DIRECTIONS FOR CORRESPONDENCE

Please address specific inquiries to the following offices:

Dean of Admissions and Financial Aids: 212 Pierce Hall 487-3060
Loans and grants-in-aid

Dean of Academic Records and Teacher Certification: 5 Pierce Hall 487-4111
Certification requirements and transcripts

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
Student Accounting: 408 Pray-Harrold 487-3335
University fees and financial aids

Director of Registration: Briggs Hall 487-2300
Registration of students for on-campus classes

Director of Field Services: 113 Sherzer 487-0407
Off-campus registration, in-service courses: speakers for special occasions; adult education; consultation services to schools

Director of On and Off-Campus Housing Basement-Dining Commons #1 487-1300
Center for Educational Resources (Library) 487-0020

Director of Placement: 420 W. Forest 487-0400
Teaching vacancies; registration of applicants for teaching, business and industrial positions; opportunities for earning a portion of University expenses

Foreign Student Adviser: 224 Goodison Hall 487-3116
Information and counseling

International Studies 225 Pierce Hall 487-2424

Graduate School Office Omer Robbins, Jr., Dean 116 Pierce Hall 487-0042
Clyde Le'Tarte, Associate Dean 487-0045
Neal F. Hoover, Assistant Dean 487-0048
Graduate Admissions 487-3400
Graduate Records 487-0093
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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 six-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

Fall Semester, 1973

Registration by mail .................................. June 25-July 27, 1973
Date for filing Application for Admission
for fall semester .................................. July 27, 1973
Date for Program Adjustment ....................... August 6-August 24, 1973
Last official registration date .................... August 24, 1973
Classes begin ....................................... August 27, 1973
Date for filing a Diploma Application
for December graduation ........................... August 27, 1973
Labor Day recess .................................. September 3, 1973
Date to drop a class with an automatic “W” .......... October 19, 1973
Thanksgiving recess ................................ November 21 (12:00 Noon)
                     22, 23, 24, 25, 1973
Mid-year Commencement ................................ December 9, 1973
Final examinations .................................. December 11-15, 1973
Fall semester closes ................................ December 15, 1973

Winter Semester, 1974

Date for filing Application for Admission
for winter semester ................................ December 3, 1973
Registration information ............................ Consult winter class schedule
Last official registration date .................... December 31, 1973
Classes begin ....................................... January 3, 1974
Date for filing a Diploma Application
for April graduation ................................ January 3, 1974
Date to drop a class with an automatic “W” ......... March 1, 1974
Easter recess ........................................ April 12, 13, 14, 1974
Final examinations .................................. April 16-20, 1974
Commencement ...................................... April 20, 1974
Winter semester closes ................................ April 20, 1974

Spring Session, 1974

Classes begin ...................................... April 29, 1974
Memorial Day recess ................................ May 27, 1974
Spring session closes ................................ June 19, 1974
Summer Session, 1974

Classes begin ........................................ June 24, 1974
Independence Day recess ............................ July 4, 1974
Six weeks session closes ............................ August 2, 1974
Summer session closes ............................... August 14, 1974
EASTERN MICHIGAN UNIVERSITY
Ypsilanti, Michigan 48197

ACCREDITATION

Eastern Michigan University is accredited by the North Central Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education and the American Assembly of Collegiate Schools of Business. 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 receipt of students tuition and fees.

BOARD OF REGENTS

<table>
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<td>Edward J. McCormick, Chairman and Presiding Officer</td>
<td>Monroe</td>
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<td>Virginia R. Allen</td>
<td>Wyandotte</td>
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<tr>
<td>Veda S. Anderson</td>
<td>Ann Arbor</td>
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<tr>
<td>Charles L. Anspach</td>
<td>Mt. Pleasant</td>
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<tr>
<td>Timothy J. Dyer</td>
<td>Wayne</td>
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<tr>
<td>Richard N. Robb</td>
<td>Ypsilanti</td>
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<tr>
<td>Mildred Beatty Smith</td>
<td>Flint</td>
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<tr>
<td>George E. Stripp</td>
<td>Ypsilanti</td>
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Gary D. Hawks, Secretary
Lewis E. Profit, Treasurer

EXECUTIVE OFFICERS

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<td>Harold E. Sponberg</td>
<td>President</td>
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<td>Bruce K. Nelson</td>
<td>Vice-President for Instruction</td>
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<tr>
<td>Lewis E. Profit</td>
<td>Vice-President for Business and Finance</td>
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<tr>
<td>James B. Campbell</td>
<td>Vice-President for Student Affairs</td>
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<td>Gary D. Hawks</td>
<td>Vice-President for University Relations</td>
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ADMINISTRATIVE OFFICERS

