastics. 2 Credit Hours
A lecture-demonstration course in the problems and techniques of judging women’s gymnastics. Prereq: One course in gymnastics or permission of instructor.

ATH 611 Advanced Techniques of Coaching Football. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of football.

ATH 612 Advanced Techniques of Coaching Track and Field. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of track and field.
ATH 613 Advanced Techniques of Coaching Basketball. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of basketball.

ATH 614 Advanced Techniques of Coaching Baseball. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of baseball.

ATH 615 Officiating and Coaching Volleyball. Two sem hours
A course designed for the individual who plans to coach and/or officiate volleyball. The class is structured to identify volleyball techniques, strategies and coaching problems as well as officiating procedures, rule interpretation and responsibility of coach to official and vice versa.

ATH 616 Advanced Techniques of Coaching Tennis. One sem hour
A course designed to identify and discuss tennis techniques, strategies and coaching problems.

ATH 619 Problems in Training for Athletics. Two sem hours
Problems in the physical preparation of athletics for competition; treatment and rehabilitation following injuries.

RECREATION COURSES (REC)
These were formerly PED courses.

REC 520 Trends in Community Recreation. Two sem hours
Recreation and the cultural aspects of communities.

REC 521 Park Management and Maintenance. Two sem hours
A course in the practical problems of park maintenance, covering grounds care, maintenance of courts, ball diamonds, pools and other athletic areas; training and supervising park maintenance staff; repair work, supplies, tools and equipment, record keeping and inventory.

REC 522 Social Recreation. Two sem hours
Planning and directing activities for family groups, church groups, senior citizens and school and community functions.

REC 523 Park and Recreation Planning and Design. Two sem hours
A course in planning and design of park and recreation facilities including golf courses, indoor and outdoor ice rinks, camping areas, recreation centers, community playfields and parks, indoor and outdoor swimming pools and lighted recreation facilities.

HEALTH EDUCATION COURSES (HED)
These were formerly PED courses.

HED 545 Sex Education (Formerly Workshop in Sex Education). Two sem hours
Designed to provide a period of concentrated study and discussion about sex education for teachers, nurses, school administrators, clergy and interested representatives of community agencies.

HED 546 Alcohol Use and Abuse (Formerly Seminar: Alcohol Use and Abuse). Two sem hours
Designed to improve the quality of teaching in alcohol education and the quality of rehabilitative efforts by public and private agencies concerned with alcohol problems. Attempts to develop an understanding of the physiological, psychological and sociological factors related to the use of alcohol. Specifically it is concerned with developing constructive attitudes toward the alcohol problem and dispelling prejudices, misunderstandings and myths which obscure facts.

HED 640 Basic Concepts of the School Health Program. Two sem hours
To provide school personnel with an opportunity to study and understand the function of the total school health program with special emphasis upon the classroom teacher.

HED 643 Problems in Community Health. Two sem hours
Community health problems and the forces operative in their solution; the role of the educator dealing with the health problems of his environment.

Prereq: HED 640 Basic Concepts of the School Health Program.

HED 645 Problems in Sex Education. Two sem hours
A course designed to help school personnel improve and implement comprehensive sex education programs in the schools, K–12. The focus is on improvement of skills and techniques in teaching and program development.

HED 647 School Health Trends. Two sem hours
Review of recent literature and research in the areas of health service and health instruction; national trends in school health.
Prereq: HED 640 Basic Concepts of the School Health Program.

HED 650 Administration of the School Health Program. Two sem hours
For principals, supervisors, coordinators, athletic directors and other personnel involved with the administration and leadership in school health programs. Current administrative theory in the implementation and improvement of school programs.
Prereq: HED 640 Basic Concepts of the School Health Program.

PHYSICAL EDUCATION COURSES (PED)

PED 505 Basic Statistics. Two sem hours
Statistical procedures, distribution, measures of central tendency, measures of dispersion and correlation.

PED 506 Test Construction. Two sem hours
Types of written tests and examinations; construction, selection and interpretation of results.

PED 561 Supervision in Physical Education. Two sem hours
Problems, relationships and procedures in the supervision of physical education programs.

PED 562 Facility Planning and Development. Two sem hours
Terminology, standards for planning, construction, use and maintenance of facilities in health, physical education, recreation and athletics.
PED 565 Problems in Intramural and Extramural Sports. Two sem hours
Organization and administration of intramural and extramural sports in junior and senior high schools; practical aspects of programming for groups and individuals.

PED 566 Sport in American Society. Two sem hours
A study of significance of sport in American society with emphasis upon sport in the context of American culture, sport and social institutions in American society, socialization and sport, and some projections concerning the future of American sport.

PED 568 Physical Fitness (Formerly Workshop in Physical Fitness). Two sem hours
Current theories and practices in the development of physical fitness in our society; evaluation of school programs.

PED 570 Critical Analysis of Physical Education. Two sem hours
The expanding of physical education and the physical educator; an analysis of research in the foundation sciences and in philosophy.

PED 578 Motor Learning and Development. Two sem hours
A study of the development of motor skills in children as related to their age and growth patterns with an investigation of major theories and research in learning as applied to motor skills.

PED 579 Physical Education for Mentally Impaired. Two sem hours
Physical Education curriculum and programming for the mentally impaired. Content includes program goals, assessment, prescription, teaching and program evaluation. Emphasis will be placed on adapting materials and utilizing alternative teaching strategies to individualize instruction.

PED 580 Comparative Physical Education. Two sem hours
The historical heritage of physical education from early Greek civilization to the present. Comparative studies of aims, objectives and programs of ancient and modern cultures.

PED 581 Physical Education for Impaired Students. Two sem hours
Physical Education curriculum and programming for the impaired student. Content includes program goals, assessment, prescription teaching and program evaluation. Emphasis will be placed on adapting materials and utilizing alternative teaching styles to individualize instruction in both mainstreamed and segregated teaching situations.

PED 585 Physical Education in Elementary Schools. Two sem hours
Curriculum development, teaching methods, program planning and evaluation for the physical educator and the elementary school teacher; purposes and principles of organization and development of a physical education program for elementary schools.

PED 586 Physical Education in Secondary Schools. Two sem hours
Developing a physical education curriculum for secondary schools; problems involved in supervision.

PED 587 Philosophy of Physical Education. Two sem hours
The development of concepts of physical education and their impact on the society in which we live. 
Prereq: Major/Minor.

PED 588 Administrative Problems in Physical Education. Two sem hours
The case study approach to the understanding of problems in physical education and athletics; planning, organizing, developing, staffing, coordinating and budgeting programs. 
Prereq: Major/Minor.

PED 589 Advanced Physical Testing. Two sem hours
The application and interpretation of advanced physical tests in the areas of health, physical education, recreation and athletics. 
Prereq: Major/Minor.

PED 590, 591, 592 Special Topics. One, two and three sem hours

PED 606, 607, 608 Colloquium. One, two and three sem hours

PED 665 Sport Psychology. Two sem hours
This course will attempt to familiarize the student, whether coach, athlete or teacher, with scientific psychology as it relates to sport. The complex nature of optimal performance requires that an integrated psychological and physiological approach be employed. Therefore, theoretical and empirical evidence from the fields of applied psychology, applied physiology and sports medicine will be used to help the teacher-coach be more effective.

PED 588 Administrative Problems in Physical Education. Two sem hours
The case study approach to the understanding of problems in physical education and athletics; planning, organizing, developing, staffing, coordinating and budgeting programs. 
Prereq: Major/Minor.

PED 589 Advanced Physical Testing. Two sem hours
The application and interpretation of advanced physical tests in the areas of health, physical education, recreation and athletics. 
Prereq: Major/Minor.
PED 668 Sport Training and Physical Fitness. (Formerly Seminar in Physical Fitness). Two sem hours
A study of current literature pertinent to the administration, exercise evaluation and implementation of adult and school fitness programs. Components of the physical training process and its importance to various sports is also examined.

PED 670 Current Problems in Physical Education. Two sem hours
Identification, discussion and analysis of current problems and issues which confront the physical educator.

DANCE COURSES (DAN)
This was formerly a PED course.

DAN 571 Teaching Modern Dance (Formerly Seminar in Modern Dance). Two sem hours
A concentrated study of the teaching of modern dance in the secondary school including technique and composition.

RESEARCH COURSES
PED 677 Research Techniques. Two sem hours (Formerly PED 592)
Research in a variety of settings; reviewing published research, participating in research, presenting a plan for a research problem.

PED 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly PED 597, 598, 599)
An intensive study of a problem under the direction of a University faculty member.
Prereq: PED 677 Research Techniques or equivalent.

WORKSHOP COURSES
ATH 595 Workshop in Athletics. Two sem hours (Formerly PED 515)
A specialized workshop in the area of athletics with the central theme to be announced.

REC 595 Workshop in Recreation. Two sem hours (Formerly PED 535)
A specialized workshop in the area of recreation with the central theme to be announced.

HED 595 Workshop in Health Education. Two sem hours (Formerly PED 555)
A specialized workshop in the area of health education with the central theme to be announced.

PED 595 Workshop in Physical Education. Two sem hours (Formerly PED 575)
A specialized workshop in the area of physical education with the central theme to be announced.

PED 595 Workshop in Gymnastics. Two sem hours (Formerly PED 576)
The development and improvement of gymnastics as a major area of physical education in the schools; the continuity and progression of gymnastic skills from grades one through twelve and current trends in theory and practice. Lectures, demonstrations and discussions.

PED 595 Workshop in Movement Education. Two sem hours (Formerly PED 577)
A period of concentrated study dealing with the British and the American approach to movement education. Emphasis is given to creativity and movement through study, observation and actual participation. Designed to meet the needs of classroom teachers and physical education specialists at the elementary school level.

SEMINAR COURSES
PED 694 Seminar in Current Literature Analysis. Two sem hours (Formerly PED 663)
A critical analysis of recent literature and research in physical education and athletics. Emphasis is placed on the interpretation of practical data which are likely to have the greatest influence on programs, procedures and practices.

PED 694 Seminar in Motor Skills. Two sem hours (Formerly PED 678)
A critical investigation of factors having a significant effect upon the acquisition of motor skills. Emphasis is directed in turn to the learner, the educational setting and the teacher.

PED 694 Seminar in International Physical Education. Two sem hours (Formerly PED 680)
A continuation of PED 580, studying additional selected countries. A comparative analysis of physical education, recreation and sports of each country in depth, using the seminar approach.

OTHER COURSES
The following undergraduate courses in the Health, Physical Education, Recreation and Dance Department may be taken for graduate credit with the adviser's approval:
410 Drug Overdose Aid. (2)
450 Advanced Dance Composition. (4)
480 Recreation Therapy. (2)
SPECIAL EDUCATION

Norman Niesen
Department Head
215 Rackham
487-3300

Nancy Halmhuber
Coordinator of Advising,
230 Rackham
487-3302

C. Wayne Fulton
Adviser
Speech and Language Impaired
231-A Rackham
487-4413

Garl E. Garber
Adviser
Hearing Impaired,
121 Rackham
487-4412

The objectives of the graduate program in special education are to develop added proficiency in classroom teaching; to acquire a more comprehensive understanding of children; to improve the students' knowledge of diagnostic procedures, enabling them to more readily recognize the problems and needs of exceptional children; to provide experiences in all areas of exceptionality; to provide foundations upon which to build administrative, supervisory and leadership skills for program development for exceptional children.

Master's degree students wishing to qualify for teaching in an area of special education (i.e., mentally impaired, orthopedically impaired, hearing impaired, emotionally impaired, visually impaired, speech and language impaired, or learning disabilities) and who already hold a state teaching certificate, may pursue a certification program on the graduate level. Those who have obtained certification on an undergraduate level are encouraged to further their understanding of a particular area of specialization, or obtain additional knowledge in one or more areas of specialization. The minimum degree requirements do not guarantee certification, and the meeting of certification standards should not be construed as the completion of degree requirements. Each student’s program is planned on an individual basis, and should be arranged with the advice and help of a departmental counselor.

Since applicants for admission to a graduate program in special education must meet all degree admission requirements established by the Graduate School, the application for admission and transcripts should be sent directly to the Graduate Office for evaluation. The Graduate Office will forward copies of the applicants' records to the Special Education Department for review and recommendation regarding admission to the degree program. Applicants will be given an opportunity to meet with an adviser in the department at that time.

Admission to the specialist’s program is open to qualified students who have met certification standards; have approved teaching experience in special education; possess a master's degree; and meet Graduate School minimum standards. The department also requires acceptable scores on the Millers Analogy Test or the Graduate Record Exam. Two general areas are emphasized at this level of study; administration and supervision or curriculum development. Curriculum requirements include a general core of theoretical and specialized courses, seminars, independent studies and an internship in the field of interest and specialty. The specialist's degree curriculum is open to a maximum of 25 active enrollees at any one time during the academic year.

The Department of Special Education is also cooperating with the Departments of Psychology and Educational Psychology to prepare people to be school psychologists. This special program is described more completely under "Psychology."

The program requirements for attaining a master's degree in speech pathology and audiology differ in some aspects from those of the Graduate School in that in the speech pathology and audiology program only six semester hours of transfer credit will be accepted; all candidates must meet the requirements for certification by the American Speech and Hearing Association prior to receiving their degree, and all majors must complete an approved scholarly paper, ranging from one to six hours in credit.

Students who enroll in the graduate program and who do not have an undergraduate major in speech

137
pathology and audiology must enroll as full-time graduate students. Also, they must consult a graduate adviser in speech pathology and audiology in planning their graduate program. Students will be expected to make up the undergraduate courses in which they are deficient. Because of the sequencing pattern, students should plan on two calendar years in acquiring their master's degree and certification by the American Speech and Hearing Association.

Please note that although the subject matter area is designated as speech pathology and audiology, the degree awarded is in speech pathology only.

In addition to the more specific courses that are offered for special education majors, the graduate program offers a number of general courses that are open to the regular classroom teacher and other non-majors. These courses are designed to provide a student with a better understanding of the child with problems who might be found in any classroom.

GENERAL COURSES

SGN 506 Education of Exceptional Children. Two sem hours

Problems and methods involved in the adjustment and training of exceptional children in the school, e.g., the mentally retarded, the gifted, the deaf, the blind, the learning disabled, the emotionally disturbed and the delinquent.

Not open to students who have credit in 251 Education of Exceptional Children.

SGN 514 Measurement and Diagnosis in Special Education. Three sem hours

Psychological evaluation and assessment; the role of tests in the assessment of intellectual capacity, educability, emotional adjustment and visual and auditory limitations.

Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 390 Measurement and Diagnosis in Special Education.

SGN 590, 591, 592 Special Topics in Special Education. One, two and three sem hours (Formerly SGN 539)

Experimental courses designed to investigate specific topics of concern related to handicapping conditions.

SGN 605 Rehabilitation Counseling in Special Education. Two sem hours

Designed to integrate the theories and practices of social psychology, physical reconstruction, special education and vocational guidance as they relate to life planning for the physically handicapped.

Prereq: Major/minor.

SGN 613 The Slow Learner in the Classroom. Two sem hours (Formerly SGN 513)

Adjusting the curriculum for slow-learning children; problems of identification, methods and materials, curriculum modifications and remedial techniques. Not an equivalent of or a substitute for SMI 538 Education of the Mentally Impaired I and SMI 559 Education of the Mentally Impaired II.

SGN 615 Social Psychology of the Handicapped. Two sem hours (Formerly SGN 515)

Principles of social psychology which influence handicapped individuals and their environment; society as it affects handicapped individuals; and individuals as they affect society.

Prereq: SGN 506 Education of Exceptional Children.

SGN 619 Administration and Supervision of Special Education. Two sem hours (Formerly SGN 519)

Organizing or improving a program for exceptional children; philosophical, legal and practical aspects.

Prereq: SGN 506 Education of Exceptional Children and six hours of credit in special education.

SGN 620 Family-School Relationship in Special Education. Two sem hours (Formerly SGN 520)

Discovering and analyzing the home problems which have educational implications for the child.

Prereq: SGN 506 Education of Exceptional Children.

SGN 669 Occupational Information in Special Education. Two sem hours (Formerly SGN 569)

Experiences in securing information of cultural, social, educational and occupational opportunities in the community for exceptional children; visits to industry, community, service agencies and educational institutions.

Prereq: SGN 506 Education of Exceptional Children.

SGN 675 Psychoeducational Diagnosis and Educational Programming for Children with Learning Problems. Four sem hours (Formerly SGN 541)

Psychoeducational diagnosis, assessment and prescription for children with a variety of learning problems. A review of instructional systems, methodology and materials useful in remediation of specific learning problems.

Prereq: Permission of department.

SGN 679, 680, 681. Special Topics in Special Education. One, two and three sem hours

Experimental courses designed to investigate specific topics of concern in special education.

Prereq: Permission of department.

SGN 683 Workshops. Two sem hours (Formerly SGN 595)

Please check the current class schedules for specific offerings.

Rehabilitation in Special Education.

Parent Child Counseling in Special Education.

Application of New Teaching Materials in Special Education.

SGN 686 Internship in Special Education. One sem hour (Formerly SGN 680)

Prereq: Permission of adviser.

SGN 687 Internship in Special Education. Two sem hours (Formerly SGN 681)

Prereq: Permission of adviser.

SGN 688 Internship in Special Education. Three sem hours (Formerly SGN 682)

Prereq: Permission of adviser.

SGN 689 Supervised Internship with Handicapped Children. Four sem hours (Formerly SGN 594)

Supervised student teaching with handicapped children in local schools and institutions.

Prereq: Permission of adviser.

SGN 694 Interdisciplinary Seminar in Special Education. Two sem hours (Formerly SGN 696)

An intensive study of selected problems in special education. Open only to majors in special education.
EMOTIONALLY IMPAIRED

SEI 511 Methods and Curriculum for Emotionally Impaired. Two sem hours
Curriculum materials methods and techniques for educating the emotionally impaired child.
Prereq: SEI 519 Emotionally Impaired Children. Not open to students who have credit in 401 Methods and Curriculum for Emotionally Impaired Children.

SEI 512 Organization of Programs for the Emotionally Impaired. Two sem hours
Program variations and their adaptations for the education of emotionally impaired children; the theoretical and philosophical foundations of programs; behavior management techniques, teacher role and professional relationships.
Prereq: SEI 519 Emotionally Impaired Children. Not open to students who have credit in 402 Organization of Programs for the Emotionally Impaired.

SEI 519 Emotionally Impaired Children. Four sem hours
Dynamics of individual behavior; theories of emotional behavior in children illustrated by case materials and excerpts from psychotherapy.
Prereq: 360 Abnormal Psychology. Not open to students who have credit in 501 Emotionally Impaired Children.

SEI 583 Preclinical Experiences. Two sem hours
Provides 120 clock hours of contact with emotionally impaired, but those who have worked with impaired children may have this requirement waived by presenting a statement from a supervisor.

SEI 603 Therapeutic Management of Emotionally Impaired Children. Two sem hours
Techniques in dealing with emotionally impaired children; surface manipulation of behavior and life space interview.
Prereq: SEI 519 Emotionally Impaired Children and presently working with children.

SEI 620 Psychological and Educational Techniques for Emotionally Impaired. Two sem hours (Formerly SEI 596)
Advanced course for graduate students in the area of emotionally impaired. Variations in educational programming for the impaired and socially maladjusted are discussed. Each student is required to work individually with an impaired or maladjusted child to make an analytical, educational evaluation of the child’s learning needs and to implement this analysis in a tutorial relationship with the child.
Prereq: SEI 511 Methods and Curriculum for Emotionally Impaired and SEI 512 Organization of Programs for the Emotionally Impaired.

SEI 663 The Emotionally Impaired Child in the Regular Classroom. Two sem hours (Formerly SEI 563)
For regular classroom teachers who do not have training in dealing with the emotionally impaired child. The behavior of impaired children, techniques for dealing effectively with symptomatic behavior; a case study analysis of children being taught by individuals electing the course. This course does not apply toward certification to teach emotionally impaired children in special educational programs.
Prereq: Regular classroom teacher. Others with department permission.

SEI 694 Seminar in the Emotionally Impaired Child. Two sem hours (Formerly SEI 596)
All recipients of fellowships, as well as other graduate majors in the program for teachers of the emotionally impaired, are now required to elect this seminar during their graduate work. Course consists of a review and discussion of some contemporary issues in the education of the impaired, following which students elect areas for more intensive exploration through library study or actual data gathering. Students present their results and conclusions to the group in a discussion setting.
Prereq: Permission of the department.

HEARING IMPAIRED

SHI 510 Survey of Education and Guidance for the Hearing Impaired. Two sem hours
A survey course covering the history of the education of the deaf; current educational programming; counseling, guidance and vocational habilitation.

SHI 514 Speech for the Hearing Impaired I. Two sem hours
Analysis of the particular problems of speech of the deaf; methods of analyzing and transcribing speech; techniques for the development of the young deaf child.

SHI 518 Speech for the Hearing Impaired II. Two sem hours
Speech development and improvement for the older deaf child; includes supervised speech tutoring.
Prereq: SHI 514 Speech for the Hearing Impaired I.