Rene E. Hauser .................. Assistant Vice-President for Business and Finance
Raymond A. LaBounty .............. Assistant Vice-President for Instruction
Omer Robbins, Jr .................. Dean, Graduate School
Donald F. Drummond ............... Dean, College of Arts and Science
Earl A. Roth .................. Dean, College of Business
Allen Myers .................. Dean, College of Education
Everett L. Marshall ............... Dean, Academic Records and Teacher Certification
Ralph F. Gilden .................. Dean, Admissions and Financial Aids
A.P. Marshall .................. Dean, Academic Services
L. Sandy MacLean ................ Deán of Students

DEPARTMENT HEADS

College of Arts and Sciences

Art .................................... Kinsley M. Calkins
Biology ................................ Bert M. Johnson
Chemistry ................................ Clark G. Spike
Economics ................................ Young-Job Chung
English Language and Literature .... Milton P. Foster
Foreign Languages and Literature .... J. Henry Owens
Geography and Geology ............... Ross N. Pearson
History and Philosophy ............... Ira M. Wheatley
Mathematics .......................... Robert S. Pate
Music .................................. James B. Hause
Physics and Astronomy ................ James M. Barnes
Political Science ..................... James S. Magee
Psychology .......................... Samuel Karson
Sociology ............................ Edward Green
Speech and Dramatic Arts ............ Thomas J. Murray

College of Business

Accounting and Finance ............... William Kimball
Business Education .................... Robert A. Ristau
General Business .................... Roger Hawkins
Management .......................... Claude I. Shell
Marketing ............................. Robert J. Williams

College of Education

Curriculum and Instruction ................ W. Scott Westerman, Jr.
Educational Leadership ................ Appointment pending
Educational Psychology ............... Wilbur A. Williams
Guidance and Counseling ............. John G. Pappas
Health, Physical Education and Recreation .... Patric L. Cavanaugh
Graduate Council Membership 9

Special Education ....................................... Frank Wawrzaszek
Divisions of:
  Educational Media
  Social Foundations

Applied Science Departments
Home Economics ............................................ Anita L. Fielder
Industrial Education ..................................... James H. Rokusek

GRADUATE COUNCIL MEMBERSHIP
1973

Omer Robbins, Jr., Dean - Chairman

Dean's Appointees
  Betty Bornemeier, Home Economics (3) *
  Donald Fox, Educational Leadership (2)
  A.P. Marshall, Dean, Academic Services (1)

Faculty Senate Representatives
  Kishor Wahi, Educational Psychology (3)
  Charles Fensch, Art (2)
  Alice Bensen, English (1)

College of Arts and Sciences Representatives
  Walter Gessert, Physics (3)
  Hoover Jordan, English (2)
  H. Roger King, History (1)
  Donald Munster (student) (1)

College of Business Representatives
  James Conley, General Business (3)
  Robert Hislop, General Business (2)
  Claude I. Shell, Management (1)
  John Boyne (student) (1)

College of Education Representatives
  Warren Williams, Educational Psychology (3)
  Patric Cavanaugh, Health, Physical Education and Recreation (2)

*Numbers in parentheses refer to the length of term in years; terms end on September 30th.
Ranjit S. Bajwa, Curriculum and Instruction (1)
David Pechenick (student) (1)

*Applied Science Departments Representatives*

Delmar Larsen, Industrial Education (3)
Lynn Vincent (student) (1)
Eastern Michigan University was founded by the State Legislature in 1849 to educate teachers for the public schools. Its major purpose was always broadly interpreted and gave special emphasis to instruction in the liberal arts, science and other areas vital to the background of well-qualified teachers.

The University's continuous emphasis of the liberal arts, social and natural sciences, business and applied science was formally recognized by legislative action in 1956 and again 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 and by the Applied Science Departments.

Graduate education was inaugurated at Eastern Michigan University in 1938 when programs were conducted in cooperation with the University of Michigan. In 1953 Eastern Michigan gained approval to offer its own graduate programs. Since that time more than 12,000 graduate degrees have been granted.

Eastern Michigan University continues to establish new graduate programs whenever a demonstrated need exists. Currently the Graduate School offers thirty-four 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. Its location in the Detroit metropolitan area 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 are only fifteen minutes away. Scenic lakes are also within easy driving distance.

The University provides all of the resources of a rapidly 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 new 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, assisted by an associate dean and an assistant dean. These administrators are charged with the responsibility for adherence to educational policies and standards and for the effective operation of the Graduate School.

The Graduate Council, with a membership of twenty-one persons, serves as a policy recommending body and engages in planning for the orderly development of graduate education.

OBJECTIVES

The Graduate School at Eastern Michigan University desires to encourage graduate education that 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 research opportunities such that the student becomes knowledgeable regarding research techniques, as well as participating actively; and that serves the unique needs of students by providing post-baccalaureate educational opportunities for individuals and groups at convenient geographic locations and providing opportunities for those of special needs.

Faculties within all colleges and departments continuously strive to meet the educational needs of graduate students. A variety of programs have been authorized and accredited, others are in the process of development while some await formal approval. 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.