SHI 522 Language for the Hearing Impaired. Four sem hours
The effects of hearing loss on language development; the structure of the English language and principles of grammar; a survey of the varying language methods with emphasis on Fitzgerald Straight Language System. Activities include field trips, preparation of lesson plans and teaching materials.

SHI 526 Visual Communication for the Hearing Impaired. Two sem hours (Formerly SHI 626)
A study of the rationale for manual communication systems with the hearing impaired involving the combined use of manual alphabet and language of signs. Developing fluency in manual communication skills will be a part of the course.
Prereq: Three years of teaching the deaf or permission of the department.

SHI 530 School Subjects for the Hearing Impaired. Four sem hours
Principles and methods of teaching reading and school subjects to the hearing impaired and the adaptation of regular curriculums and materials to meet the needs of the hearing impaired.
SHI 554 Auditory Training and Speechreading for the Hearing Impaired. Three sem hours
(1) Study of the avenues of receptive communication available to the acoustically handicapped; (2) methods of developing speech reading skills; (3) methods of training children with residual hearing; (4) the care and use of group and individual amplification equipment.

SHI 575 The Hard of Hearing Child. Two sem hours
A study of the diagnosis and educational planning considerations for the hard of hearing child as opposed to those for the deaf child. Educational innovations and technology as applied to the hard of hearing individual are studied.

SHI 582 Evaluation and Training of Hearing Impaired Infants. Two sem hours (Formerly SHI 682)
Management of deaf infants, with emphasis on early language development, parent counseling, observation of deaf infants and practice. Prereq: Undergraduate major in deaf education or permission of the department.

SHI 673 Advanced Speech for the Hearing Impaired. Two sem hours (Formerly SHI 688)
Review of classical approaches, a study of recent research and practical application of findings to the development and improvement of speech for the deaf and hard of hearing. Includes supervised diagnostic and therapeutic practicum. Prereq: Undergraduate major in deaf and hard of hearing or speech correction.

SHI 675 Secondary School Subjects for the Hearing Impaired.
Four sem hours (Formerly SHI 686)
Principles and methods of teaching secondary school subjects to the hearing impaired; the improvement of reading skills and written composition, techniques of correcting language errors and adapting the regular school curriculum to meet the demands of the hearing impaired. Prereq: Undergraduate major in deaf and hard of hearing.

SHI 687 Auditory Training and Speechreading Practicum. Two sem hours (Formerly SHI 593)
Sixty clock hours of directed observation and practical work in the classroom with deaf children. Prereq: SHI 554 Auditory Training and Speechreading for the Hearing Impaired.

SHI 688 Clinical Internship in Hearing Impaired Education. Four sem hours (Formerly SHI 694)
Opportunity to practice will be provided, as well as an opportunity to work as a part of a professional team in rehabilitation procedures. Prereq: Undergraduate major in deaf education.

SHI 689 Public School Internship. Four sem hours (Formerly SHI 594)
Supervised teaching with deaf persons. Prereq: Undergraduate major in deaf education; concurrent enrollment in SHI 694 Seminar Hearing Impaired Education.

SHI 694 Seminar Hearing Impaired Education. Two sem hours (Formerly SHI 596)
A comparative study of the varying curriculums of hearing impaired education programs in Michigan. Includes educational programming, school organization, use of community resources and parent counseling. Prereq: Concurrent enrollment in SHI 689 Public School Internship.

LEARNING DISABILITIES

SLD 567 Education of Children with Learning Disabilities. Two sem hours
Planning and effecting educational programs for brain-injured children who have disturbances in perception, thinking and emotional behavior. Pathology of the central nervous system; teaching techniques, classroom management, case studies, research and teacher-child and parent relationships. Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 468 Education of Children with Learning Disabilities.

SLD 683 Workshops. Two sem hours
(Formerly SLD 595)
Please check the current class schedule for specific offerings.

Sensory Training for Perceptually Impaired Children.
Diagnostic Procedures in Learning Disabilities
Language Problems of Neurologically Impaired.
Prereq: Permission of department.

SLD 691 Diagnostic Practicum Learning Disabilities. Six sem hours (Formerly SLD 593)
Intensive study of children referred for educational diagnosis. Study results in precise educational prescription to be implemented in child's school. Students must elect SLD 683 Diagnostic Procedures immediately prior to or following this course. Prereq: SLD 693 Seminar Special Education I and department permission.

SLD 693 Seminar Special Education I. Two sem hours (Formerly SLD 596)

SLD 694 Seminar Special Education II. Two sem hours (Formerly SLD 596)
Open only to students who have completed SLD 683 Diagnostic Practicum; follow-up of cases from diagnostic practicum. Prereq: Permission of the department.

MENTALLY IMPAIRED

SMI 557 Mental Deficiency. Two sem hours
The nature and causes of mental deficiency; characteristics and social control of mental defectives. Opportunities are provided for observation and clinical studies. Not open to students who have credit in 350 Mental Deficiency.

SMI 558 Education of the Mentally Impaired. Two sem hours
Selection and preparation of curriculum materials for mentally impaired children; the methods and devices used in presenting these materials. Opportunities provided for functional experiences.
Prereq: SGN 506 Education of Exceptional Children and SMI 557 Mental Deficiency. Not open to students who have credit in 427 Elementary Education of the Mentally Impaired.

SMI 559 Education of the Mentally Impaired II. Two sem hours
Educating the mentally impaired in the junior-senior high school age group; vocational and occupational education. Prereq: SGN 506 Education of Exceptional Children and SMI 557 Mental Deficiency. Not open to students who have credit in 428 Secondary Education of the Mentally Impaired.

SMI 565 Habilitation of the Trainable Mentally Impaired Child. Two sem hours
Habilitation and education of the trainable impaired child; philosophy and objectives, classroom management and procedures, program coordination and evaluation, parent counseling, professional personnel, legislation, housing, transportation, sheltered workshop and other ancillary services. Prereq: SMI 557 Mental Deficiency.

SMI 615 Contemporary Problems in Mental Impairment. Two sem hours (Formerly SMI 507)
Contemporary issues and problems relating to the mentally impaired; institutionalization, sterilization, euthanasia, the parent movement, federal legislation, demonstration project and current research.

SMI 683 Workshops. Two sem hours (Formerly SMI 395)
Please check the current schedule for specific offerings.
Pre-School Culturally Deprived Mentally Impaired Children.
Physical Education and Recreation for the Mentally Impaired.
Resource Room and Curriculum Construction.
Prereq: SGN 506 Education of Exceptional Children.

SMI 694 Seminar in Mental Impairment. Two sem hours (Formerly SMI 396)
Focuses on the various problems related to mental impairment and the sociological and psychological theory as applied to the field. Students are expected to propose, analyze and conduct research from reviews of the literature and applied field study problems.
Prereq: Eight graduate hours in special education.

SMI 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly SMI 597, 598, 599)
Prereq: Departmental permission.

PHYSICALLY AND OTHERWISE HEALTH IMPAIRED

SPI 537 Pathology of the Physically Impaired. Two sem hours
Orthopedic disabilities, cardiac and other handicapping conditions of children; structure and function of the human body as it relates to these disabilities. Laboratory period and case studies are required. Prereq: SGN 506 Education of Exceptional Children.

SPI 538 Therapeutic Care of the Physically Impaired Child. Two sem hours
Medical and surgical aspects of the orthopedic and other impaired conditions of children; therapies and services used in their rehabilitation. Opportunity for observation of children is available. Prereq: SGN 506 Education of Exceptional Children.

SPEECH AND LANGUAGE IMPAIRED

SLI 500 Introduction to Speech Pathology. Two sem hours
An overview of speech, language and hearing problems, their causes and the remedial procedures which the classroom teacher may employ. Disorders of articulation. Not open to students who have credit in 241 Introduction to Speech Pathology. Graduate credit to non-majors only.

SLI 537 Clinical Practice in Hearing Testing. Two sem hours
Supervised practice in hearing testing including air and bone conduction, special procedures and speech audiometry. Prereq: SLI 578 Audiometric Testing and permission of the department.

SLI 538 Clinical Practice in Hearing Therapy. Two sem hours
Supervised practice in auditory training and lip-reading with children and adults. Prereq: SHI 554 Auditory Training and Speechreading for the Hearing Impaired and permission of the department.
SLI 550 Articulation. Two sem hours  
A critical examination of the assumptions underlying the etiological, symptomatological and therapeutic rationales currently used in articulation therapy and research.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 556 Anatomy of the Head, Neck and Trunk. Two sem hours  
Detailed study of the skeletal, neurological, physiological and muscular system of the head, neck and trunk with special emphasis on the speech mechanism. Laboratory dissection will be a part of the course.  
Prereq: 336 Anatomy of the Speech and Hearing Mechanisms or equivalent. Undergraduate major in speech pathology and audiology.

SLI 558 Language Therapy. Two sem hours  
Incorporating newly acquired or recently modified speech patterns into communicative behavior. Patterns and codes of language; the development of therapeutic activities for individuals with speech, hearing or language impairments.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 562 Evaluation and Selection of Hearing Aids. Two sem hours  
Interpretation of audiograms, electroacoustic measurement of hearing aids; evaluation, selection and care of hearing aids for the hearing impaired.  
Prereq: Permission of the department.

SLI 568 Diagnostic Methods in Speech, Language and Hearing. Three sem hours  
The course will cover the diagnostic procedures and routines used in the evaluation of speech and language disorders. Emphasis will be placed on familiarization with available evaluative tools and practical experience in conducting actual diagnostic sessions. Consideration will also be given to client interview, interpretation of test results, relating of information to parents and report writing.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 578 Audiometric Testing. Three sem hours  
Advance techniques of testing the auditory function. Consideration is given to interpretation of audiograms, hearing aid evaluations and use of differential hearing assessment techniques for children and adults with hearing disorders.  
Prereq: 392 Introduction to Audiology; permission of department; lab required; no student on academic probation.

SLI 595 Workshops. Two sem hours  
Please check the current class schedule for specific offerings.  
Stuttering.  
Language Development.

SLI 607 Colloquium in Speech Pathology. Two sem hours  
Formerly SLI 696 Seminar in Speed Pathology)  
An examination of current research dealing with theoretical and therapeutic implications in the various pathologies of speech. Opportunity for individual investigation and study provided.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 610 Cleft Palate. Two sem hours  
Nature and etiology of palatal and facial deformities; surgical procedures and related therapy. Observation of dental, medical and social service agencies.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 612 Cerebral Palsy. Two sem hours  
Examines the nature, etiology and treatment of speech disorders resulting from cerebral palsy. Related intellectual, perceptual, social and emotional problems will be considered as well as the neuromuscular symptoms. Current speech therapy approaches will be emphasized within a total therapeutic program.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 614 Aphasia. Three sem hours  
Designed to provide a theoretical framework for understanding the symbolic language problems of aphasia as well as current therapeutic approaches to the problem. Discussion is concerned primarily with aphasia resulting from cerebral insult after language has been established. Consideration is given to related physical and behavioral disturbances.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 616 Experimental Phonetics. Three sem hours  
Theoretical consideration of speech as motor behavior and as an acoustical phenomenon; physiological and acoustical investigations of speech and voice. Principles and methods of measuring speech action and acoustical phenomena.

SLI 618 Language and Learning Theories. Two sem hours  
An examination of the nature and function of language and communication via linguistics, semantics and phonetics, with special emphasis placed on learning theories and their relationship to language, speech and communication behavior.  
Prereq: Undergraduate major in speech pathology and audiology.

SLI 620 Environmental Interventions in Language, Speech and Hearing. Three sem hours  
This course is designed to provide instruction and experiences in preparing students to manage interviewing, consulting, and educational activities for families of speech and hearing handicapped and/or clients who are handicapped.  
Prereq: Major in speech pathology, audiology or hearing impaired.

SLI 652 Disorders of Voice. Two sem hours  
An advanced course in disorders of voice, involving a study of current literature and laboratory experiences with clinical equipment and case centered video tape recordings. Special stress will be given to psychosomatic voice disorders and the voice problems of the laryngectomee.  
Prereq: Major in speech pathology, audiology or hearing impaired.

SLI 654 Stuttering II Disorders of Fluency. Two sem hours  
An advanced course in disorders of fluency, involving research and the development of rationale for treatment of stuttering, cluttering and disruption of speech rate resulting from organic pathology.
Prereq: Major in speech pathology and audiology; graduate status.

SLI 687 Clinical Internship in Speech Pathology II. Two sem hours (Formerly SLI 694)
Opportunity to practice speech correction in a clinical setting. Experience with children and adults with multiple handicaps will be provided.
Prereq: Undergraduate major in speech pathology and audiology.

SLI 689 Public School Internship in Speech Pathology I. Four sem hours (Formerly SLI 594)
Supervised clinical practice with speech impaired persons. The first internship is completed in a public school setting.
Prereq: Undergraduate major in speech correction and concurrent enrollment in SLI 694 Seminar in Public School Speech Pathology.

SLI 694 Seminar in Public School Speech Pathology. Two sem hours (Formerly SLI 596)
Emphasizes professional ethics, organization and administration of speech pathology programs in all settings. Includes state laws governing special education, professional growth and development and employment practices and procedures.
Prereq: Concurrent enrollment in SLI 689 Public School Internship in Speech Pathology I.

SLI 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Permission of the department.

OTHER COURSES

The following undergraduate courses in the Special Education Department may be taken for graduate credit, with the adviser's approval:

Emotionally Impaired
401 Methods and Curriculum Emotionally Impaired. (2)
402 Programs Emotionally Impaired Child. (2)
448 Seminar in Emotionally Impaired. (2)

Learning Disabilities
468 Education of Children with Learning Disabilities. (2)

Mentally Impaired
444 Seminar in Mental Impairment. (2)

Physically and Otherwise Impaired
446 Seminar in Physically Impaired. (2)

Speech and Language Impaired
416 Experimental Phonetics. (3)
452 Voice (3)
454 Stuttering (3)

Visually Impaired
450 Seminar in Visually Impaired. (2)

Upper division undergraduate courses suitable for use as cognates by majors in other fields:
468 Education of Children with Learning Disabilities. (2)
TEACHER EDUCATION
(Formerly Curriculum and Instruction and Social Foundations)

Leah Adams
Acting Department Head
325 Pierce Hall,
487-3261

Robert Tibbals
Coordinator of Advising
305 Pierce Hall,
487-4441

The Department of Teacher Education offers seven programs leading to the Master of Arts degree; six in curriculum and instruction and one in social foundations. The six programs in curriculum and instruction are early childhood education, elementary education, middle school education, secondary school teaching, K-12 curriculum and reading; the social foundations program is described on page 150. In addition, a thirty hour post-master's program, which leads to a Certificate of Advanced Studies in Curriculum and Instruction.

CURRICULUM AND INSTRUCTION GRADUATE PROGRAMS

EARLY CHILDHOOD EDUCATION

The program in early childhood education is designed for the professional preparation of teachers and other early childhood education specialists who are interested in working with the age range of birth through nine years, or prekindergarten through third grade. Students can plan programs with their advisers which will enable them to meet the State of Michigan requirements for the Z A Endorsement in Early Childhood Education for the elementary teaching certificate.

ELEMENTARY EDUCATION

The program in elementary education focuses on basic concepts of the child's growth, development and behavior and on the multidimensional aspects of the teacher's role. The purpose of the program is to provide the increased depth and breadth in theoretical foundations and practical knowledge which ensure more effective service as a classroom teacher in the elementary school. Five options are offered: (1) a general overview of elementary education, (2) language arts, (3) open education and (4) educational media, and (5) children with special needs.

MIDDLE SCHOOL EDUCATION

The program in middle school education enriches the foundations work in education while providing opportunity to select courses which enhance understanding of the adolescent and the programs associated with the middle school. Emphasis is placed also on courses which improve teaching effectiveness.

SECONDARY SCHOOL TEACHING

The program in secondary school teaching enriches the foundations work in secondary education while providing opportunity to select courses which enhance the teacher's understanding of secondary pupils and the secondary school curriculum. Emphasis is placed also on courses which strengthen teachers' competencies in their teaching fields.

K–12 CURRICULUM

The program in K–12 curriculum is designed for those whose professional interests and responsibilities recommend a broad understanding of the current controversies and trends in education and the historical, social and philosophical influences which have shaped the K–12 curriculum.

READING

The program in reading is designed for the professional preparation of classroom teachers, special teachers of reading at both elementary and secondary levels, supervisory reading specialists such as consultants, coordinators and supervisors and specialists for reading clinic positions including clinic directors and reading counselors. The program is consistent with the "Minimum Standards for Professional Training of Reading Specialists" as defined by the International Reading Association. Students can plan programs with their advisers that will enable them to meet the State of Michigan requirements for an endorsement in reading.

The Certificate of Advanced Studies in Curriculum and Instruction (CASI)

The Certificate of Advanced Studies in Curriculum and Instruction (CASI), a thirty hour post-master's program, offers an opportunity for post-master's teachers to select study experiences which are specifically related to their current professional needs. There are no pre-determined course requirements. Advisers approve program choices which teachers make in accordance with their individual desires for professional growth.

CASI is offered in response to the need for relevant, flexible, individualized programs which will enable career teachers to keep abreast of new developments and to respond to the professional challenges in their classrooms and in their school districts.

A teaching certificate, a master's degree from an accredited university and a minimum of one year's teaching experience are prerequisites to acceptance in the program.

Admission to the Programs

Students must meet Graduate School degree admission requirements. Undergraduate records should be forwarded directly to the Graduate School at the time of application.

The coordinator of graduate advising of the Department of Curriculum and Instruction will assign an adviser to each student following receipt of the proper records from the Graduate School and acceptance into the program. The student will receive notification of the adviser's name and should arrange a personal interview in order to develop a program of graduate study.
CUR 510 Creative Activities in Elementary Education. Two sem hours (Formerly CUR 504 Creative Activities in Early Elementary Education)

Relationship of creative activities to the development of fully functioning, integrated individuals in kindergarten and primary grades. Planning for and implementing creative activities in play, dramatization, music and art.

CUR 512 Enriching the Elementary Classroom Program. Two sem hours (Formerly CUR 567 Enriching the Early Elementary Classroom Program)

Types of organization of elementary classroom activities and programs in relation to behavioral goals. Uses of direct and vicarious experiences, materials and instructional techniques to develop and extend vocabulary, language, experience backgrounds, self-concepts and social learnings. Particularly beneficial for teachers working with educationally disadvantaged.

RDG 518 Developmental Reading—Elementary. Two sem hours (Formerly RDG 501/618)

Objectives, approaches, materials and techniques for reading in the elementary school classroom. Factors influencing development; fundamental skills, assessing and providing for individual strengths and needs. Not open to reading majors.

RDG 519 Programs in Language Arts. Two sem hours (Formerly RDG 573/619)

Curricular objectives and their implementation through listening, speaking, handwriting, spelling and creative, narrative and expository writing, evaluative procedures and some consideration of corrective techniques.

CUR 520 The Junior High/Middle School Curriculum. Two sem hours (Formerly CUR 523)

History and philosophy of the junior high/middle school curriculum, provision for individual differences, modern classroom procedures, use of materials and aids of instruction, the activity program and guidance.

CUR 522 Effective Teaching in the Middle School. Four sem hours (Formerly CUR 524)

This course is concerned with helping teachers examine the issues and possibilities of teaching middle school youth. Based on such an examination, each teacher works with other class members and the university professor in developing an effective teaching style within the context of his or her teaching situation.

Prereq: CUR 520 The Junior High/Middle School Curriculum.

RDG 530 Developmental Reading—Secondary. Two sem hours (Formerly RDG 502/635)

Curricular objectives and their implementation through recommended activities, methods and materials; functional programs for disabled readers.

RDG 544 Fundamentals of Reading for Teachers of Adults. Two sem hours

Characteristics of the adult learner and teaching implications; organization and teaching of vocabulary development, comprehension, word recognition, study skills and reading-related skills for adults; emphasis on reading relevancy for adults.

RDG 545 Advanced Concepts in Reading for Teachers of Adults. Two sem hours

This course is designed for the adult educator who has a basic background in reading consisting of experience or course work in teaching reading to the adult illiterate. The emphasis will be on the diagnosis and remediation of reading problems presented in this population.

CUR 550 Improving Instruction. Two sem hours (Formerly CUR 566)

Identification, validation and use of criteria for appraising and improving teaching and learning, with focus on the classroom; principles underlying techniques of improving instruction.

CUR 551 Integrating the Curriculum Via School Camping. Two sem hours (Formerly CUR 563)

A study of the history and purpose of school camping in Michigan. Students will develop their personal courses of study involving the integration of all curriculum areas as well as the "know-how" and skills to completely organize an outdoor education class for their personal classroom use. Students will be required to participate in a minimum of one week-end camping.
experience together as a class. Students will be expected to pay the actual cost for the week-end camping experience.

RDG 554 Reading Problems of Learners with Special Needs. Two sem hours (Formerly RDG 560)
Methods, materials, and assessment techniques found effective in teaching reading to learners with special needs: disadvantaged, multicultural, mainstreamed, and gifted learners.

RDG 563 Foundations of Reading Development. Four sem hours (Formerly RDG 500/663)
History of trends in reading instruction in America; factors influencing achievement in reading; goals, critique of current methods; reading skills functional in the content areas and organization, location and evaluation skills. This is the first course in the concentration area.
Prereq: A basic course in the teaching of reading.

CUR 571 Teaching of Social Studies. Two sem hours
Subjects included in social studies, problems related to the presentation of materials, planning of units and types of class activities. Not open to students who have credit in HIS 481 The Teaching of Social Studies and GEO 348 Teaching Social Studies in Elementary Schools.

CUR 572 Education of the Gifted. Two sem hours (Formerly SGN 561)
The identification of gifted students; the use of test results, psychological services and cumulative records. Curricula stressing enrichment and acceleration and the use of community resources; of special value to classroom teachers.

CUR 600 Early Childhood Education. Two sem hours (Formerly CUR 587)
Educational implications of historical, developmental and curricular research; continuity in program development; foundations and techniques for establishing cooperative home-community-school relationships for the improvement of the education of young children.

CUR 602 Teaching in the Preschool. Two sem hours (Formerly CUR 584)
Overview of programs for preschool children, infancy through age five, including program goals, selection of curriculum content, materials and teaching techniques suitable for working with prekindergarten children. Requirements and recommendations for personnel, physical facilities and equipment for nursery schools and day care.

CUR 604 Planning and Implementing Prekindergarten Programs. Two sem hours (Formerly CUR 585)
In depth study of planning and implementing prekindergarten programs including determination of need, legal requirements, selection of equipment and personnel, budgeting, record keeping and implementation of program goals.
Prereq: CUR 602 Teaching in the Preschool or instructor's permission.

CUR 605 Trends and Issues in Kindergarten Education. Two sem hours (Formerly CUR 586/606)
Important trends and issues affecting the education of kindergarten children.

CUR 616 Curriculum—Elementary School. Two sem hours (Formerly CUR 541)
Fundamentals of curriculum development; selected types, several basic determinants, some approaches to organization and the concept of change. In curriculum building, emphasis is placed on the role of the teacher and on the problem-census approach to defining problems.

CUR 617 Elementary School Children and Social Studies. Two sem hours (Formerly CUR 532)
Current issues and controversies in the teaching of social studies in the elementary school.

CUR 630 Curriculum—Secondary School. Two sem hours (Formerly CUR 542)
The development and present status of the secondary curriculum; principles of curriculum revision and some factors involved in curriculum changes.

CUR 632 Individualizing Instruction in the Secondary School. Two sem hours (Formerly CUR 568)
A course designed to help secondary teachers meet individual differences among their students by using a variety of resources, pupil involvement, thematic approaches and other teaching strategies.

CUR 633 Career Education for Secondary Classroom Teachers. Two sem hours (Formerly CUR 569)
The course includes the components of career education and evolving career education programs. Emphasis is on improvement of classroom instruction through development of strategies to increase community involvement, knowledge of the local community, appropriate use of consultants and resources for enriching instruction.

CUR 634 The Dropout Problem. Two sem hours (Formerly CUR 546)
An intensive review of this national problem; practical procedures based upon school and community resources for improving holding power.

RDG 636 Content Reading in the Secondary School. Two sem hours
This course is directed to content area classroom teachers. Emphasis will be placed on specific reading and study strategies needed to understand course content in English, social studies, science, math, etc.
Prereq: RDG 530 Developmental Reading—Secondary.

CUR 655 Curriculum Foundations. Two sem hours (Formerly CUR 540)
Curriculum content and patterns of schools in the United States. Historical and theoretical authority for the curriculum; criteria for the choice of content.

CUR 656 Curriculum Futures. Two sem hours (Formerly CUR 543)
The effects of a rapidly changing society upon curriculum choices, possible directions for change, and learning skills for living in the twenty-first century.
CUR 657 The Open Classroom. Four sem hours (Formerly CUR 564)
Deals with the open classroom tied to a demonstration center. Involves participants in planning an integrated day based upon learning centers and pupil self-direction. Deals with the child-centered, experience-based curriculum. Designed to help free teachers to become more innovative, open, creative and humane in curriculum development.

CUR 658 The Community-Centered Classroom. Four sem hours (Formerly CUR 565)
An action-oriented course in which teachers will develop unit teaching techniques and resources for an integrated curriculum in which the community can be used as a learning laboratory. Emphasis will be placed upon creating an open and human learning environment which will promote multi-cultural understanding and a one-world concept.

CUR 659 K–12 Curriculum. 4 sem hours (Formerly CUR 545)
An integrated study of curriculum from preschool through high school with emphasis on form, priorities and impact. Historical and contemporary study of school programs from a social-humanitarian vantage point.

CUR 660 Supervision of Student Teachers. Two sem hours (Formerly CUR 591)
Preparing the public school teacher to work with student teachers.

RDG 664 The Nature of Common Reading Problems. Two sem hours (Formerly RDG 582)
Problems of under-achievement; weaknesses and deficiencies in attitudes, comprehension, word recognition and facility and flexibility in silent and oral reading, physical, psychological, environmental and educational factors. Prereq: A basic course in the teaching of reading. Not open to reading majors.

RDG 665 Psycholinguistics and Reading. Two sem hours
An analysis of the reading process from a psycholinguistic perspective. Emphasis includes selected reading in language development, learning and comprehension as each relates to reading.

Prereq: RDG 563 Foundations of Reading Development.

RDG 668 Diagnosis and Remediation of Reading Problems. Four sem hours
A survey of formal and informal procedures used in identifying, evaluating, and remediating reading problems in a classroom or clinical setting. Preparation of case studies and recommendations to teachers and parents; examination of current group and individual reading rests. Prereq: RDG 563 Foundations of Reading Development.

RDG 669 Developing School-Wide Reading Programs. Two sem hours (Formerly RDG 589)
Organization of school-wide reading programs; determinants of variability; effective interrelationships and communication; roles of special reading teachers and consultants. Prereq: Eight hours of graduate credit in reading.

RDG 670 Materials and Activities in Language Arts Instruction. Four sem hours
A practical course designed for teachers who see the need for creating and constructing aids for pupil learning in reading classes. This course combines the how and why of constructed materials by drawing on learning theory, child development and creativity principles.

CUR/RDG 679, 680, 681 Special Topics. One, two and three sem hours
CUR/RDG 682, 683, 684, 685 Workshops. One, two, three and four sem hours
CUR/RDG 683 Workshops in Selected Areas. Two sem hours (Formerly CUR/RDG 595)
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past:

The Adolescent in American Society.
The Curriculum and Racial Bias.
Early American Life—Colonial Williamsburg.
East African Studies.
Individualizing Instruction.

Kindergarten Materials.
Providing for Individual Differences in Reading.
Teaching the Disadvantaged.
The Gifted.

RDG 689 Practicum in Reading. Four sem hours (Formerly RDG 594)
Opportunities to work with community children demonstrating reading difficulties. Under supervision, students will engage in the diagnosis, analysis and treatment of various reading disabilities, maintaining a professional relationship with their clients, their clients’ families and associated schools or agencies. On-going study of current procedures in the analysis of reading performance critical to systematic diagnosis and prescription. Prereq: RDG 563 Foundations of Reading Development, RDG 668 Diagnosis and Remediation of Reading Problems and departmental permission.

CUR/RDG 693, 694, 695, 696 Seminars in Selected Areas. One, two, three and four sem hours (Formerly CUR/RDG 596)
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past:
CUR 694 Seminar: Secondary Curriculum. Two sem hours (Formerly CUR 596)
Prereq: CUR 655 Curriculum Foundations; CUR 520 The Junior High/Middle School Curriculum, CUR 630 Curriculum-Secondary School or CUR 659 K–12 Curriculum; and 20 hours of graduate credit.

CUR 694 Seminar: Open Education. Two sem hours (Formerly CUR 596)
Prereq: CUR 657 The Open Classroom or CUR 658 The Community-Centered Classroom and 20 hours of graduate credit.

CUR 694 Seminar: Early Childhood Education. Two sem hours (Formerly CUR 596)
Prereq: 20 hours of graduate credit and one of the following courses: CUR 600 Early Childhood Education, CUR 602 Teaching in the Preschool, CUR 604 Planning and Implementing Prekindergarten Programs, or CUR 605 Trends and Issues in Kindergarten Education.

CUR 694 Seminar: Elementary School Curriculum. Two sem hours (Formerly CUR 596)
Prereq: CUR 616 Curriculum-Elementary School and 20 hours of graduate credit.

RDG 694 Seminar: Current Issues in Reading. Two sem hours (Formerly RDG 596)
The seminar is a culminating course in the graduate reading concentration. Current trends in reading research; critical examination of selected research studies and investigations; self-evaluations of professional needs and interests in reading are included. Prereq: Eight hours of graduate credit in reading.

CUR/RDG 697, 698, 699 Independent Studies. One, two and three sem hours (Formerly CUR/RDG 597, 598, 599)
An intensive study of a problem or group of problems. The completed study must give evidence to the student's ability to select a problem, set it up and pursue it to satisfactory completion. Must be done with approval of a full-time member of the staff.
EDUCATIONAL MEDIA

At the present time there are no graduate degrees in either audio-visual or library science. The offerings in educational media provide some course work leading to permanent certification and electives in almost every master's degree program in education. The course work needed for school library certification in Michigan can be obtained through a sequence of undergraduate courses only.

Courses in educational media are designed to aid administrators, supervisors, directors, technicians and teachers in all aspects of media and educational technology. There are specific courses in television, motion picture projections, production of materials and resource material classification and utilization. If interested in courses in educational media, please check with your adviser.

EDM 514 Resource Materials for the Elementary School. Two sem hours (Formerly EDM 525)
Criteria and sources for selection and purchase of books, pamphlets, periodicals and free materials for nursery school through the sixth grade. Teachers only.

EDM 552 Audio-Visual Instruction. Two sem hours (Formerly EDM 512)
A survey course for teachers and administrators in which the nature and effective use of teaching materials are considered and fully demonstrated. Provision is made for actual use of materials and equipment. Not open to students who have credit in 344 Audio-Visual Methods in Teaching.

EDM 553 Radio and TV in the Classroom. Two sem hours (Formerly EDM 526)
Study and practice in the utilization and evaluation of instructional, educational and enrichment radio and television programs. Familiarization with broadcast methods and facilities. Includes utilization guidebooks and sources of materials.

EDM 661 Administration of Audio-Visual Services. Two sem hours (Formerly EDM 522)
An analysis of the function of an audio-visual teaching materials program; the qualifications and duties of staff, the selection and evaluation of materials and equipment, unit costs, school plant requirements; the problems of developing a program and the measures for appraising its adequacy and effectiveness.

Prereq: 344 Audio-Visual Methods in Teaching or EDM 552 Audio-Visual Instruction.

EDM 662 TV in Education. Two sem hours (Formerly EDM 524)
Extent and nature of experimentation in instruction by radio and television; current philosophy and attitudes toward teaching by radio and television.

EDM 679, 680, 681 Special Topics. One, two and three sem hours

EDM 682, 683, 684, 685 Workshops in Selected Areas. One, two, three and four sem hours. (Formerly EDM 595)
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past:

EDM 683 Workshop in Reading Guidance for Children. Two sem hours (Formerly EDM 595)
Reading guidance for teachers and librarians learning to meet the special needs of the individual child. Pre-school children to adolescents.

EDM 683 Workshop in Television Utilization. Two sem hours (Formerly EDM 595)
For teachers; advanced problems in the use of television in the classroom.

EDM 694 Seminar: The Administrator and the School Library. Two sem hours (Formerly EDM 596)
For administrators, supervisors, beginning audio specialists and beginning librarians; services, activities, materials and standards of a materials center in a school library.

EDM 694 Seminar: History and Appreciation of Motion Pictures and Photography. Two sem hours (Formerly EDM 596)
A course designed to give the history of the photographic medium with the emphasis on important films and photographs and the people who created them.

Prereq: 344 Audio-Visual Methods in Teaching, EDM 552 Audio-Visual Instruction or permission of the department.

EDM 694 Seminar: Instructional Materials. Two sem hours (Formerly EDM 596)
A course designed to assist the individual student in detailed study of specific problems or topics in utilization, production, selection, or administration of instructional materials. Visits to actual service centers, use of resource persons, etc. will be employed. A sharing of solutions and problems will be used in a seminar setting during the course.

Prereq: 344 Audio-Visual Methods in Teaching, EDM 552 Audio-Visual Instruction or permission of the department.

EDM 697, 698, 699 Independent Studies. One, two and three sem hours

OTHER COURSES

The following upper division undergraduate courses may also be elected for graduate credit. Consult undergraduate catalog for course descriptions and prerequisites.

420 Advanced Instructor's Course in Driver Education. (3)
421 Seminar in Driver Education. (2)
PROGRAM DESCRIPTION AND REQUIREMENTS

The master's degree program, which requires earning a minimum of thirty (30) semester hours credit, is so organized as to facilitate the development of an individual program for each major student which provides for concentration in one of five social foundations sub-fields and opportunity for relating such specialization to the integrative, interdisciplinary nature of the social foundations. Of the total of thirty hours, at least sixteen (16) hours must be in social foundations courses, two (2) hours in a curriculum foundations course, and a minimum of zero (0) to six (6) hours in cognate courses outside social foundations approved by the student's adviser. In the first semester following admission to the program, the student will enroll in SFD 500 Social Foundations of Education: An Introduction, a two semester hour initiatory course. Prior to, or during that semester, the student will consult with his adviser to determine which of four options for specialization will be selected. Each option requires a minimum of eight semester hours and all course selections require prior approval of the adviser.

Option A—will provide for depth of study in the history of education. The student may select from social foundations courses 572, 601, 602, 671 and 673 and appropriate courses from the Department of History.

Option B—provides similarly for depth of study in socio-cultural aspects of education by selection from social foundations courses 354, 402, 560, 580, 603, 604, 625, 626, 627, 662 and 673, and from appropriate courses in the Department of Sociology.

Option C—offers similar opportunities in philosophical study in courses 500, 601, 602, 624, 651, 652 and 653, and in courses in philosophy.

Option D—provides for depth of study in the comparative and international aspects of education by selection from social foundations courses 540, 541, 542, 560, 624, 625, 626, 627 and 662, and appropriate courses in economics, geography, history and political science.

When students have completed at least twenty (20) hours, including SFD 500 and at least eight (8) hours in Option A, B, C, or D, they will enroll in SFD 693, 694, 695 or 696 Advanced Seminar. During the seminar, or following it, the student and adviser will consult to determine what additional capstone experiences are desirable. It is anticipated that the student's experience in the conduct of an interdisciplinary study of substance and depth (in the seminar) will provide the substantive basis for deciding upon similar further studies.

The remaining hours will be devoted to additional cognates or electives and further SFD course work, seminars, independent study, or thesis which the student and adviser determine to be particularly integrative for that individual student's program.

ADMISSION REQUIREMENTS

Admission to the program will require that the applicant hold a baccalaureate degree from an accredited institution and meet the degree admission requirements of the Graduate School. This requires a 2.5 grade point average or alternative admission as specified on p. 10 of this catalog. For regular admission, the applicant must hold a valid teaching certificate or have successfully completed an education major or minor or equivalent. Further, the applicant must have completed fifteen (15) hours in the social sciences. This includes courses defined as social sciences in the EMU Undergraduate Catalog plus courses in philosophy and religion. For those teacher applicants who do not meet the requirements for regular admission, conditional admission (including a clear specification of actions necessary for regular admission status) may be granted. It is anticipated that, in a few instances, students who are not and do not intend to become teachers may wish to seek the master's degree in social foundations. In addition, some students may choose to combine study in the social foundations of education with completion of initial certification as teachers. When such intentions are based on clear understandings of the program, the teaching certificate requirement may be waived.

Students who wish to apply for
admission to the program leading to the degree, Master of Arts in the social foundations of education, may make application in the Graduate School Office, 116 Pierce Hall. When the application has been processed by the Graduate School, the student is contacted by the coordinator of advising for the social foundations program to arrange for an adviser and to develop a schedule for completion of degree requirements. Recommendations concerning admission and the proposed course of study are reviewed and acted upon by the full faculty in social foundations.

COURSES IN SOCIAL FOUNDATIONS

SFD 500 Social Foundations of Education: An Introduction. Two sem hours
An overview, presented by varied staff members, of the major areas of social foundations of education: educational sociology, educational anthropology, educational philosophy, educational history and comparative education.

SFD 540, 541, 542 Field Studies in Comparative Education. One, two and three sem hours
A study of selected aspects of education and the environing society by visits to and periods of residence in one or more other nations. Previously studied: East Africa, England, India, The Philippines, Scandinavia. Summers only typically.

SFD 550 Philosophy of Education. Two sem hours
Philosophical study of educational questions; the nature of being human; what should be learned; who is educable; the ends of education; personal meaning of philosophical questing. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in philosophy or religion for non-majors.

SFD 560 Anthropology of Education. Two sem hours
An overview of the learning process in human societies, addressing universal problems of motivation, selectivity, thinking-remembering, forgetting, language and thought, value orientation and cultural sets. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in sociology or anthropology for non-majors.

SFD 572 History of American Education. Two sem hours
Historical precedents of present educational circumstances; the developmental background of modern school crises; a study of problems and answers, successes and failures in America’s schools. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in American history for majors and non-majors.

SFD 580 Sociology of Education. Two sem hours
Examined here are selected points of view and empirical studies on social organization, social change, policy-making, power and authority structures, social class systems and social movements in relation to the school as an institution. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in sociology for majors and non-majors.

SFD 601 History of Educational Thought. Two sem hours
(Formerly SFD 501)
A study of the history of educational thought as a means of understanding the evolutionary process by which modern concepts of education developed. Prereq: SFD 500 Social Foundations of Education: An Introduction or an undergraduate course in Western history or philosophy.

SFD 602 Progressivism in American Education. Two sem hours
(Formerly SFD 502)
The genesis and development of pragmatism; the special contributions of Peirce, James, Mead and Dewey; the progressive movement in America; the educational theories and practices of the Progressivists: Bode, Kilpatrick, Counts; present thought and new influences. Prereq: SFD 500 Social Foundations of Education: An Introduction or an undergraduate course in Western history or philosophy.

SFD 603 Groups in Schools. Two sem hours
(Formerly SFD 503)
Examines schools and classrooms as social organizations; considers dynamics of interpersonal behavior in large and small settings; examines such phenom-enas as roles, statuses, communications and patterns of influence. Prereq: SFD 580 Sociology of Education for majors; for non-majors, SFD 580 Sociology of Education or one course in psychology or sociology.

SFD 604 Delinquency and Schools. Two sem hours
(Formerly SFD 504)
Nature, meaning, causal factors and conditions of delinquency in home, school and community; problems in personality and behavior; the juvenile court; delinquency prevention and control programs. Opportunity to study problems of particular individual interest. Not open to students who have credit in SFD 354 Juvenile Delinquency. Prereq: SFD 580 Sociology of Education for majors; for non-majors, SFD 580 Sociology of Education or one course in psychology or sociology.

SFD 624 Education for What and Whom: A World View. Two sem hours
(Formerly SFD 524)
Why should people be educated? Who should be educated? What should this education accomplish? What form should it take? What methods should we use? These questions, viewed in world perspective, may suggest some workable answers. A course in comparative education.

SFD 625 Power and Influence in Education: A Cross-cultural View. Two sem hours
(Formerly SFD 525)
Designed to increase participation and effectiveness of educators in the decision-making process, the course examines cross-culturally the structure and dynamics of power in education, emergence of pressure groups, and integrative mechanisms to minimize conflicts between power groups.

SFD 626 Schools, Poverty, Population: Selected Problems in Comparative Education. Two sem hours
(Formerly SFD 526)
Education in various societies, e.g., agrarian, capitalist, totalitarian, preliterate, etc., is studied to discern how policies and practices of schools affect and are affected by the problems of poverty and population, e.g., fertility control, world food problems, education as capital, economic development as educational purpose, etc.
SFD 627 Social Problems and the Schools: International Perspectives. Two sem hours (Formerly SFD 527)
This course in comparative education addresses attention especially to the interactions of school and selected societies throughout the world and the problems of delinquency, mental health, multi-culturalism, racism and sexism and institutional change.

SFD 651 Analysis of Educational Concepts. Two sem hours (Formerly SFD 551)
Philosophical analysis of concepts central to the processes of education; learning by doing, teaching as telling and the curriculum as content, knowing "that" and knowing "how."

Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in philosophy or religion for non-majors.

SFD 652 Pragmatism and Education. Two sem hours (Formerly SFD 552)
Consideration of pragmatists' psychology, sociology, ethics, social philosophy and their influence upon educational philosophy and practices. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in philosophy or religion for non-majors.

SFD 653 Existentialism and Education. Two sem hours (Formerly SFD 553)
An historical and comparative analysis of the relationship of pragmatism to existentialism; factors which affect theories and practices of American education. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in philosophy or religion for non-majors.

SFD 662 Cultural Determinants of Learning. Two sem hours (Formerly SFD 562)
The educational theories and practices in literate and pre-literate societies as illustrative of various theories of cultural dynamics and change which relate to citizens who will be living in the twenty-first century; the relationship between culturally held values and the learning process. Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in sociology or anthropology for non-majors.
SFD 671 Development of European Education. Two sem hours
(Formerly SFD 571)
Consideration of ancient traditions as the Graeco-Roman and Hebraic-Christian and such modern forces as nationalism, democracy, science and industrialization in terms of their impact on educational development in selected European countries. Focus is upon organization, philosophy, curriculum, methods of instruction and evaluation.
Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in history of Western civilization or history of Europe for non-majors.

SFD 673 Black Experience and American Education. Two sem hours (Formerly SFD 573)
The role of the Negro in the development of the United States. The course is designed to help teachers to understand the cultural, economic and political contributions of the Afro-Americans and to develop materials to be used in their courses at both elementary and secondary schools.
Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; course in American history for majors and non-majors.

SFD 679, 680, 681 Special Topics in Social Foundations. One, two and three sem hours (Formerly SFD 539)
This number is used for an experimental offering of the department when a course is being given a trial run in a given semester.

SFD 682, 683, 684, 685 Workshop. One, two, three and four sem hours (Formerly SFD 595)
Designed each semester to consider particular themes or issues (e.g., Racism and Education; Human Relations in Schools) and providing a basic empirical orientation with attention to teaching resources and skills. Student-faculty planning; small group and discussions used extensively. May be selected more than once.
Prereq: SFD 500 Social Foundations of Education: An Introduction for majors; consent of adviser for non-majors.

SFD 690, 691, 692 Thesis. One, two and three sem hours
Prereq: Departmental permission.

SFD 693, 694, 695, 696 Advanced Seminar. One, two, three and four sem hours (Formerly SFD 696)
An intensive study of selected problems in social foundations of education. Open to SFD majors only.
Prereq: Twenty (20) hours completed on M.A. program, including SFD 500 Social Foundation of Education: An Introduction and eight hours in area of concentration.

SFD 697, 698, 699 Independent Study. One, two and three sem hours (Formerly SFD 597, 598, 599)
An intensive study of a problem or group of problems in the field of social foundations of education under the direction of a University faculty member.
Prereq: Departmental approval.

OTHER COURSES
The following upper division undergraduate course may also be elected for graduate credit and a course description may be found in the undergraduate catalog:

402 Sexism and Education. (3)

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFD 500</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 550</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SFD 560</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 572</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SFD 580</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SFD 601</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 602</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 603</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 604</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SFD 624</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 625</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 626</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 627</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 651</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 652</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 653</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 662</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 671</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 673</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFD 694</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MASTER'S PROGRAMS AVAILABLE IN HOME ECONOMICS

A master's degree may be earned in:

General home economics
1. a minimum of 24 hours in home economics (four-six hours in five major areas of home economics);
2. minimum of zero to six hours of cognate courses (outside home economics);
3. minimum of 30 hours required for the master's degree;
4. recommended for the applicant who has a major or minor in general home economics.

Specialized area of home economics
1. minimum of 24 hours in a specialized area;
2. minimum of zero to six hours of cognate courses (outside home economics);
3. minimum of 30 hours required for the master's degree;
4. specializations available in clothing and textiles; consumer affairs; family and child development; foods and nutrition; housing, interiors and equipment;
5. recommended for the applicant who has a major or minor in general home economics or the specialized area in home economics or can meet the prerequisite requirements of courses within the graduate program.

OBJECTIVES OF A PROGRAM LEADING TO A MASTER'S DEGREE

Graduate programs in home economics are designed to provide a broad philosophy of home economics from which students may proceed to their professional specializations. The interpretation of current research and theory as they apply to the selected professional role is an integral part of each program. The professional specialization enhances the student's ability to utilize knowledge and interpersonal skills in contributing to the psychological, physiological, social, and economic development of individuals and families. Specifically, the objectives are to:
1. provide a program of advanced study for certified teachers, other education personnel, dietitians, and for those in consumer, and child and family services;
2. provide the conceptual understandings, analytical, and research skills necessary for those students who plan to proceed to more advanced study or to professional activities that require such knowledge and skills.
REQUIREMENTS FOR ADMISSION TO A PROGRAM LEADING TO A MASTER’S DEGREE

An applicant for admission must:
1. meet Graduate School degree admission requirements;
2. have completed the minimum number of hours or prerequisites for the general or specialization program;
3. have a 2.75 undergraduate grade point average;**
4. submit two letters of recommendation, and evidence of competency in the program selected if requested by the adviser;
5. receive the recommendation of the graduate adviser in the Department of Home Economics.

**Applicants who do not meet the 2.75 undergraduate point average may request a meeting before the graduate advising committee for the purpose of reviewing their applications. Appropriate guidelines will be established by the committee if the applicant is admitted to a program.

FACILITIES

The Home Economics Department is located in the Roosevelt Building. This facility has well-equipped spacious laboratories and classrooms, demonstration centers, counseling rooms, studios, multi-purpose rooms, an equipment laboratory with a special kitchen designed for handicapped homemakers, animal nutrition laboratory and auditorium. The latest equipment and materials are available for student use. The department maintains an instructional materials center and reading room, with carrels for individualized study purposes. The Children’s Center, which houses a licensed nursery school and parent education program, is also available for observation and participation. Field experiences are included in many areas of graduate study, with community and state agencies, businesses and hospitals.

COOPERATIVE PROGRAMS WITH EDUCATIONAL LEADERSHIP AT THE M.A. AND S.P.A. LEVELS

The Department of Educational Leadership offers a cooperative program in vocational/technical administration.

The program combines course work in school administration with courses in vocational/technical education (industrial education, business education, or home economics). This program is designed for persons seeking a career as either a director or supervisor of industrial vocational education. This program is available at either the master’s or specialist’s level. Interested persons should contact the department head in Educational Leadership.

HEC 504 History of Textiles. Two sem hours
Study of textiles from ancient times to twentieth century; fibers, yarns, fabric construction, dyes, finishes, design of textiles from various world regions; emphasis on the development of American textiles.

HEC 506 Social and Economic Problems in Housing. Two sem hours (Formerly HEC 505)
Concerns for adequate family housing with an evaluation on economics and social aspects. Local, state and federal legislation on housing and trends in social action.

HEC 508 Foods in Cultures of the World. Two sem hours (Formerly HEC 506)
An interdisciplinary approach to the study of cultures and food habits, the influence of attitudes and values in food selection.

HEC 509 Nutrition Problems of Low-Income Groups. Two sem hours (Formerly HEC 508)
Social, cultural and economic factors related to dietary intakes of low-income families and groups. Survey of legislation and governmental food programs available to these groups.

HEC 521 Special Problems in Home Economics Education. Two sem hours (Formerly HEC 518)
Course developed to assist the in-service teacher with specific problems in homemaking programs. Major concerns are the child with learning disabilities and special needs. Resources for teachers facing such problems in their responsibilities.

Prereq: 370 Methods and Materials in Home Economics Education or equivalent.

HEC 526 Methods and Materials in Teaching Related Arts. Two sem hours (Formerly HEC 571)
The selection, organization and evaluation of instructional materials in related arts for teachers of secondary students and adults. Opportunities for laboratory experience.

Prereq: Four hours of credit in related arts.

HEC 528 Methods and Materials in Teaching Foods and Nutrition. Two sem hours (Formerly HEC 513)
Examination of the methods and materials used in the effective teaching of foods and nutrition at the elementary, middle, secondary and adult levels.

Prereq: A course in basic foods or nutrition or permission of the department.

HEC 532 Current Programs in Family Life Education. Two sem hours (Formerly HEC 512)
Philosophy and objectives in family life education; teaching-learning procedures. Sources for teaching materials, professional consultations, resource persons in family life education and evaluation of sample materials.

Prereq: An undergraduate methods and materials course.

HEC 533 Leisure and the Family. Two sem hours (Formerly HEC 507)
Impact of various aspects of modern life on availability and perception of leisure time; survey of variations in family recreation and resources for creative use of leisure time activities which are appropriate at various stages of the family life cycle. Materials related to leisure time uses, sources of vacation information, consideration of the family with special needs. Cooperative programs by departments of sociology, arts and crafts, recreation, music and others. Consultants from each special field.

HEC 534 Methods and Materials in Teaching Clothing and Textiles. Two sem hours (Formerly HEC 570)
For the specialist in teaching clothing and textiles at secondary and advanced levels. Classroom procedures, organization of resources and methods of evaluation.

Prereq: 302 Experimental Clothing or permission of the department.
HEC 550 Methods and Materials in Teaching Consumer Education. Two sem hours (Formerly HEC 502)
Examination of methods and materials used in effective teaching of consumer education at secondary and advanced levels. Classroom procedures, organization of resources of evaluation. Prereq: 370 Methods and Materials in Home Economics Education or equivalent and a basic course in consumer affairs or permission of the department.

HEC 554 Ethnic Clothing. Two sem hours
Study of costume of various ethnic groups; analysis of garment cut and construction, cultural influences and design motifs; emphasis on investigation of applied design techniques. Prereq: 302 Experimental Clothing.

HEC 556 Problems in Interior Design. Two sem hours (Formerly HEC 569)
Analyzing and solving problems of interiors with regard to social, psychological, and economic concerns of families. Prereq: Permission of the department.

HEC 600 Home Management and Consumer Economics. Two sem hours (Formerly HEC 515)
Managerial concepts and problems and consumer needs and roles of American families; analysis of consumer and managerial aids and services. Prereq: 112 Family Resources and 285 Home Management, equivalent or permission of the department.

HEC 601 Curriculum Development in Home Economics Education. Two sem hours (Formerly HEC 511)
Contributions of home economics at secondary level; techniques employed in curriculum planning and reconstruction. Clarification of student needs in terms of current social problems. Prereq: 370 Methods and Materials in Home Economics Education.

HEC 602 The Disadvantaged Family. Two sem hours (Formerly HEC 500)
Problems facing individuals in families that are socially, culturally and economically disadvantaged. Survey of resources for effective local and federal programs of assistance in social service, education and legislation; resource speakers and field trips.

HEC 603 Parent Education. Two sem hours (Formerly HEC 504)
Study of parental roles and competence in family life; analysis of methods and techniques for providing education for parents.

HEC 608 Recent Developments in Foods. Two sem hours (Formerly HEC 580)
Survey of recent research in food science, including the production, preservation, processing and distribution of food. Prereq: 211 Food Science or equivalent.

HEC 609 Recent Developments in Food Systems Management. Two sem hours (Formerly HEC 581)
Evaluation of recent trends in food systems management, including food service systems, food and equipment innovations, and personnel relationships. Prereq: A course in food service/meal management or permission of the department.

HEC 611 Home Management for Disabled Homemakers. Two sem hours (Formerly HEC 532)
The principles of home management for the disabled homemaker; the role of the teacher who works with handicapped persons in the classroom/laboratory. Focuses on adaptive techniques and work simplification procedures. Emphasizes opportunities for rehabilitative services with the health team.

HEC 612 Laws Affecting the Family. Two sem hours (Formerly HEC 545)
Laws related to the family; their historical development and application of various stages of the family life cycle. Family law from the viewpoints of family members and professional persons who work with families; legal assistance available to families.

HEC 613 Child Guidance in the Family. Two sem hours (Formerly HEC 541)
Consideration of theoretical approaches to child guidance applicable for home or school. Practical application of child guidance principles at various developmental stages.

HEC 616 Consumer Problems in Home Furnishings. Two sem hours (Formerly HEC 566)
Characteristics, cost, construction and range in quality of furniture, tableware and accessories, wall coverings, rugs and carpets, flooring, woods and fabrics; field trips. Purchasing problems are analyzed. Prereq: 208 Basic Interior Design or equivalent, 285 Home Management or equivalent.

HEC 618 Recent Developments in Nutrition. Two sem hours (Formerly HEC 584)
Survey of recent research in nutrition, including issues on determination of nutrient requirements, regulation of government nutrition policies, and novel approaches for meeting nutrient needs. Prereq: Six hours of credit in nutrition or permission of the department.

HEC 620 Evaluation in Home Economics Education. Two sem hours (Formerly HEC 611)
Experience in analyzing progress toward important objectives in home economics education. Development of classroom tests and evaluation materials. Evaluation instruments and statistical techniques useful to home economics. Prereq: 370 Methods and Materials in Home Economics Education.

HEC 622 Family Development. Two sem hours (Formerly HEC 540)
Family growth patterns through predictable stages of development; processes of interaction and cooperation. Current research related to stages of development. Prereq: 209 Marriage and Interpersonal Competence.

HEC 623 Drug Abuse and Family Dynamics. Two sem hours (Formerly HEC 510)
Consideration of remedial and preventative aspects of drug abuse (alcohol and other drugs) in families. The focus will be upon family dynamics relating to drug use with minor emphasis on the pharmacology of drugs.

HEC 625 The Fashion Field. Two sem hours (Formerly HEC 568)
The nature of fashion, the psychology of fashion, general definitions and background, fashion movements, the fashion centers, fashion trends and the major fashion designers.
HEC 630 Problems in Family Finance. Two sem hours (Formerly HEC 503)
Principles of basic family financial planning, its relationship to economic conditions, social trends and the family life cycle. Special concern given to procedures in periods of financial emergency. Planning for security and protection against critical family distress.

HEC 631 Consumer Issues and Decisions in the Family. Two sem hours (Formerly HEC 514)
Application of market structure and processes to family consumer decision making. Consideration of consumerism, rights and responsibilities, monetary and fiscal policy, consumer legislation and protection. Designed for all students interested in consumer affairs.
Prereq: 322 Family Financial Management or HEC 630 Problems in Family Finance or permission of the department.

HEC 632 The Man-Woman Relationship in Modern Society. Two sem hours (Formerly HEC 501)
Consideration of the changes and dynamics of interaction stimulated by emerging shifts in roles of men and women; implications of these changes for the family and society; impact of multiple roles upon various men-women relationships.

HEC 633 Family in Crisis. Two sem hours (Formerly HEC 542)
Social, psychological and interpersonal aspects of crisis situations in families; educational and therapeutic resources available to families in crisis.

HEC 634 Consumer Problems in Clothing and Textiles. Two sem hours (Formerly HEC 561)
Investigation of the sociological, psychological, and economic facts involved in the selection and use of textiles and clothing.
Prereq: 235 Textiles for Consumers, 302 Experimental Clothing or permission of the department.

HEC 635 History of Costume. Two sem hours (Formerly HEC 562)
The costume from ancient times to present day; major characteristics; social, economic and aesthetic influences; recurring styles; influence on present fashion.
Prereq: A course in history.

HEC 636 Recent Developments in Home Equipment. Two sem hours (Formerly HEC 531)
Innovations in household appliances; mechanical principles involved in construction, use and methods of testing. Cost-quality factors, energy conservation and consumer protection.

HEC 640 Values and Valuing in Family Systems. Two sem hours (Formerly HEC 529)
Study of sources, characteristics, and development of societal and personal values; impact of values and valuing on family management and decision making.
Prereq: HEC 600 Management and Consumer Economics.

HEC 642 Family in the Middle and Later Years. Two sem hours (Formerly HEC 544)
Individual, family and community planning for the later years of life; developing potentialities; maintaining health, providing reasonable security; building interpersonal relationships.
Lectures, field trips and demonstrations.
Prereq: HEC 622 Family Development.

HEC 644 Recent Developments in Textiles. Two sem hours (Formerly HEC 660)
The nature of textile fibers; economic, chemical and physical problems related to their manufacture and use; technological advances to overcome these problems.
Prereq: 235 Textiles for Consumers.

HEC 645 Clothing Design and Construction. Two sem hours (Formerly HEC 565)
Principles of flat pattern design, with application to a variety of styles and fabrics. Special problems in fitting, adaptations of design and processes of construction.
Prereq: 235 Textiles for Consumers, 302 Experimental Clothing or permission of the department.

HEC 647 History of Furniture and Contemporary Trends. Two sem hours (Formerly HEC 563)
A study of furniture of various periods of history and the relationships to contemporary styles.
HEC 649 International Nutrition. Two sem hours (Formerly HEC 585)
Study of world nutrition problems and possible solutions for meeting food crises on a worldwide basis.
Prereq: Six hours of credit in foods and nutrition or permission of the department.

HEC 660 Decision Processing in the Family. Two sem hours (Formerly HEC 530)
Study of integrated nature of decision-making in the family as a means to realization of family values and goals and their interdependence and interrelationship to the natural and social environment.
Prereq: HEC 600 Home Management and Consumer Economics.

HEC 661 Supervision in Home Economics Education. Two sem hours (Formerly HEC 613)
Study of current practices, theories and concepts of administration; analysis of leadership functions at the local, state and national level in home economics.
Prereq: Provisional certificate in consumer and homemaking education and one year of teaching.

HEC 667 Fabric Design for the Home. Two sem hours (Formerly HEC 564)
Advanced work in experimental design with fabrics, with emphasis on use in the home.
Prereq: Permission of the department.

HEC 669 Vitamins and Minerals. Two sem hours (Formerly HEC 583)
Emphasis on interrelationships of minerals and vitamins in human metabolism.
Prereq: 402 Nutrient Metabolism; physiology recommended.

HEC 675 Textile Analysis. Two sem hours (Formerly HEC 661)
The chemical and physical analysis of fibers, yarns, fabrics and finishes; equipment and techniques used; interpretation of data; presentation of findings to the consumer; textile standards; current textile literature.
Prereq: HEC 644 Recent Developments in Textiles or permission of the department.

HEC 677 Research Methods for Home Economics. Two sem hours (Formerly HEC 592)
Orientation to the value of research; the research problem; basic research techniques applied to home economics. Location and identification of source materials.
Prereq: Open only to home economics majors on a planned graduate program. Required on all master's programs. Designed to be taken early in the program.

HEC 680 Special Topics in Home Economics. Two sem hours (Formerly HEC 539)
An experimental course designed to investigate specific topics of concern in the specialization areas of study in home economics.
Prereq: Permission of the department.

HEC 683 Workshops in Selected Areas. Two sem hours (Formerly HEC 595)
Prereq: Permission of the department.

HEC 686, 687, 688, 689 Practicum. One, two, three and four sem hours
Supervised field experience under the direction of a departmental advisor.
Prereq: Permission of the department.

HEC 690, 691, 692 Thesis. One, two and three sem hours
Completion of research problems and writing of a thesis under the direction of a departmental adviser and committee. A minimum of six semester hours in thesis credit must be earned.
Prereq: Permission of the department.

HEC 694 Seminar in Home Economics. Two sem hours (Formerly HEC 596)
Consideration and investigation of special problems in the specialization areas of study in home economics.
Prereq: Permission of the department.

HEC 697, 698, 699 Independent Studies in Home Economics.
One, two and three sem hours (Formerly HEC 597, 598, 599)
An intensive study of a selected professional problem under the direction of a staff adviser.
Prereq: Permission of the department.

These upper division courses may also be taken for graduate credit and applied on the department's degree program. See the Undergraduate Catalog for course descriptions.

402 Nutrient Metabolism. (3)
407 Administration and Supervision in Child Development Centers. (3)
411 Food Investigation. (3)
412 Nutrition of the Life Cycle. (3)
415 Diet and Disease. (3)
416 Contemporary Nutrition Issues. (3)
422 Seminar in Child Development. (2)
460 Tailoring. (3)
461 Family Interaction. (3)
472 The Consumer in the Ecology. (3)
473 Consumer Problems in the Family. (3)
474 Seminar in Consumer Issues. (2)
SOCIAL WORK CERTIFICATE
(Family and Children’s Services Specialty)

Donald M. Loppnow
Adviser
422 King Hall
487-0393

The Family and Children’s Services Specialty (FCSS) offers specialized preparation for social work careers in services to families and children. The specialty consists of a series of elective courses all of which focus on providing social work services to families and children. At the graduate level, the specialty is intended to be an educational resource available on a continuing education basis for agency staff who wish to enhance their knowledge and skills in social work with families and children. With the approval of their departmental graduate adviser or the social worker adviser, graduate students may complete the specialty.

In order to be "certified" as having completed the FCSS, the student/practitioner must complete SWK 418 Policies and Issues in Services to Families and select any three additional courses from the following which are a part of the specialty.

- SWK 419 Family-Centered Practice
- SWK 420 Working with Aging People
- SWK 422 Specialized Services for Families with Children in Placement
- SWK 424 Handicapping Conditions: Practice Issues
- SWK 435 Group Work with Children and Families
- SWK 460 The Law and Social Work with the Family
- SWK 465 Social Work, Sex and the Family
- SWK 470 Supervising Staff and Volunteers

The process of selecting the courses most sensible for a particular person should be accomplished in consultation with the student's graduate adviser/social work adviser. Upon completion of the four courses with at least a 3.3 grade point average for graduate students, the student is awarded a certificate recognizing completion of the FCSS and an appropriate notation is entered on the student's permanent record card. Students may enroll in the courses for undergraduate or graduate credit; course expectations are adjusted accordingly.
The College of Technology offers two master's degree programs with differing philosophies and objectives. The industrial education program is primarily recommended for the further professional and technical development of the teacher, supervisor or administrator of industrial arts or industrial vocational education. The industrial technology program is designed to assist in meeting the career goals of persons who are employed or who seek employment in industry. The essential difference between the two is that the former is education oriented while the latter is designed for industrial personnel.

**INDUSTRIAL EDUCATION**

H. James Rokusek  
Department Head  
122 Sill Hall  
487-4330

Delmar Larsen  
Coordinator of Advising  
Industrial Education  
122 Sill Hall,  
487-4330

The program leading to a Master of Arts degree in industrial education provides advanced preparation in professional, technical, and related fields as a foundation for career advancement and personal upgrading. The curriculum consists of regular class work, field experiences in industry and education, research activities, technical laboratory work, cognate courses, and free electives. As a result of this advanced preparation, industrial educators should develop an understanding of the philosophical, social, psychological and economic foundations as a basis for developing and implementing industrial education programs.

The student's program of study is planned with a graduate adviser in industrial education. Each graduate program is customized to meet the needs, interests and abilities of the individual student.

**Objectives of the Program**

The program in industrial education is designed to:
1. provide advanced preparation in professional, technical and cognate areas;
2. increase the competency of a teacher, supervisor or administrator of industrial education in the areas of industry, foundations, curriculum, and research;
3. develop an awareness and understanding of the philosophical, social and economic foundations as bases for industrial education programs;
4. produce professional personnel who will have the appropriate knowledge and competencies to promote and develop comprehensive and viable industrial education programs;
5. provide considerable flexibility in the selection of courses to meet the needs of each student;
6. enable a student to acquire a broad knowledge of the literature in industrial education;
7. provide a strong foundation for professional advancement and personal upgrading.

**Requirements for Admission**

An applicant for admission must:
1. meet Graduate School degree admission requirements;
2. hold a valid teaching authorization or certificate;
3. have completed a minimum of 30 semester hours in industrial technology and industrial education courses;
4. have a 2.50 undergraduate grade point average or 2.75 in last half of the bachelor's program;
5. receive the recommendation of the Graduate Committee in the Department of Industrial Education.

**Requirements for Completion of the Program**

An applicant for the master's degree must:
1. have earned a minimum of 30 semester hours of graduate credit applicable to the program;
2. have earned a minimum of 20 semester hours of 3.0 (B) average grade in the major;
3. have earned a minimum of twelve semester hours of course work in selected areas of industrial education, including two hours in industry, four hours in foundations, four hours in curriculum and two hours in research;
4. have completed the requirements for one of the following concentrations:
   - Concentration in Industrial Arts Education—Industrial Arts (20) Related Electives (6) Free Electives (4) Total (30)
Concentration in Industrial-Vocational Education—
Industrial-Vocational (20)
Related Electives (6)
Free Electives (4)
Total (30)
5. hold a 3.0 (B) grade point average for all graduate credit applicable to the master's degree program;
6. have earned a minimum of six semester hours in cognate courses;
7. receive the recommendation of the student's adviser, the Graduate Committee in industrial education and the Graduate School of the University.

Cooperative Programs with Educational Leadership at the M.A. and S.P.A. Levels

The Department of Educational Leadership offers a cooperative program of vocational/technical administration. The program combines course work in school administration with courses in vocational/technical education (industrial education, business education, or home economics). This program is designed for persons seeking a career as either a director or supervisor of industrial-vocational education, and is available at either the master's or specialist's level. Interested persons should contact the department head in Educational Leadership.

IE 500 Crafts. Two sem hours (Formerly IED 500)
Basic craft areas of wood, metal, graphics, plastics, leather and ceramics are explored. Additional elective areas are also available. Not open to departmental majors.

IE 501 Crafts for Special Education. Two sem hours (Formerly IED 501)
The development of craft activities to supplement the curriculum, provide therapeutic manipulative experiences and leisure activities in the special education classroom. Emphasis is given to the identification of industrial employment opportunities. Not open to departmental majors.

IE 502 Career Education for the Elementary Child. Two sem hours (Formerly IED 502)
A study of the concepts and methods used to develop an awareness of the careers of society with elementary school children. Emphasis is on individual and group activities relevant to integrated curriculum studies. Also open to departmental majors.

IE 504 Recent Developments in Career Exploration and Preparation. Two sem hours (Formerly IED 504)
Practical applications of experience based career education will be examined as they relate to secondary school industrial education. Field visitations and public school resource personnel will illustrate to the experienced teachers, practical applications of the exploratory and preparatory concepts of career education. Also open to departmental majors.

IE 550 Development of Industrial Education. Two sem hours (Formerly IED 550)
The historical development of industrial education programs; the influence of industrial, technological and societal change, institutions, professional associations, movements and leaders in the field.

IE 551 Philosophy of Industrial Education. Two sem hours (Formerly IED 551)
Philosophical viewpoints concerning industrial arts, vocational and technical education; historical development and philosophical justification of modern programs.

IE 560 Middle/Junior High School Industrial Arts. Two sem hours (Formerly IED 560)
The rationale for industrial arts programs in the middle or junior high school; program alternatives and contemporary models for instructional content and methods; course development and laboratory planning related to various program structures.

IE 561 Senior High School Industrial Arts/Vocational Education. Two sem hours (Formerly IED 660)
Development and current status of curriculum in industrial arts/vocational education; principles and procedures of curriculum development, criteria and state guidelines for content selection, contemporary curriculum patterns, factors involved in curriculum change.

IE 590, 591, 592 Special Topics. One, two, and three sem hours (Formerly IED 539)

IE 594, 595, 596, 597 Workshops in Selected Areas. One, two, three and four sem hours (Formerly IED 539)

IE 650 Industrial Education in Colleges and Universities. Two sem hours (Formerly IED 650)
The philosophy, history and development of industrial teacher education programs; current trends in selected institutions.

IE 651 Administration of Vocational Technical Education. Two sem hours
Focuses on the legislation, programs, planning and regulations which are unique to vocational education and the administrative functions which are directly related.
IE 652 Technical Programs in Community Colleges. Two sem hours ( Formerly IED 652)

Nature, scope and functions of vocational and technical programs in community colleges; recent developments.

IE 655 Supervision of Industrial Education. Two sem hours (Formerly IED 680)

Principles and problems involved in the improvement of instruction in industrial education. Open to majors in industrial education and to majors in administration.

IE 661 Evaluation in Industrial Education. Two sem hours ( Formerly IED 661)

Principles and methods of evaluating student development in industrial education; experience in development and construction of effective evaluation devices.

IE 662 Cooperative Programs in Industrial Education. Two sem hours ( Formerly IED 662)

Cooperative vocational programs in the secondary school; organization and procedures for apprenticeship training, trades and industries, distributive education and diversified occupations.

IE 663 Instructional Media in Industrial Education. Two sem hours ( Formerly IED 663)

Recent developments in instructional media and technology; the relationship of media to the psychology of learning. Implications for programs of industrial education.

IE 664 Laboratory Planning. Two sem hours ( Formerly IED 670)

Analysis of space and equipment requirements of industrial education laboratories. Consideration of specific functions, safety, efficiency, location, and design as they relate to educational philosophy and objectives.

IE 677 Research in Industrial Education. Two sem hours ( Formerly IED 592)

Basic research types, methods and procedures, extent and sources of studies, the development of investigations, consumption of reported studies and the role played in the improvement of industrial education programs.

IE 679, 680, 681 Special Topics. One, two and three sem hours ( Formerly IED 539)

IE 682, 683, 684, 685 Workshops in Selected Areas. One, two, three and four sem hours

IE 686 Practicum in Industrial Education. Two sem hours ( Formerly IED 593)

An examination and evaluation of a variety of instructional methods. Direct experiences are provided in developing and utilizing instructional materials.

IE 688 Internship in Industrial Education. Two sem hours ( Formerly IED 594)

A supervised experience in education. Opportunities are provided for directing a variety of teaching-learning experiences contracted with a University faculty member.

IE 693, 694, 695, 696 Seminar in Industrial Education. One, two, three and four sem hours ( Formerly IED 596)

A discussion of problems and issues in industrial education with emphasis on literature review and appraisal.

IE 697, 698, 699 Independent Studies.

One, two and three sem hours ( Formerly IED 597, 598, 599)

Opportunities are provided for the selection and completion of an individual study under the direction of a University faculty member. An approved written proposal is required. Both "Independent Study" (technical study without the prerequisite of IE 677) and "Research Proposal Format" guideline sheets are available from the department.

Prereq: Department permission.

OTHER COURSES

These upper division undergraduate courses may be elected for credit toward a master's degree in industrial education.

400 Site Planning and Development. (3)

401 Construction Estimating and Bidding. (2)

402 Construction Materials. (3)

403 Production Control-Construction. (2)

414 Solid State Electronics. (3)

420 Materials Handling. (3)

424 Industrial Plant Facilities and Planning. (3)

428 Control and Instrumentation. (3)

431 Interactive Computer Graphics. (3)

434 Microcomputer Circuits. (3)

452 Principles of Vocational-Technical Education. (3)

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 500</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 501</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 502</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 504</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 514</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 515</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 560</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 561</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 565</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 567</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 652</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 653</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 654</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 656</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 677</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 694</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INDUSTRIAL TECHNOLOGY

John A. Weeks  
Acting Department Head  
122 Sill Hall  
487-4330

Clois Kicklighter  
Coordinator of Advising  
Industrial Technology  
122 Sill Hall,  
187-4330

The Master of Science in industrial technology is a program designed to extend the undergraduate degree in industrial technology or related fields. These related fields include such majors as industrial education, business or engineering. It is intended to increase the student's skills and understanding of industrial processes, production techniques, design, research and development, data processing, and management.

The program is designed for technical managers, production supervisors and related types of industrial personnel. It is also planned for individual upgrading, or providing advancement opportunities for employees already established with a company. These people generally have the function of serving in a liaison capacity between the practical orientation of the technician and the theoretical orientation of the engineer and/or scientist.

Note: Students who register for classes in the Department of Industrial Technology must have a departmental graduate advisor's signature.

Objectives of the Program
The program in industrial technology is designed to:
1. develop advanced competencies associated with technical, supervisory and related positions in industry;
2. develop the competencies to serve as liaison personnel between management and the various functional areas of a company;
3. develop the "generalist" perspective needed by those employed, or those aspiring to mid-management industrial positions;
4. provide advanced preparation in construction or manufacturing technology in relating the technical and human components of industry;
5. broaden the career potential of individuals through experiences in manufacturing or construction technology.

Requirements for Admission
All applicants for admission must:
1. meet degree admission requirements of the Graduate School;
2. possess a minimum undergraduate grade point average of 2.50;
3. possess a baccalaureate degree in industrial technology or related degree, such as industrial education, business or engineering;
4. have completed the undergraduate basic technical courses in industrial technology consisting of twelve semester hours or the equivalent.
5. International students must also score at least 550 on the TOEFL or 80 on the English Language Institute test at the University of Michigan.

Requirements for Completion of the Program
An applicant for the master's degree must:
1. have earned a minimum of 30 semester hours of graduate credit applicable to the program;
2. have earned a minimum of 16 semester hours of 3.0 (B) average in the major;
3. hold a 3.0 (B) grade point average for all graduate credit used to fulfill degree requirements;
4. have completed the requirements for one of the two concentrations as follows:
   Concentration in Manufacturing—
   Industrial Technology Core (6)  
   Business Core (8-10)  
   Manufacturing Technology (10)  
   Related Electives (4-6)  
   Total (30)
   Concentration in Construction—
   Industrial Technology Core (6)  
   Business Core (8-10)  
   Construction Technology (10)  
   Related Electives (4-6)  
   Total (30)
5. receive the recommendation of the student's adviser, the Graduate Committee in industrial technology and the Graduate School of the University.

IT 510 Electricity-Electronics. Two sem hours (Formerly IED 510)
An investigation of basic theories combined with laboratory experiences and practical application of test equipment.
Prereq: IED 200 Industrial Electricity and MTH 107 Trigonometry.

IT 511 Electronic Control. Two sem hours
An overview of contemporary circuits and devices utilized to control machines and industrial processes, conventional industrial controls, digital circuits, and microprocessor based controls.
Prereq: Not open to students with credit in IED 314 Integrated Circuits or IED 434 Microcomputer Circuits.

IT 514 Graphic Presentation. Two sem hours (Formerly IED 537)
The techniques, processes, and procedure of developing graphic presentation materials. Topics include designing, recording, reproducing, and storing and retrieving systems. Laboratory activities are required.
Prereq: IED 122 Technical Drawing.

IT 517 Graphic Arts. Two sem hours (Formerly IED 505)
General graphic arts including layout and design, composition, photo mechanics, offset and screen process reproduction.

IT 537 Numerical Control in Manufacturing. Two sem hours (Formerly IED 537)
Study of the conversion of part descriptions to numerical control programs for mill and drill machining. Students write and execute NC programs using COMPACT II language. Verification of programs is accomplished using computer graphics.
Prereq: IED 215 Machine Tool Metalworking.

IT 540 Recent Technological Developments. Two sem hours (Formerly IED 640)
Innovations in materials and processes and their implications for industrial education and industrial technology. Industrial visitations and other means of investigation will be employed.

IT 590, 591, 592 Special Topics. One, two and three sem hours (Formerly IED 539)
IT 594, 595, 596, 597 Workshops in Selected Areas. One, two, three and four sem hours

IT 610 Electronics Circuitry. Two sem hours (Formerly IED 610)
Electronic theories as related to solid state circuits. Solid state design, printed circuit board fabrication and circuit construction.
Prereq: IED 414 Solid-State Electronics.

IT 613 Drafting Technology. Two sem hours (Formerly IED 513)
Drafting methods and materials; theory and application of multi-view drawing, auxiliaries, cams and gears, mechanisms, dimensioning, and geometric tolerancing.
Prereq: IED 122 Technical Drawing.

IT 615 Product Design. Two sem hours (Formerly IED 515)
Principles of product design; emphasis on the design process, basic elements of design, and the interdependence of design and human needs.
Prereq: IED 122 Technical Drawing.

IT 616 Architectural Drafting and Design. Two sem hours (Formerly IED 516)
Contemporary architectural drafting and design; methods of presentation, site planning, perspective, rendering, and recent developments in drafting media.
Prereq: IED 128 Architectural Drawing.

IT 617 Visual Communication. Two sem hours (Formerly IED 517)
Application of visual communication theories in the production of media including photography, photo mechanics, offset and screen processes.

IT 618 Computer Assisted Design. Two sem hours (Formerly IED 518)
The use of the computer and FORTRAN programming to solve graphic design problems. Experiences are provided on computer terminals to enter data, preview a design and execute a program.
Prereq: MTH 107 Trigonometry; not open to students with credit in IED 231 Industrial Computer Graphics.

IT 620 Power Systems. Two sem hours (Formerly IED 520)
The technology involved in harnessing and controlling power, including its sources, generation, transmission and utilization; the machines and devices used to convert power in industrial applications.

IT 621 Energy Control Analysis. Two sem hours (Formerly IED 521)
Fluid power and direct drive transfer systems are studied in relation to energy utilization in industry. Principles of hydraulics, pneumatics, fluidics, transmission systems and instrumentation related to control are included.
Prereq: IED 318 Energy Transfer systems; or one undergraduate course in physics or permission of instructor.

IT 626 Solar Energy Applications. Two sem hours
A study of solar energy and applications to space heating and domestic hot water. Topics include: landscape developments; solar architecture; design and construction of collectors, distribution systems and storage; heat loss and system evaluation.
Prereq: IED 128 Architectural Drawing I and IED 201 Construction Technology.

IT 633 Plastics Technology. Two sem hours (Formerly IED 533)
Sources and properties of plastics materials; testing, chemical production, molding and forming processes; the fabricating and finishing industry.
Prereq: Not open to students with credit in IED 202 Plastics.

IT 634 Plastics Forming Processes. Two sem hours (Formerly IED 534)
Selection of plastics resins for product design; application of resins to industrial production, molding, forming and fabricating techniques, including mold design and testing.
Prereq: IT 633 Plastics Technology.

IT 636 Metal Technology. Two sem hours (Formerly IED 536)
A study of the metals industry; sources, characteristics and refining of metals, testing procedures, machining and processing applications, production methods.
Prereq: IED 123 Metals Processes or IED 215 Machine Tool Metalworking.

IT 640 Contemporary American Industry. Two sem hours (Formerly IED 540)
The structure of the industrial institution in American society; formal organization, production, financial structure, research and development, and union organization in industry. Not open to students with credit in IED 217, Structure of Industry.

IT 641 Materials of Industry. Two sem hours (Formerly IED 541)
Selected industrial materials; sources, properties, characteristics, analysis and testing.
Prereq: IED 123 Metal Processes or IED 215 Machine Tool Metalworking and IED 202 Plastics.

IT 645 Occupational Safety and Health. Two sem hours (Formerly IED 545)
An exploration of occupational safety and health from a human behavior perspective. Attention will be given to the development of safety management systems. Legislative safety and health policies will be analyzed to determine their effectiveness.
IT 647 Industrial Research and Development. Two sem hours
(Formerly IED 547)
Laboratory experiences focusing on production problems utilizing various materials, processes, methods of measurement, and analysis techniques.

IT 648 Principles of Construction Technology. Two sem hours
(Formerly IED 548)
A study of the production system of the construction industries; a study of utility systems, housing construction, and city and regional planning practices.

IT 649 Principles of Manufacturing Technology. Two sem hours
(Formerly IED 549)
A study of the production system of manufacturing; researching, designing, and engineering products and processes as well as the production of components, sub-assemblies and final assemblies.

IT 679, 680, 681 Special Topics. One, two and three sem hours
(Formerly IED 539)

IT 682, 683, 684, 685 Workshops in Selected Areas. One, two, three and four sem hours

IT 689 Industrial Internship. Two sem hours (Formerly IED 694)
A field study of industrial theory and practice through directed internship experiences with cooperating industries. Designed for students desiring experiences beyond those obtained in their previous or present employment.

IT 697, 698, 699 Independent Studies.
One, two and three sem hours
(Formerly IED 597, 598, 599)
Opportunities are provided for the selection and completion of an individual study under the direction of a University faculty member. An approved written proposal is required. Both "Independent Study" (technical study without the prerequisite of IE 677) and "Research Proposal Format" guideline sheets are available from the department.

Prereq: Department permission.

OTHER COURSES
These upper division undergraduate courses may be elected for credit toward a master's degree in industrial technology.

400 Site Planning and Development. (3)
401 Construction Estimating and Bidding. (2)
402 Construction Materials. (3)
403 Production Control-Construction. (2)
414 Solid State Electronics. (3)
420 Materials Handling. (3)
424 Industrial Plant Facilities and Planning. (3)
428 Control and Instrumentation. (3)
431 Interactive Computer Graphics. (3)
434 Microcomputer Circuits. (3)

TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Course</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 514</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>IT 517</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 527</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 540</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 615</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 616</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 617</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IT 618</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 620</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IT 621</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 626</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>IT 633</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IT 634</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 636</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 640</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IT 645</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 647</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 648</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT 649</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IT 664</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

OTHER INFORMATION

THE ALUMNI ASSOCIATION

The Alumni Association was incorporated in 1925 to serve as a bond between the University and alumni around the world.

The Association is governed by a twenty-four member Board of Directors, whose alumni members are elected in the spring of each year by a vote of all eligible Association members. Two students, selected by a student committee, also sit on the Board. The President of the University is an ex-officio member.

Through the Office for Alumni Relations, the Association helps to plan programs of interest for alumni and also serves as the vehicle for communicating to the University faculty and administration the concerns of Eastern's alumni as they relate to the development of the University.

Over the years, the Association members have served the University in many ways. Most notable are the financial contributions made. The Memorial Chimes and Pierce Hall clocks given in former years and, in more recent years, gifts to the University Library, gifts to various established funds and scholarships, and additional scholarships and aid to student organizations have exemplified the willingness of alumni to invest in the University.

Charles McKenny Union, completed in 1931, was built through the efforts of alumni and the University, and stands as a visible symbol to all that the Association is proud to serve Eastern.

Alumni receive three issues of Eastern each year, which keep them informed of news of alumni, news of campus, and other items of interest.

The Office for Alumni Relations is located in room 202. McKenny Hall (487-0250). Alumni and students are invited to visit the office at any time.

OFFICE FOR ALUMNI RELATIONS
Director: Pending

The Office for Alumni Relations serves nearly 55,000 alumni throughout the world by providing programs which help foster a continuing interest in the progress of the University. The office also provides the means by which
personal relationships established during student days can be maintained and renewed.

Some of the special activities include Homecoming, Alumni Day, club meetings, travel, theatre nights, golf outings, concerts, a weekend in Stratford, Canada, for the Shakespearean Festival, as well as special reunions of various constituency groups of alumni. Staff support is given to the programs established for the Century Club, Huron Club, E Club, and the annual Football Bust, as well as to other departments and organizations on campus.

OFFICE OF RESEARCH DEVELOPMENT (ORD)
Director: Charles R. Gale

The Office of Research Development is organized to stimulate, initiate and develop externally funded research and development activities in the University. The office works cooperatively with faculty, administration and students who are interested in obtaining funds for independent research, demonstrated programs, experimental projects and other efforts directed at expanding the scope and quality of the University.

The office attempts to identify funding sources through liaison with governmental and private agencies, through the screening of program announcements and requests for proposals and through personal contacts. Information on funding opportunities is made available directly to EMU personnel where their specific interests and capabilities are known and through the ORD column in Focus. The office maintains information files on private, state and federal funding programs and keeps up to date on changing priorities or funding levels of potential sponsors.

It provides a number of services to proposal writers, such as aid in editing, typing and preparing proposals for submission. It assists the applicant to obtain all necessary University approvals and formally submits the complete application to the funding agency.

OFFICE OF INTERNATIONAL PROJECTS
Director: Louis P. Poretta

The Office of International Projects is responsible for the development, coordination and implementation of international projects overseas. The office also is responsible for the management, budgeting and monitoring of project contracts and providing the necessary campus support for the field activities. The Office of International Projects is currently administering two major activities under contract with the United States Agency for International Development: The Swaziland Primary Curriculum Development Project—in the Kingdom of Swaziland, Southern Africa; and the Yemen Basic Education Development Project in the Yemen Arab Republic.

Eastern Michigan University’s involvement in international projects has provided a new dimension of recognition both nationally and abroad. This activity provides unique opportunities for the faculty to grow professionally, and to expand its expertise through direct involvement in the projects abroad, or indirectly through related activities on the campus. University students also benefit from this activity through the opportunity to work and study with students from many parts of the world. Future program development should provide for both graduate and undergraduate study related to development issues both on campus and in the countries where the University is engaged in assistance programs.

THE INSTITUTE FOR THE STUDY OF CHILDREN AND FAMILIES
Director: Bruce Warren
Associate Directors: Angelo Angelocci, Donald Luppnaw, and Patricia Ryan

The Institute for the Study of Children and Families was established by the Board of Regents of Eastern Michigan University for the purpose of providing focus and support to the study of children and families. Within the focus of the Institute are research, demonstration projects, non-credit educational activities and consultation that are concerned with the determinants and/or consequences of childhood or family life. The Institute promotes and encourages the interdisciplinary study of children and families. This reflects the Institute philosophy that advancement of knowledge about children and families takes place only by the cooperative interaction and exchange of ideas by faculty and staff from throughout the University.

In addition to encouraging interdisciplinary involvement, various opportunities exist for undergraduate and graduate students who have interest in research or demonstration projects relating to children and families. This cooperative interaction extends beyond the University to other organizations, agencies and institutions.

Examples of Institute-sponsored programs include the Foster Parent Education Program and the Parenting Education Program. Cooperative efforts are also exemplified by workshops with cultural diversity and home/school interaction. Further information phone 487-0372 or come to the office, 720 Pray-Harrold.

INSTITUTE FOR COMMUNITY AND REGIONAL DEVELOPMENT
Director: Eugene Jaworski

The Institute for Community and Regional Development (ICARD) provides research and educational services to communities, governmental units, non-profit agencies and private interests which seek assistance from Eastern Michigan University. ICARD focuses on land use planning, economic development, environmental assessment and other community issues in southeastern Michigan. The Institute serves as an interdisciplinary research arm and extension service for several academic programs including land use studies, historic preservation, public administration and real estate. By drawing on all the University resources, the Institute contributes to the solution of regional problems while providing valuable experience for its faculty and students.

The director of ICARD develops projects through personal and professional contacts, and ICARD responds to requests from clients outside the University. Once a project has been identified, a project development committee selects the appropriate staff and project methodologies. Projects are assigned to individual faculty member(s) who serve as project directors and principal investigators.
CLOSED-CIRCUIT TELEVISION

Many University buildings are linked by coaxial cable in a closed-circuit television system, which has been in operation since 1960. Closed-circuit TV ("KITS"—Campus Instructional Television System) is used for direct instruction, observation and demonstration. Color-equipped television production studios are located in the Ford Building. The University also provides "KATS," Campus Antenna Television System, which feeds a university cable linkage to the apartments in Brown-Munson, Pine Grove and Cornell Courts; the lounges in other residence halls; McKenny Union; and the Huron Hideaway. This system provides commercial channels, public broadcasting channels, FM radio and one channel reserved for broadcasting the on-campus laboratory productions of television classes and other programs specifically intended for the University community.
GRADUATE FACULTY

ACCOUNTING AND FINANCE

Clark, George S. (1973) Associate Professor, B.B.A., M.B.A., J.D., University of Michigan; L.L.M., Wayne State University; C.P.A., State of Michigan

De vine, Elton A. (1976) Professor, Department Head, B.S., M.B.A., University of Southern Mississippi; Ph.D., Louisiana State University

Hutchins, Ronald E. (1977) Assistant Professor, B.A., M.B.A., Michigan State University; Ph.D., University of Missouri-Columbia

Jain, Tribhovnan N. (1976) Associate Professor, B. Com., University of the Panjab; Certificate, Scottish College of Commerce; MBA, University of California; Ph.D., Michigan State University

Kimball, William L. (1970) Professor, B.S., Marquette University; M.B.A., University of Wisconsin; Ph.D., Northwestern University; C.P.A., State of Wisconsin

Hislop, Robert I. (1970) Professor, L.L.B., L.L.M., Brooklyn Law School; Ph.D., University of Colorado

Johnson, Thomas M. (1971) Professor, B.A., J.D., University of Chicago; Ph.D., Columbia University

Ogden, Russell L. (1956) Professor, B.S., Eastern Illinois University; M.A., Ed.D., Colorado State College

Ristau, Robert A. (1973) Professor, B.B.A., M.S., Ph.D., University of Wisconsin

Robek, Mary F. (1958) Professor, B.Ed., Wisconsin State College; M.A., Northwestern University; M.B.A., Ph.D., University of Michigan

Wingo, Rosetta C. (1968) Professor, Department Head, B.S., Morgan State College; M.A., New York University; Ph.D., Michigan State University

ART

Anderson, Marvin C. (1963) Professor, B.F.A., Wayne State University; M.F.A., Cranbrook Academy of Art

Avedon, Barry (1966) Associate Professor, B.F.A., M.F.A., Rochester Institute of Technology

Beginin, Igor (1968) Associate Professor, A.B., M.A., Wayne State University

Chew, Robert (1968) Associate Professor, B.F.A., Maryland Institute; M.F.A., University of Illinois


Fensch, Charles (1966) Professor, B.A., Kent State University; M.A.E. Wayne State University; M.A. University of Michigan

Field, Jan M. (1965) Professor, B.F.A., M.F.A., School of the Art Institute of Chicago

Freeman, Lawrence (1969) Associate Professor, B.A., Mankeat State College; M.F.A., University of Oregon

Glenn, Ralph (1978) Assistant Professor, B.A., M.A., University of Michigan; A.M., Harvard University

Godfrey, Elaine C. (1962) Associate Professor, B.S., Central Michigan University; M.A., University of Michigan

Harrison, Sharon (1969) Professor, B.S., University of Michigan; M.F.A., Cranbrook Academy of Art; M.A., New York University; Ph.D., University of Michigan

Hunter, Fredrick C. (1967) Associate Professor, B.S., Wisconsin State University; M.F.A., University of Wisconsin

Penn, Sheldon S. (1968) Associate Professor, B.F.A., Wayne State University; M.F.A., Cranbrook Academy of Art


Loree, John (1962) Professor, B.S., Fordham University; M.F.A., Alfred University


Sandall, James (1974) Associate Professor, B.F.A., Univ. of Nebraska; M.F.A., Arizona State University

Schwartz, Ellen (1977) Assistant Professor, B.A., Brandeis University; M.A., Institute of Fine Arts, New York; Ph.D., New York University


Sharp, David W. (1962) Professor, B.F.A., Arizona State University; M.F.A., State University of Iowa

Smith, Doris A. (1961) Associate Professor, B.D., M.S.D., University of Michigan


Van Haren, John E. (1960) Professor, Department Head, B.S., M.A., University of Wisconsin


Williams, Patricia (1976) Associate Professor, B.A., Carleton College; M.F.A., Indiana University


Yager, Jay (1968) Associate Professor, B.S., S.U.N.Y. College of Education, Buffalo, New York; M.F.A., M.S., University of Wisconsin

Zahratka, Michael C. (1960) Associate Professor, B.F.A., Cleveland Institute of Art; M.F.A., Syracuse University

BIOLOGY

Barden, Ned (1979) Assistant Professor, B.S., Iowa State University; M.S., Ph.D., University of Wisconsin
Belcher, Robert O. (1946) Professor, B.A., Berea College; M.S., Ph.D., University of Michigan  
Booth, Howard D. (1967) Associate Professor, B.S., M.S., Eastern Michigan University; Ph.D., Michigan State University  
Brown, Donald F. (1956) Professor, B.A., M.S., Ph.D., University of Michigan  
Caswell, Herbert H., Jr. (1955) Professor, Department Head, B.S., Harvard University; M.A., University of California at Los Angeles; Ph.D., Cornell University  
Fennel, William E. (1970) Professor, B.A., M.A., University of Missouri, Ph.D., University of Michigan  
Ghosheh, Najati S. (1965) Professor, B.S., M.S. Kansas State University; Ph.D., University of Illinois  
Hurst, Edith M. (1973) Professor, B.S., Wayne State University; M.A., Ph.D., University of Michigan  
Jackson, Dennis C. (1967) Professor, B.S., Arizona State University; M.S., Ph.D., Michigan State University  
Johnston, Bert M. (1951) Professor, B.S., M.A., Ph.D., University of Michigan  
Kangas, Patrick (1979) Assistant Professor, B.S., Kent State University; M.S. University of Oklahoma  
Liu, Stephen C. (1965) Professor, B.S., M.S., National Taiwan University; Ph.D., University of Minnesota  
Minick, Merlyn C. (1966) Professor, B.S., Eastern Michigan University; M.S., University of Michigan; Ph.D., Wayne State University  
Richards, Lawrence P. (1965) Professor, B.A., University of California at Berkeley; Ph.D., University of Illinois  
Simone, P. George (1977) Assistant Professor, B.S., University of Chicago; Ph.D., University of New Mexico  
Sinclair, Frank L. (1953) Associate Professor, B.S., Eastern Michigan University; M.S., Michigan State University  
Stevens, Suzanne J. (1970) Associate Professor, B.S., Eastern Michigan University; M.A. Eastern Michigan University  
Volz, Paul A. (1969) Professor, B.A., Heidelberg College; M.S., Ph.D., Michigan State University  
Waffl, Elizabeth L. (1968) Associate Professor, B.A., Cornell College; M.S., State University of Iowa; Ph.D., Iowa State University  
Walker, Glenn K. (1976) Associate Professor, B.S., University of Massachusetts; M.S., Northern Arizona University; Ph.D., University of Maryland  
Wallace, Dale C. (1969) Professor, B.A., Western Washington College; M.A., Colorado College; Ph.D., Cornell University  
Yu, Shih-An (1967) Professor, B.S., National Taiwan University; M.S., Ph.D., University of New Hampshire  

CHEMISTRY  
Brewer, Stephen (1969) Professor, B.S., University of Florida; Ph.D., University of Wisconsin  
Carter, Giles F. (1967) Professor, B.S., Texas Tech; Ph.D., University of California  
Collins, Ronald W. (1965) Professor, Associate Vice President for Academic Affairs, B.S., University of Dayton; Ph.D., Indiana University  
Compere, Edward L. Jr. (1964) Professor, B.S., Beloit College; M.S., University of Chicago; Ph.D., University of Maryland  
Graves, Bruce B. (1968) Professor, B.A., Swarthmore College; M.S., Ph.D., University of Louisville  
Hicks, Kenneth (1970) Professor, B.A., M.S., Miami University; Ph.D., Howard University  
Manning, Brenda (1976) Assistant Professor, B.S., Antioch College; M.S., Ph.D., University of Michigan  
Moore, John W. (1971) Professor, B.S., Franklin and Marshall College; Ph.D., Northwestern University  
Nicholson, Elva M. (1972) Associate Professor, B.S., Bucknell University; M.S., Radcliffe College; Ph.D., Harvard University  
Phillips, Donald B. (1973) Associate Professor, B.A., Concordia College; M.S., North Dakota State University; Ph.D., University of Georgia  
Powell, Ralph R. (1966) Associate Professor, B.S., Marian College; Ph.D., Purdue University  
Ramsay, O. Bertrand (1965) Professor, (Acting) Department Head, B.S., Washington and Lee University; Ph.D., University of Pennsylvania  
Rengan, Krishnaswamy (1970) Associate Professor, B.S., University College Trivandum; Ph.D., University of Michigan  
Robbins, Omer Jr. (1961) Professor, B.S., M.S., Ph.D., University of Michigan  
Schullery, Stephen E. (1970) Professor, B.A., Eastern Michigan University; Ph.D., Cornell University  
Scott, Ronald M. (1959) Professor, B.S., Wayne State University; Ph.D., University of Illinois  
Spike, Clark G. (1958) Professor, (Acting) Associate Vice President for Academic Affairs, B.S., Eastern Michigan University; M.S., Ph.D., University of Michigan  
Sullivan, John M. (1958) Professor, B.A., Dartmouth College; M.S., Ph.D., University of Michigan  
West, Bruce D. (1969) Associate Professor, B.S., M.S., Ph.D., University of Wisconsin  
Williamson, Jerry B. (1967) Associate Professor, B.A., University of Illinois; M.S., Ph.D., University of Iowa  
Work, Stewart D. (1964) Professor, B.A., Oberlin College; Ph.D., Duke University  
Yamauchi, Masanobu (1965) Professor, B.A., University of Hawaii; M.S., Ph.D., University of Michigan  

ECONOMICS  
Anderson, John E. (1977) Assistant Professor, B.A., Western Michigan University; M.A., Ph.D., Claremont Graduate School  
Anderson, Thomas C. (1972) Associate Professor, B.S., M.S., Utah State University; Ph.D., University of California at Berkeley  
Chung, Young-Lob (1966) Professor, Department Head, B.S., University of California at Los Angeles; M.A., Ph.D., Columbia University  
Edgren, John A. (1979) Assistant Professor, B.A., Grinnell College; Ph.D., University of Michigan  
Gibbons, James R. (1967) Associate Professor, B.S., M.S., University of Illinois; Ph.D., Iowa State University  
Hanna, Raouf S. (1977) Assistant Professor, B.Com., Cairo University; Diploma, Institute of National Planning at Cairo; M.A., Ohio State University; Ph.D., Indiana University  
Hayworth, Steven C. (1977) Assistant Professor, B.A., Cornell University; Ph.D., Massachusetts Institute of Technology  
Pearson, Donald W. (1969) Professor, B.A., Tulane University; M.A., Ph.D., University of Texas
Vogt, Michael G. (1978) Assistant Professor, B.A., Lawrence University; M.A., Ph.D., University of Wisconsin at Madison

EDUCATIONAL LEADERSHIP

Brower, George (1954) Professor, B.S., Western Michigan University; M.A., University of Michigan; Ph.D., Cornell University

Daly, Francis M., Jr. (1964) Professor, B.S., M.A., Ed.D., Wayne State University

Drinsead, Kenneth L. (1964) Professor, B.A., Iowa Wesleyan College; M.A., Ph.D., University of Iowa

Kilanski, Doris M. (1970) Associate Professor, B.A., Mount Mary College; M.A., Sp.A., Eastern Michigan University; Ph.D., University of Michigan

Kromer, William F. (1971) Associate Professor, B.A., Central Michigan University; M.A., Ph.D., University of Michigan

Minzey, Jack D. (1968) Professor, Department Head, B.A., Eastern Michigan University; M.A., University of Michigan

Nelson, Bruce K. (1954) Professor, A.B., Northern Michigan University; M.A., Ph.D., University of Michigan


EDUCATIONAL PSYCHOLOGY

Blair, John (1970) Associate Professor, B.S., M.S., Indiana University; Ph.D., University of Michigan

Bushey, James T. (1969) Associate Professor, Ph.B., M.A., University of Detroit; Ed.D., Wayne State University

Dellas, Marie (1969) Professor, B.S., M.Ed., Ph.D., State University of New York at Buffalo


Jernigan, Louise F. (1970) Associate Professor, B.A., Valparaiso University; M.Ed., Ph.D., Kent State University

LaBenne, Wallace D. (1967) Professor, B.S., Temple University; M.A., Ph.D., University of Michigan

Lederman, Edward (1970) Associate Professor, B.S., Long Island University; M.A., Ph.D., Teachers College, Columbia University

McKee, Judy A. (1971) Associate Professor, B.A., Central Michigan University; M.A., Ph.D., Columbia University

Metler, John W. (1964) Professor, B.A., University of Western Ontario; B.D., Emmanuel College, Victoria University; M.A., Union Theological Seminary; Ed.D., Teachers College, Columbia University

WahI, Kishor (1967) Professor, B.A., Punjabi University; M.A., Ph.D., University of Michigan

Williams, Warren S. (1969) Associate Professor, B.A., Hobart College; M.A., Ed.D., University of Rochester

Williams, Wilbur A. (1948) Professor, Department Head, B.S., M.A., Ph.D., University of Michigan

Woronoff, Israel (1956) Professor, B.A., M.A., Ph.D., University of Michigan

ENGLISH LANGUAGE AND LITERATURE

Allen, Thomas P. (1966) Assistant Professor, B.A., St. Vincent College; M.A., University of Detroit; Ph.D., Rice University


Angie, James B. (1964) Associate Professor, B.A., University of Michigan; M.A., Kansas State University

Bishop, Nadean (1966) Associate Professor, B.A., Baylor University; M.A., University of Louisville; Ph.D., University of Wisconsin, Madison

Bruss, Paul S. (1969) Professor, B.A., University of Wisconsin; M.A., Ph.D., University of Rochester

Brylowski, Walter M. (1955) Professor, B.A., Kalamazoo College; M.A., University of Connecticut; Ph.D., Michigan State University

Case, Franklin D. (1962) Professor, A.B., University of Connecticut; A.M., University of Michigan

Cross, B. Gilbert (1966) Professor, B.A., Manchester University (England); Certificate of Education, London University; M.A., University of Louisville; Ph.D., University of Michigan

Devers, James (1968) Associate Professor, B.A., M.A., Ph.D., University of California, Los Angeles

Duncan, Jeffrey L. (1971) Professor, A.B., Long Beach State College; M.A., Ph.D., University of Virginia

Foster, Milton P. (1947) Professor, Department Head, B.A., Wayne University; M.A., University of Pittsburgh; Ph.D., University of Michigan

Geherin, David J. (1969) Professor, B.A., University of Toronto; M.A., Ph.D., Purdue University

Gohn, Ernest S. (1958) Professor, B.A., Ph.D., Johns Hopkins University

Harris, Arthur J. (1967) Professor, B.S., Central Michigan University; M.A., Ph.D., University of Birmingham (England)

Haun, F. Eugene (1966) Professor, B.A., Hendrix College; M.A., Vanderbilt University; Ph.D., University of Pennsylvania

Hedbert, Catherine A. (1947) Professor, B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

Helbig, Alethea (1966) Associate Professor, A.B., M.A., University of Michigan


Holkeboer, Robert (1971) Associate Professor, A.B., Calvin College; M.A., Ph.D., Ohio University

Ingram, Betty J. (1967) Associate Professor, B.A., M.A., University of Western Ontario; Ph.D., University of Pennsylvania

Ingersoll, Sheila (1971) Associate Professor, B.A., Eckerd College; M.A., Ph.D., Northwestern University

Jernigan, E. Jay (1965) Professor, B.S., B.A., Kansas State Teacher's College; M.S., Ph.D., Kansas State University
FOREIGN LANGUAGES AND BILINGUAL STUDIES

Bidwell, Jean S. (1962) Professor, B.A., Brown University; M.A., Eastern Michigan University; Ph.D., University of Michigan

Cline, William J. (1970) Professor, B.A., University of California; M.A., Ph.D., State University of New York at Buffalo

Dugan, J. Sanford (1974) Assistant Professor, B.A., Yale University; M.A., Johns Hopkins University; Ph.D., Washington University, St. Louis

Gibson, Eugene M. (1956) Professor, B.A., M.A., University of Oklahoma; Ph.D., University of California

Hubbard, John R. (1969) Associate Professor, (Acting) Department Head, B.A., Hope College; M.A., Ph.D., Michigan State University

McCoy Ana Maria (1972) Associate Professor, Licenciado en Filosofía y Letras, University of Valencia, Spain; M.A., Ph.D., University of Michigan

Muller, Brigitte D. (1967) Professor, B.A., Eastern Michigan University; M.A., University of Michigan; Doctorate, University of Aix-Marseille

Palmer, Benjamin (1970) Associate Professor, B.A., University of Connecticut; M.A., Ph.D., Northwestern University

Pisoni, John C. (1969) Assistant Professor, B.A., University of Missouri; M.A., University of Oklahoma; Ph.D., University of Michigan

Ruiz, Reynaldo (1979) Assistant Professor, B.A., New Mexico Highlands University; M.A., Kent State University; Ph.D., University of New Mexico

Schaub, Raymond E. (1969) Associate Professor, B.A., Ph.D., Rice University

Voght, Geoffrey M. (1971) Assistant Professor, B.A., Florida Presbyterian College; M.A., Ph.D., University of Michigan

GEOGRAPHY AND GEOLOGY

Buckholts, Paul O. (1961) Professor, B.A., M.A., Oklahoma University; Ph.D., Harvard University

Hall, E. Lorene (1960) Associate Professor, M.S., Eastern Michigan University

Howe, George M. (1969) Professor, B.S., California Institute of Technology; M.A.; Oberlin College; Ph.D., Clark University

Jaworski, Eugene (1971) Associate Professor, B.S., University of Wisconsin; Ph.D., Louisiana State University

Kureth, Elwood J.C. (1968) Professor, Department Head, B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

MacMahan, Horace A. (1969) Professor, B.A., University of Maine; M.S., University of Utah; Ed.D., University of Colorado

Mancell, Robert B. (1969) Associate Professor, B.A., M.A., Ph.D., University of Michigan

McDonald, James R. (1965) Professor, B.A., Antioch College; M.A., Ph.D., University of Illinois

McLemore, Margaret S. (1970) Associate Professor, B.A., University of California at Los Angeles; M.A., San Francisco State University; Ph.D., University of California at Berkeley

Nazzaro, Andrew A. (1969) Associate Professor, B.A., Jacksonville University; M.S., Florida State University; Ph.D., Michigan State University

Ogden, Lawrence (1963) Professor, B.S.Ed., Northwest Missouri State College; B. Geol., University of Tulsa; M.S., University of Wisconsin; D.Sc., Colorado School of Mines

Ojala, Carl F. (1970) Associate Professor, B.A., Kent State University; M.A., Ph.D., University of Georgia
Banks, Gary C. (1969) Associate Professor, B.S., University of Detroit; M.S., University of Wisconsin; Sp.A., Eastern Michigan University; J.D., Detroit College of Law

Bell, Mary I. (1949) Associate Professor, B.S., Eastern Michigan University; Ph.D., University of Michigan

Cavanaugh, Patrick L. (1968) Professor, Department Head, B.A., Oberlin College; M.S.; Ph.D., University of Michigan

Green, Mary A. (1961) Associate Professor, (Acting) Associate Dean, College of Education, B.S., Eastern Michigan University; A.M., University of Michigan; Ph.D., Michigan State University

Johnson, Marvin J. (1963) Professor, B.S., University of Michigan; B.S., P.E., McGill University; M.A., Ph.D., University of Michigan

Menzi, Elizabeth A. (1964) Professor, B.A., Oberlin College; M.A., Bowling Green State University; Ph.D., University of Michigan

Pedersen, Erik J. (1968) Professor, B.S., M.S., Eastern Illinois University; P.E.D., Indiana University

Sheard, John E. (1963) Professor, B.S., M.S.Ed., Miami University; P.E.D., Indiana University

Steig, Peggy A. (1956) Professor, B.S., Miami University; M.A., Ph.D., Ohio State University

Trosko, Fred (1952) Associate Professor, B.S., A.M., University of Michigan

Williams, Roger L. (1968) Professor, B.S., Miami University; M.S., University of Missouri; Ed.D.; University of Missouri

Willoughby, Robert J. (1956) Professor, B.S., M.A., University of Michigan

Witten, Charles X. (1969) Professor, B.S., M.A., University of Maryland; Ph.D., Ohio State University

Yeakle, Myrna A. (1965) Associate Professor, B.A., Ohio State University; M.S.P.H., University of California; Ph.D., Ohio State University

Briggs, W. Donald (1965) Associate Professor, B.A., University of California; M.A., Sacramento State College; Ph.D., University of Michigan

Cassar, George H. (1968) Professor, B.A., M.A., University of New Brunswick; Ph.D., McGill University

Drummond, Donald F. (1938) Professor, Dean, College of Arts and Sciences, B.A., Western Michigan University; M.A., Ph.D., University of Michigan

Fenz, Emanuel G. (1969) Associate Professor, B.A., Walla Walla College; M.A., Andrews University; Ph.D., University of Colorado

Flusche, Della M. (1968) Professor, B.A., North Texas State University; M.A., Marquette University; Ph.D., Loyola University

Gimelli, Louis B. (1966) Professor, B.S., Ph.D., State University of New York; M.A., Ph.D., New York University

Goff, Richard D. (1964) Professor, B.A., Duke University; M.A., Cornell University; Ph.D., Duke University

Hafer, Daryl M. (1969) Associate Professor, B.A., Smith College; M.A., Ph.D., Yale University

Homel, Michael W. (1970) Associate Professor, B.A., Grinnell College; M.A., Ph.D., University of Chicago

King, H. Roger (1967) Professor, B.A., Bates College; M.A., University of Connecticut; Ph.D., Vanderbilt University

May, George S. (1965) Professor, B.A., M.A., Ph.D., University of Michigan

McLarty, R. Neil (1958) Professor, B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

Moss, Walter (1970) Professor, B.S., Xavier University; Ph.D., Georgetown University

Scherer, Lester B. (1969) Professor, B.A., Harvard University; B.D., Garrett Theological Seminary; Ph.D., Northwestern University

Terry, Janice J. (1968) Professor, B.A., College of Wooster; M.A., American University, Beirut; Ph.D., University of London

Upshur, Jiu Hwa (1971) Associate Professor, B.A., University of Sydney, Australia; M.A., Ph.D., University of Michigan

Waltz, James C. (1968) Professor, B.A., Michigan State University; B.D., Evangelical Theological Seminary; M.A., Ph.D., Michigan State University
Wheatley, Ira M. (1966) Professor, Department Head, B.A., University of the Pacific; M.Th., Drew Theological Seminary; Ph.D., University of Iowa
Wittke, Reinhard (1936) Professor, B.A., M.A., Ph.D., University of Michigan

HOME ECONOMICS

Bornemeier, Betty L. (1966) Professor, B.S., M.A., Ph.D., Texas Woman's University
DelCampo, Robert (1975) Associate Professor, B.S., State University of New York at Cortland; M.S., Virginia Polytechnic Institute & State University; Ph.D., Florida State University

Kieft, Lewis D. (1970) Associate Professor, B.A., University of Toronto; M.S., Ph.D., University of Wisconsin
Kreiger, Mary L. (1964) Associate Professor, B.S., Central Michigan University; M.S., Eastern Michigan University; Ph.D., University of Michigan
Law, Duane M. (1971) Professor, B.A., M.A., Brigham Young University; Ed.D., Columbia University
Leinbach, Richard B. (1972) Assistant Professor, B.S., Kutztown State College; M.Ed., Ed.D., Pennsylvania State University
Meis, Ruby L. (1964) Professor, B.S., Central Michigan University; M.A., University of Michigan; Ed.D., Pennsylvania State University
Sands, Billie Lou (1974) Professor, Department Head, B.S., Northern Michigan University; M.A., Ph.D., Michigan State University

INDUSTRIAL EDUCATION

Jennings, Gerald L. (1963) Professor, B.S., M.A., Ball State University; Ph.D., Michigan State University
Kieft, Lewis D. (1971) Associate Professor, B.S., M.A., Eastern Michigan University; Ph.D., Ohio State University
Kuwik, Paul (1970) Professor, B.S., M.S., State University of New York at Buffalo; Ph.D., Ohio State University
Larsen, Delmar L. (1964) Professor, B.A., Iowa State Teachers College; M.A., Ball State University; Ph.D., Ohio State University

McDole, Thomas L. (1980) Assistant Professor, B.S., M.S., University of Michigan; Ph.D., Michigan State University

PaDelford, Harold E. (1970) Associate Professor, B.S., Mankato State College; M.A., Ph.D., University of Minnesota
Rokusek, H. James (1964) Professor, Department Head, B.S., M.S., Stout State University; Ph.D., University of Maryland
Wilson, Herbert H. (1966) Associate Professor, B.S., Kent State University; M.A., West Virginia University

INDUSTRIAL TECHNOLOGY

Baird, Ronald J. (1966) Professor, B.S., Bowling Green State University; M.Ed., University of Missouri; Ed.D., Michigan State University
Griess, Jerald A. (1967) Professor, B.A., Wesleyan University, Nebraska; M.S., Oklahoma State University; Ed.D., Pennsylvania State University
Kicklighter, Clois E. (1966) Professor, B.S.E., University of Florida; M.S., Indiana State University; Ed.D., University of Maryland
Minton, Gene D. (1968) Associate Professor, B.A., M.A., Ball State University; Ed.D., University of Maryland
Weeks, John A. (1968), Associate Professor, (Acting) Department Head, B.S., M.S., Bradley University; Ph.D., University of Michigan
Wescott, John T. (1951) Associate Professor, B.S., Eastern Michigan University; M.A., Wayne State University

MANAGEMENT

Barkley, Nancy S. (1979) Assistant Professor, B.A., University of Michigan; M.A., University of Portland; Ph.D., Wayne State University
Brown, Leland (1964) Professor, B.A., M.A., Indiana State University
Camp, Richard L. (1978) Assistant Professor, B.S., M.A., Wayne State University
Cantrell, Douglas D. (1965) Assistant Professor, B.S., University of North Carolina; B.D., M.A., Emory University; Ph.D., University of Michigan

Conley, James H. (1969) Professor, B.A., Otterbein College; B.D., United Theological Seminary; Ph.D., Michigan State University
Crowne, Robert P. (1975) Associate Professor, B.S.M.E., Purdue University; M.S., Butler University
Danak, Jagdish (1969) Associate Professor, B.S., University of Bombay; B.B.A., Lamar State College of Technology; M.B.A., Texas State University; Ph.D., University of Oklahoma
Hoitalsh, Charles F. (1971) Associate Professor, B.S., Harvard College; M.B.A., Cornell School of Business and Public Administration; Ph.D., Michigan State University
Hubaczo, Gregory E. (1978) Assistant Professor, B.S., M.A., Ph.D., Michigan State University
McCoy, Robert C. (1972) Professor, (Acting) Associate Dean, College of Business, A.B., Albion College; M.A., Ph.D., Wayne State University
Patrick, Floyd A. (1970) Professor, Department Head, B.S., University of Wisconsin; M.A., Ph.D., University of Iowa

MARKETING

Braden, Joseph L. (1970) Associate Professor, B.S.C.E., Purdue University; B.A., M.A., Ph.D., Michigan State University
Kerby, Joe Kent (1980) Professor, Dean, College of Business, B.S., Brigham Young University; M.B.A., Northwestern University; Ph.D., Columbia University
Kurtz, David L. (1967) Professor, B.A., Davis and Elkins College; M.B.A., Ph.D., University of Arkansas
Ludlow, Robert R. (1979) Assistant Professor, B.S., Purdue University; M.B.A., Indiana University; Ph.D., Purdue University
Montasser, Saadia (1979) Associate Professor, B.Com., Cairo University; M.B.A., University of Michigan; Ph.D., University of Illinois
Neuhaus, Colin F. (1969) Professor, B.A., Gettysburg College; M.B.A., Ph.D., University of Michigan
Spitz, A. Edward (1970) Professor, B.B.A., City College of New York; M.S., Columbia University; Ph.D., University of Kentucky
Williams, Robert J. (1966) Professor, \textit{Department Head, B.S., M.S., Ph.D.}, Cornell University

\textbf{MATHEMATICS}

Badii, Larry L. (1965) Professor, B.A., M.A., San Jose State College; Ph.D., Oregon State University


Dempster, Andrew C. (1966) Associate Professor, B.S., M.S., Ph.D., University of Michigan

Ginther, John L. (1965) Professor, B.Ed., University of Toledo; Ed.M., Ph.D., University of Illinois

Goosey, Bob L. (1959) Associate Professor, B.S., Montana State University; M.A., Pennsylvania State University; Ph.D., University of Michigan

Hee, Christopher E. (1969) Assistant Professor, B.Ch.E., University of Notre Dame

Heeen, Alan (1967) Associate Professor, B.A., University of Notre Dame; M.A., Ph.D., University of Michigan

Hoff, Hartmut (1970) Associate Professor, B.A., University of Munster (Germany); M.A., University of Bonn (Germany); Ph.D., University of Houston

Howard, Paul E. (1970) Associate Professor, B.A., University of Missouri; Ph.D., University of Michigan

Johnson, David C. (1973) Assistant Professor, B.S., Eastern Nazarene College; Ed.M., Ed.D., University of Georgia

Koo, Delia Z. F. (1965) Professor, B.A., Saint John's University; M.A., Michigan State University; M.A., Ph.D., Radcliffe College

Lauckner, Kurt F. (1963) Professor, B.S.E., M.S., Ph.D., University of Michigan

Macdonald, Alan L. (1970) Associate Professor, B.S., Wayne State University; M.S., Ph.D., University of Michigan


Northey, James H. (1957) Professor, Department Head, B.S., Northern Michigan University; M.S., Ph.D., University of Michigan

Raieg, Mohammad (1970) Assistant Professor, B.A., Government College of Rawalpindi; M.S., University of Peshawar; Ph.D., Wayne State University

Rankin, Joanne S. (1963) Associate Professor, B.A., M.A., Eastern Michigan University; Ph.D., University of Michigan

Remmers, John H. (1968) Associate Professor, B.A., Harvard University; M.A., Ph.D., University of Michigan

Sanchez, Pedro P. (1972) Associate Professor, B.A., M.A., University of Florida; Ph.D., University of Michigan

Suryanarayana, Manda (1969) Professor, B.S., P.R., Government College; M.S., University of Poona; M.S., Ph.D., University of Michigan

Tse, Ench. C. (1967) Associate Professor, B.S., Hong Kong Baptist College; M.A., Wayne State University; Ph.D., University of Michigan

Ullman, Nelly S. (1963) Professor, B.A., Hunter College; M.A., Columbia University; Ph.D., University of Michigan

Walter, James R. (1964) Assistant Professor, B.A., Otterbein College; M.A., University of Michigan; Ph.D., Wayne State University

\textbf{MUSIC}

Abramson, Armand R. (1967) Professor, B.Mus., University of Louisville; M.Mus., Eastman School of Music

Amos, Charles N. (1975) Assistant Professor, B.A. Morehead State College; M.A., Ohio State University; Ph.D., University of Iowa

Ballard, O. Blaine (1960) Associate Professor, B.S., M.Ed., Mansfield State Teachers College; M.Mus., Indiana University


Egger, Carter (1967) Professor, B.A., State University of South Dakota; M.S., Ithaca College

Gurt, Joseph (1967) Professor, B.S., M.S., Juilliard School of Music

Harley, Rachel A. (1969) Associate Professor, B.Mus., M.A., University of North Carolina; Ph.D., University of Michigan

Hause, James B. (1971) Professor, Department Head, B.Mus., M.Mus., Ed.D., University of Michigan

Henry, Oscar M. (1968) Professor, B.A., Fisk University; M.A., Harvard University; Ph.D., Ohio State University

Hill, Rodney L. (1969) Associate Professor, B.M., University of Kentucky; M.M., University of Cincinnati; D.M.A., University of Michigan

Howe, Marvin C. (1966) Professor, B.Mus., Oberlin College; M.S., Ithaca College; M.F.A., Ph.D., University of Iowa

Iannaccone, Anthony J. (1971) Associate Professor, B.Mus., M.Mus., Manhattan School of Music; Ph.D., University of Rochester

Kalib, Sylvan S. (1969) Associate Professor, B.Mus., M.Mus., DePaul University; Ph.D., Northwestern University

Laney, Maurice I. (1968) Professor, B.A., Albion College; M.Mus., Eastman School of Music; Ph.D., Indiana University

Lowe, Emily Boyd (1961) Associate Professor, A.B., Duke University

Mehta, Dady N. (1968) Professor, Reisingerprüfung (D.M.A. Curriculum), State Academy of Music, Vienna

Parris, Arthur (1970) Professor, B.S., Juilliard School of Music; M.A., Ph.D., Bryn Mawr College

Pignotti, Alfio V. (1969) Professor, B.Mus., Eastman School of Music; M.Mus., Manhattan School of Music

Plank, Max E. (1968) Professor, B.Mus.Ed., M.Mus., Kansas State Teachers College; D.M.A., University of Michigan

Szabo, Edward J. (1968) Professor, B.Mus., Cincinnati Conservatory of Music; B.S., M.S., Juilliard School of Music; M.A., Ed.D., Columbia University

Teal, Mary D. (1968) Professor, B.S., Northwestern State College; M.Mus., Ph.D., University of Michigan

Yost, Mary Ida (1968) Associate Professor, B.Mus., University of North Carolina; M.Mus., Ph.D., University of Michigan

\textbf{OPERATIONS RESEARCH AND INFORMATION SYSTEMS}

Antochia, Sergio (1968) Associate Professor, B.S., State University, Rome, Italy; M.B.A. Wayne State University
Gledhill, Roger C. (1976) Associate Professor, B.S., Miami University; M.A., University of Massachusetts; M.S., Ph.D., Virginia Polytechnic Institute and State University

Khailany, Asad (1972) Associate Professor, B.S., Baghdad University; M.S., St. Louis University; M.S., D.Sc., Washington University


Sokkar, Fat-Hi F. (1971) Professor, B.Com., Cairo University; M.B.A., Eastern Michigan University; Ph.D., University of Illinois

Vander Molen, Andrew M. (1977) Assistant Professor, B.S., M.S., Ph.D., University of Michigan

Wu, Nesa L-J (1974) Professor, B.S., University of Louvain, Belgium; M.S., Ph.D., Purdue University

Young, Kenneth C. (1974) Associate Professor, B.A., Caron-Newman College; M.B.A., Harvard Business School; M.S., Ph.D., Purdue University

PHYSICS AND ASTRONOMY

Barnes, James M. (1955) Professor, B.S., Eastern Michigan University; M.S., Ph.D., Michigan State University

Gessert, Walter L. (1961) Professor, B.S., Eastern Michigan University; M.S., Wayne State University; Ph.D., Michigan State University

Johnson, Fred T. (1967) Professor, B.A., Ph.D., Johns Hopkins University

Loeber, Adolph P. (1964) Professor, B.S., M.A., Wayne State University; Ph.D., Michigan State University

Porter, James G. (1967) Associate Professor, B.S., Ph.D., Purdue University

Roth, Richard F. (1969) Associate Professor, B.S., Rockhurst College; M.A., Ph.D., Princeton University

Silver, Robert (1966) Professor, Department Head, B.S., Wayne State University; Ph.D., University of California

Trochet, P. Daniel (1968) Assistant Professor, B.S., M.S., Eastern Michigan University; Ph.D., University of Michigan

Wooley, Jon K. (1967) Associate Professor, B.S., University of Michigan; M.A., Swarthmore College; M.S., Ph.D., University of Michigan

POLITICAL SCIENCE

Bender, Lewis G. (1977) Assistant Professor, B.S., Grand Valley State College; M.A., Wayne State University; Ph.D., University of Georgia

Breuer, Thomas L. (1969) Professor, B.A., Wabash College; M.A., Yale University; Ph.D., SUNY at Buffalo

Hortin, David W. (1968) Associate Professor, B.A., Southern Illinois University; J.D., University of Michigan

Hourani, Benjamin T. (1968) Professor, B.A., M.A., American University, Beirut; Ph.D., Michigan State University

Lindenberg, Karen E. (1968) Associate Professor, B.S., Ph.D., University of Oregon

Magee, James S. (1972) Professor, B.A., Hamilton College; M.A., Ph.D., Princeton University

Monsma, Charles M. (1970) Associate Professor, A.B., Calvin College; M.P.A., Ph.D., University of Michigan


Racz, Barnabas A. (1968) Professor, J.D., University of Budapest; M.A., Ph.D., University of Michigan

Sabaliunas, Leonas (1968) Professor, Department Head, A.B., University of Illinois; M.A., Ph.D., Columbia University

Sabki, M. Hisham (1969) Professor, B.S., M.A., Ph.D., Indiana University

PSYCHOLOGY

Anderson, Robert L. (1957) Professor, B.A., Northern Michigan University; M.A., Columbia University; Ph.D., New York University

Brackney, Barbara (1975) Associate Professor, A.B., University of California; Ph.D., University of Michigan

Carter, Francis M. (1967) Professor, B.A., Ph.D., Washington University

Dansky, Jeffrey (1976) Associate Professor, B.A., Temple University; M.A., Ph.D., Bowling Green State University

Delprete, Dennis J. (1969) Professor, B.A., Washington and Jefferson College; M.S., Ohio University; Ph.D., Michigan State University

Fish, Barry A. (1970) Professor, Department Head, B.A., University of Michigan; M.S., Ph.D., Wayne State University

Friedman, Monroe P. (1964) Professor, B.S., Brooklyn College; Ph.D., University of Tennessee

Gordon, Norman G. (1975) Assistant Professor, B.A., M.A., Ph.D., Wayne State University

Holmes, Peter A. (1968) Professor, B.A., Franklin and Marshall College; M.A., Bryn Mawr College; Ph.D., University of Delaware

Jackson, Donald E. (1967) Professor, B.A., M.A., Ph.D., University of Alabama

Jamison, Wesley (1975) Assistant Professor, B.A., Allegheny College; M.S., Ph.D., Pennsylvania State University

Karabenick, Stuart A. (1966) Professor, B.A., Ph.D., University of Michigan

Karson, Samuel (1966) Professor, B.S., Long Island University; Ph.D., Washington University (St. Louis)

Knapp, John R. (1971) Associate Professor, B.A., Hope College; M.A., Ph.D., University of Denver

Meisels, Murray (1965) Professor, B.A., Brooklyn University; Ph.D., State University of New York at Buffalo

O'Dell, Jerry W. (1966) Professor, B.A., University of Cincinnati; Ph.D., University of Michigan
Roff, James (1976) Associate Professor, B.A., Ph.D., University of Minnesota

Schooler, Douglas (1976) Assistant Professor, B.A. Queens College, C.U.N.Y.; M.S., Herbert H. Lehman, C.U.N.Y.; Ph.D., University of Rhode Island

Westman, Alida S. (1972) Associate Professor, B.S., M.S., Washington State University; Ph.D., Cornell University

Youssef, Zakhour I. (1965) Professor, B.A., M.A., Ph.D., Wayne State University

SOCIOLOGY

Easto, Patrick C. (1970) Associate Professor, B.S., Eastern Michigan University; M.A., Wayne State University; Ph.D., Syracuse University

Ehrlich, Allen S. (1968) Professor, B.A., University of Cincinnati; M.A., University of Minnesota; Ph.D., University of Michigan


Fauman, S. Joseph (1958) Professor, B.A., M.A., Ph.D., University of Michigan

Finkler, Kaja (1972) Associate Professor, B.A., Brooklyn College; M.A., Hunter College; Ph.D., City University of New York

Green, Edward (1963) Professor, B.A., M.A., Ph.D., University of Pennsylvania

Kersten, Lawrence K. (1966) Associate Professor, B.Arch. M.C.P., University of Michigan; Ph.D., Wayne State University

Moss, Gordon E. (1971) Associate Professor, B.S., Brigham Young University; M.A., Rutgers University; Ph.D., State University of New York at Buffalo

Richmond-Abbott, Marie L. (1973) Associate Professor, B.A., Duke University; M.A., University of Miami; Ph.D., Florida State University


Stupple, David W. (1969) Associate Professor, B.A., Lake Forest College; M.A., Ph.D., University of Missouri

Thalhofer, Nancy N. (1969) Assistant Professor, B.A., Lawrence College; M.A., Ph.D., University of Michigan

Truzzi, Marcello (1974) Professor, Department Head, B.A., Florida State University; M.A., University of Florida; Ph.D., Cornell University

Warren, Bruce L. (1969) Professor, B.A., Alma College; M.A., Ph.D., University of Michigan

Warren, Patricia Ryan (1966) Professor, B.A., Wayne State University; M.A., Ph.D., University of Michigan

Wasserman, Ira M. (1969) Associate Professor, B.S., Penn State University; M.S., University of Minnesota; M.A., New School for Social Research; Ph.D., University of Michigan

Westrum, Ronald M. (1972) Associate Professor, B.A., Harvard University; M.A., Ph.D., University of Chicago

SPECIAL EDUCATION

Albritton, Thelma (1961) Associate Professor, B.A., Greensboro College; M.Ed., University of Oregon

Angelocci, Angelo A. (1965) Professor, B.S., Eastern Michigan University; M.A., University of Michigan; Ph.D., Wayne State University

Barach, George (1969) Associate Professor, B.S., Wayne State University; M.Ed., Boston College; Ph.D., Wayne State University

Beebe, Michael (1976) Associate Professor, B.S., Eastern Michigan University; M.A., University of Michigan

Cohn, Joseph (1969) Associate Professor, B.S., Sp.A., Eastern Michigan University

Fulton, C. Wayne (1956) Professor, B.A., Grinnell College; M.A., Ph.D., Western Reserve University

Garber, Carl E. (1967) Associate Professor, B.S., Manchester College; M.A., University of Michigan; Ph.D., Ohio State University

Geffen, Lawrence (1968) Associate Professor, B.Ed., Fredonia State Teachers College; M.A., New York University; Ph.D., George-Peabody College

Gonzalez, Joseph (1973) Associate Professor, B.S., M.A., University of Florida; Ph.D., Florida State University

Gottwald, Henry L. (1964) Professor, B.S., Eastern Michigan University; M.A., University of Michigan; Ph.D., Wayne State University

Lake, Marylyn E. (1967) Associate Professor, B.S., M.A., Eastern Michigan University; Ph.D. University of Michigan

Martin, Nora (1967) Professor, B.S., M.S., Eastern Michigan University; Ph.D., University of Michigan

McClenen, Sandra E. (1971) Associate Professor, B.S., M.A., Ph.D., University of Michigan

Moses, Gerald (1969) Associate Professor, B.S., Loyola University; M.A., Western Michigan University; Ph.D., Ohio State University

Navarre, Gary (1970) Professor, B.S., Eastern Michigan University; M.S., University of Oregon; Ed.D., Wayne State University

Nies, Norman J. (1977) Professor, Department Head, B.S., Wisconsin State College; M.A., Teacher's College, Columbia University; Ed.D., University of Northern Colorado

Palasek, James (1960) Professor, B.A., Western Michigan University; M.S., Purdue University; Ph.D., Syracuse University

Palmer, David E. (1952) Associate Professor, B.A., M. A., University of Michigan

Rice, Dale L. (1967) Professor, B.A., M.S.W., Ph.D., University of Michigan

Skore, Marvin L. (1968) Associate Professor, B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D., Wayne State University

Ufford, Mary S. (1972) Associate Professor, B.A., Marygrove College; M.A., Ph.D., Wayne State University

VanVoorhees, F. Elizabeth (1979) Assistant Professor, B.S., Wheaton College; M.A., Ball State University; Ph.D., University of Michigan

Wawraszek, Frank (1957) Professor, B.A., State University of New York; Ed.M., Boston University

SPEECH AND DRAMATIC ARTS

Aldridge, Henry B. (1972) Associate Professor, B.A., M.A., University of North Carolina; Ph.D., University of Michigan

Beagen, Dennis (1969) Associate Professor, B.S., Eastern Michigan University; M.A., University of Michigan

Bird, P. George (1955) Professor, B.S., M.S., University of Wisconsin

Bowen, Harry W. (1967) Professor, B.A., Westminster College; M.A., Ohio State University; Ph.D., University of Pittsburgh
Morgan, Willie B. (1968) Associate Professor, B.A., University of Richmond; M.A., University of Virginia

Murray, Thomas J. (1963) Professor, Department Head, B.A., M.A., Ph.D., University of Michigan

Swisher, William V. (1965) Associate Professor, B.A., M.A., University of Michigan

Yahrmatter, Arthur J. (1968) Associate Professor, B.S., M.A., Wayne State University; Ph.D., University of Michigan

Zellers, Parker R. (1964) Professor, B.A., Emerson College; M.A., Indiana University; Ph.D., University of Iowa

TEACHER EDUCATION
(Formerly Curriculum and Instruction and Social Foundations)

Adams, Leah (1969) Professor, (Acting) Department Head, B.S., Ohio State University; M.A., Wayne State University; Ph.D., University of Michigan

Allen, Irene A. (1968) Professor, B.S., Johnson Teachers College; M.A., Ed.D., Ball State University

Bajwa, Ranjit S. (1963) Professor, Acting Director, Office of International Studies B.A., B.T., Punjab University; Ed.D., Wayne State University

Belt, Gordon A. (1968) Associate Professor, B.S., Central Michigan University; M.A., Michigan State University; Ed.D., Wayne State University

Bigler, Mary G. (1977) Assistant Professor, B.A., Aquinas College; M.A., Eastern Michigan University; Ph.D., University of Missouri

Corbacho, Henry F. (1973) Associate Professor, B.A., M.A., University of Denver; M.S., Indiana University; Ed.D., Wayne State University


Garfield, Juanita M. (1968) Professor, B.A., M.A., Marshall University; Ed.D., University of Missouri

Goldsmith, William E. (1962) Assistant Professor, B.A., M.A., Michigan State University; Ed.D., Wayne State University

Greene, Bert L. (1963) Professor, B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Gwaltney, Thomas M. (1964) Professor, B.S., Southeast Missouri State College; M.S., Ph.D., Southern Illinois University

Irwin, Martha E. (1964) Professor, B.A., M.Ed., Bowling Green State University; Ed.D., Western Reserve University

Jones, Hebert M. (1964) Associate Professor, B.S., M.A., Ball State University; Ed.D., Indiana University

Krebs, Robert E. (1968) Professor, B.S., Kent State University; M.A., Western Reserve University; Ed.D., Columbia University

Levine-Hanes, Madelyn (1977) Assistant Professor, B.A., M.A., Ph.D., University of Florida

Michael, Calvin B. (1956) Professor, B.A., Albion College; M.A., Ph.D., University of Michigan

Monahan, Thomas (1953) Professor, B.S., Willamantic State Teachers College; M.A., University of Connecticut; Ed.D., Columbia University

Moore, N. Samuel (1965) Associate Professor, B.A., Central Michigan University; M.A., University of Michigan; Ed.D., Wayne State University

Neeb, Leon (1966) Associate Professor, B.S., Huntington College; M.Ed., Bowling Green State University; Ed.D., Michigan State University

Padilla, Raymond V. (1977) Assistant Professor, Director, Bilingual-Bicultural Education, B.A., University of Michigan; M.A., Ph.D., University of California, Berkeley


Robinson, Robert S. (1959) Associate Professor, B.A., M.A., Ph.D., University of Michigan

Samonte, Quirico S. (1963) Professor, B.A., M.A., University of the Philippines; M.A., Ph.D., University of Michigan

Street, Scott (1961) Professor, B.S., Bowling Green State University; M.A., Ed.D., Wayne State University


Compton, Gail (1969) Professor, B.A., University of Evansville; M.S., Ph.D., University of Wisconsin

Evans, Gary (1964) Associate Professor, B.A., Wayne State University; M.A., Ph.D., University of Michigan

Gousseff, James W. (1963) Professor, B.S., Iowa State College of Agriculture and Mechanic Arts; M.A., Cornell University; M.F.A., Yale University; Ph.D., Northwestern University

Holkeboer, Katherine (1973) Associate Professor, B.S.D., University of Michigan; M.F.A., Ohio University

Koste, Virginia G. (1962) Professor, B.A., Vassar College; M.A., Wayne State University

Martin, Annette (1963) Professor, B.S., Eastern Michigan University; M.S., University of Wisconsin; Ph.D., University of Michigan

McLoud, George E. (1970) Associate Professor, B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

McCracken, Sally R. (1968) Professor, B.A., Muskingum College; M.A., Bowling Green State University; Ph.D., Wayne State University

McDaniel, Thelma L. (1964) Professor, B.F.A., University of Iowa; M.A., Eastern Michigan University

McElvey, Mitchell R. (1967) Professor, B.S., M.F.A., University of Wisconsin

McCracken, Sally R. (1968) Professor, B.A., University of Richmond; M.A., University of Virginia
Westerman, W. Scott, Jr. (1971) Professor, Acting Dean, College of Education, B.S., Northwestern University; M.A., Ph.D., University of Michigan

Zambito, Stephen (1963) Professor, B.F.A., Cooper Union; B.S., M.A., Eastern Michigan University; Ph.D., University of Michigan
INDEX

Abbreviations, List of Catalog 5
Academic Load 14
Academic Load, Decrease in 27
Academic Probation and Dismissal 15
Account Adjustments and Refunds 27
Accounting (concentration) 103
Accounting (M.S.) 104
Accounting and Finance Department 109
Accreditation 7
Administration and Supervision (concentration) 137
Administrative Services and Business Education Department 111
Admission of International Students 11
Admission Procedures 11
Admission Requirements 10
Administrative Officers 7
Adviser’s Signatures 14
Advising 13
Advising, Certification 13
Advising by Program Area, Coordinators of 13
Alumni Association 165
Alumni Relations, Office for 165
Application for Graduation 12
Assistantships 22
Auditing Courses 15
Auditing Fees 26
Biology, Aquatic (concentration) 34
Biology Department 33
Biology (concentration) 34
Biology (M.S.) 33
Board of Regents 7
Buildings, Major 19
Business Administration (M.B.A.) 103
Business Education (M.B.E.) 107
Business Education Fees 28
Business, Graduate Programs in 102
Calendar, University 7
Cancellation of Registration 27
Career Planning and Placement Center 23
Center of Educational Resources 24
Certificate of Advanced Studies in Curriculum and Instruction 10, 144
Certificate, Historic Preservation 61
Certificate, Provisional 16
Certificate, Social Work 159
Certification 11, 16
Certification in Special Fields 17
Chemistry Department 41
Chemistry (M.S.) 41
Chemistry Education (M.S.) 43
Child Care Center, E.M.U. 24
Children and Families, Institute for the Study of 166
Children’s Literature (concentration) 53
Children with Special Needs (concentration) 144
Choral Conducting (concentration) 75
Civil Rights Policy 21
Clinical Psychology (concentration) 88
Closed Circuit Television 167
Clothing and Textiles (concentration) 154
Cognate Requirements 12
College and Community Personnel (concentration) 129
College Work-Study (CWS) 23
Communication and Public Address (concentration) 96
Community College Biology Teaching (concentration) 34
Community and Regional Development, Institute for 166
Computer-Based Information Systems (concentration) 103
Computer-Based Information Systems (M.S.I.S.) 108
Computer Systems (concentration) 106
Computing Services, University 24
Construction (concentration) 163
Consumer Affairs (concentration) 154
Continuing Certificate 17
Coordinators of Advising by Program Area 13
Correspondence, Directions for 3
Course Fees, Other 28
Course Numbering System 16
Credit/No Credit Grades 15
Credit Requirements 12
Credit, Use of 17
Criminology and Criminal Justice (M.A.) 92
Curriculum Development (concentration) 137
Curriculum and Instruction Department (See Teacher Education Department)
Department Heads 8
Development and Personality (concentration) 124
Division of Continuing Education 22
Drama for the Young (concentration) 96
Dramatic Arts (concentration) 96
Early Childhood Education (M.A.) 144
Economics Department 46
Economics (M.A.) 46
Educational Leadership Department 119
Educational Leadership (M.A.) 119
Educational Leadership (S.P.A.) 120
Educational Media (concentration) 144
Educational Psychology Department 124
Educational Psychology (M.A.) 124
Elementary Education (M.A.) 144
Emotionally Impaired (concentration) 137
Endorsement, Middle School 17
Endorsement, Reading 144
Endorsement, ZA 144
English (M.A.) 50
English Language Institute (ELI) 11, 102
English Language and Literature Department 50
English Language, Linguistics and Composition (concentration) 52
Environmental Center, Kresge 21
Environmental Studies (concentration) 60
Executive Officers 7
Faculty, Graduate 168
Family and Child Development (concentration) 154
Family and Children’s Services Specialty 159
Family Educational Rights and Privacy Act 21
Fields and Outdoors Facilities 21
Field Laboratory, Clarence M. Loesell 21
Finance (concentration) 103
Financial Assistance 22
Financial Obligations 26
Fine Arts Fees 28
Food Services, University Housing/ 22
Foods and Nutrition (concentration) 154
Foreign Language and Bilingual Studies Department 55
General Business Concentration 103
General Psychology (concentration) 87
General Science (M.S.) 79
Geography Department 60
Geography (M.A., M.S.) 60
Government of the University 7
Grade Point Average Requirement for Graduation 12
Grading System 15
Graduate Management Admission Test (GMAT) 102, 103, 104, 105, 107
Graduate Record Examination (GRE) 46, 60, 61, 87, 92, 137
Graduation, Application for 12
Graduation Fee 27
Graduation Requirements 12
Guest Student 11
Guidance, Counseling and Personnel
   Work Department 128
Guidance and Counseling (MA.) 128
Guidance and Counseling (S.P.A.) 129
Health, Physical Education, Recreation
   and Dance Department 133
Health, Physical Education, Recreation
   and Dance Fees 28
Health Service Fees 27
Hearing Impaired (concentration) 137
Historic Administration
   (concentration) 61
Historic Preservation, Certificate in 11, 62
Historic Preservation (M.S.) 61
Historic Preservation Planning
   (concentration) 61
History (M.A.) 67
History and Philosophy Department 67
Home Economics Department 154
Housing/Food Services, University 22
Housing, Interiors and Equipment
   (concentration) 154
Incomplete Grade 15
Independent Study 18
Individualized Studies 10
Industrial Arts Education
   (concentration) 160
Industrial Education Department 160
Industrial Education (M.A.) 160
Industrial Technology Department 163
Industrial Technology (M.S.) 163
Industrial-Vocational Education
   (concentration) 161
In-Service Courses 22
Institute for Community and Regional
   Development 166
Institute for the Study of Children and
   Families 166
International Projects, Office of 166
International Students, Admission
   Requirements for 11
K-12 Curriculum (M.A.) 144
Kresge Environmental Center 21
Land Use Analysis (concentration) 60
Language Arts (concentration) 144
Language and International Trade
   (M.A.) 56
Learning Impaired (concentration) 137
Library, University 24
Literature (concentration) 50
Loesell Field Laboratory, Clarence
   M. 21
Majors and/or Minors, Additional
   Teaching 17
Man and His Works (concentration) 60
Management (concentration) 103
Management Department 113
Management Science
   (concentration) 106
Marketing (concentration) 103
Marketing Department 115
Manufacturing (concentration) 163
Master’s Degree Admission
   Requirements 10
Mathematics Department 71
Mathematics (M.A.) 71
Mentally Impaired (concentration) 137
Michigan Guaranteed Student Loans
   (GSL) 23
Michigan Intercollegiate Graduate
   Studies (MIGS) 10
Michigan State Direct Loans (SDL) 23
Middle School Education (M.A.) 144
Middle School Endorsements 17
Miller Analogies Test (MAT) 119, 124,
   128, 137
Music Department 75
Music (M.A.) 75
Music Education (concentration) 75
Music Literature (concentration) 75
Music Performance (concentration) 75
Music-Theory Literature
   (concentration) 75
National Direct Student Loans
   (NDSL) 23
Objectives, Graduate School 9
Officers, Administrative 7
Officers, Executive 7
Ohio Residents 25
Open Education (concentration) 144
Operations Research and Information
   Systems Department 116
Organization, Graduate School 9
Organizational Behavior and
   Development (M.S.O.D.) 106
Orthopedically Impaired
   (concentration) 137
Parking, Vehicle Operation and
   28
Permission to Register 14
Physical Education (M.S.) 133
Physical Geography (concentration) 60
Physics and Astronomy Department 79
Physics (M.S.) 79
Physics Education (M.S.) 79
Physiology (concentration) 34
Piano Pedagogy (concentration) 75
Political Science Department 84
Placement Bulletin 28
Placement Center, Career Planning
   and 23
Psychology Department 87
Psychology (M.S.) 87
Program Adjustment Fee 26
Programs, List of 9
 Provisional Certificate 16
Public Administration (M.P.A.) 84
Reading Endorsement 144
Reading (M.A.) 144
Refunds, Account Adjustment and 27
Regents, Board of 7
Registration Day, Official 24
Registration Fee 24
Registration Fee, Late 26
Registration Information 14
Registration in Undergraduate
   Courses 14
Renewal of a Provisional Certificate 17
Repeating Courses 15
Residence Hall Grants 22
Residence Hall Leadership Awards 23
Residence, Qualifications for
   Michigan 25
Residency Requirements 13
Research Development Office
   (ORD) 166
Research Technology
   (concentration) 124
Rights and Privacy Act, Family
   Educational 21
School Counselor Endorsement
   (concentration) 128
School Psychology (S.P.A.) 88
Second Bachelor’s 11
Secondary School Teaching
   (M.A.) 144
Seniors, Enrollment in Graduate Classes
   by 17
Social Foundations Division (See
   Teacher Education department)
Social Foundations (M.A.) 150
Social Science (M.A.) 68
Social Work Certificate 11, 159
Sociology Department 92
Sociology (M.A.) 92
Spanish (Bilingual-Bicultural Education)
   (M.A.) 55
Special Education Department 137
Special Education (M.A.) 137
Special Education (S.P.A.) 137
Special Student Status 11
Specialist’s Degree Admission
   Requirements 11
Speech and Dramatic Arts
   Department 96
Speech and Dramatic Arts (M.A.) 96
Speech and Language Impaired
   (concentration) 137
Student Employment 23
Studio Art (concentration) 29
Teacher Education Department
(Formerly Curriculum and Instruction
Department and Social Foundations
Division) 144
Television, Closed Circuit 167
TESOL (Teaching English as a Second
Language) (M.A.) 56
Test of English as a Foreign Language
(TOEFL) 11, 102, 163
Thesis 18
Time Limitations 13
Transcript Fee 28
Transfer Credit 16
Tuition and Fees 24
Tuition, Payment of 26
Tuition Reciprocity Agreement with
Ohio 25
Tuition Schedule 24
Undergraduate Classes, Registration
in 14
University, The 8
Vehicle Operation and Parking 28
Visually Impaired (concentration) 137
Veteran’s Information 23
“W” Grade 15
Withdrawal 15
Withdrawal from All Classes 15, 27
Withdrawal from Individual
Class(es) 15
Women’s Studies 24
Workshop Sessions 26
ZA Endorsement in Early Childhood
Education 144