DEGREE PROGRAMS

The University offers graduate work leading to several types of degrees, i.e., Master of Arts, Master of Science and Specialist in Arts. Programs leading to these degrees are administered by the departments in the respective colleges. These programs are:

I. MASTER'S DEGREE

A. College of Arts and Sciences

| Art Education | Chemistry Education |
| Biology       | Economics          |
| Chemistry     | Fine Arts (MFA)    |
French
General Science
Geography
History
Literature
Mathematics

Music
Physics
Psychology
Social Studies
Sociology
Spanish
Speech and Dramatic Arts

B. College of Business
Business Administration
Business Education

C. College of Education
Curriculum (Secondary)
Educational Administration
Educational Psychology
Elementary Education
Guidance and Counseling
Junior High School Education

Physical Education
Reading
Senior High School Education
Social Foundations
Special Education

D. Applied Science Departments
Home Economics
Industrial Education

II. SPECIALIST’S DEGREE
Educational Administration
Guidance and Counseling
School Psychology
Special Education

ADMISSION

Prior to taking graduate classes one must be admitted to the Graduate School. These policies govern this process.

GENERAL REQUIREMENTS

Admission to the Graduate School of Eastern Michigan University is open to anyone who:

holds a bachelor’s degree from an accredited college or university;
indicates promise of success in graduate study.

It may be necessary for an applicant for degree admission to meet additional requirements established by departments offering graduate programs in specialized areas. These requirements often include admission tests, valid teaching certificates, letters of recommendation and/or personal interviews and grade point averages above the minimum established by the Graduate School.
CATEGORIES OF ADMISSION TO GRADUATE SCHOOL

Students who seek admission to the Graduate School at Eastern Michigan University may be recommended for Degree Admission, Non-Degree Admission, Teacher Certification Admission, or Guest Admission.

Degree Admission: Admission to a degree program is available to an applicant who:

- meets the minimum entrance requirements of the Graduate School;
- meets any additional requirements of the program selected; and
- is recommended for admission by the Coordinator of Advising in the area of specialization selected.

Non-Degree Admission: This Type of admission is for an applicant who:

- does not seek or does not qualify for Degree Admission; or
- wishes to take graduate courses for self-improvement.

Teacher Certification Admission: This type of admission is for applicants who:

- seek to qualify for provisional/permanent certification only.

Applicants seeking continuing certification are urged to seek admission to a degree program.

- complete application papers must be received by the Graduate School Office no later than 30 days (15 days for Guest Admission) prior to the beginning of the semester or session in which enrollment is contemplated.

Guest Admission: This admission is for a graduate student who is pursuing a program of study at another institution and wishes to earn graduate credits at Eastern Michigan University to be transferred to the parent institution. Guest Admission is valid for one enrollment period only.

ADMISSION PROCEDURES

A student applying for graduate admission for the first time at Eastern Michigan University must:

- complete an Application for Admission form;
- submit official transcripts of undergraduate and graduate credits earned at other institutions; and
- present official scores on the Graduate Record Examination (ATGsb for College of Business) and any additional test required in the selected degree program.
For the Graduate School Office to process an application for Guest Admission, students must:

- currently hold graduate admission to another college or university;
- seek to earn graduate credit at EMU to be transferred to their parent institution;
- have had Part 2 of the Guest Application (Recorder Action) filled out by the Dean of the Graduate School or his designated agent where the applicant holds graduate admission;
- have had the seal of the parent institution affixed.

A guest student can earn up to six (6) credit hours, exclusive of Independent Studies. To earn credits beyond this limit requires that the student complete the general requirements of admission as provided in this catalog.

ADMISSION OF FOREIGN STUDENTS

A number of foreign students are admitted to the Graduate School each year. For the Graduate School Office to process applications for admission, foreign 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 selected degree program.

The Graduate School requires that all foreign students applying for admission and residing in this country or abroad, demonstrate proficiency in the use of the English language. This may be done in one of two ways: taking the Test of English as a Foreign Language (TOEFL) or submitting scores from an English Language Institute in the United States. Further information on the former may be obtained from:

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

For information about the language center closest to Eastern, contact:

- English Language Institute
  University of Michigan
  Ann Arbor, Michigan 48104
The scores received on the TOEFL test or the English Language Institute test must be submitted to the Graduate School Office before consideration can be given to the student's application.

UNIVERSITY EXTENSION STUDENTS

Registration as a University extension student in classes offered through the Division of Field Services does not constitute admission to the Graduate School and/or a degree program; nor does it establish eligibility to register for on-campus classes.

Credits earned do not automatically apply toward satisfaction of 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.

GRADUATION REQUIREMENTS

Before receiving a diploma, certain procedures must be followed. (It is the student's responsibility to see that all requirements are met).

CANDIDACY

All students' records are reviewed after twelve hours. Departments, at their option, may utilize this review point to determine whether or not a student should be permitted to continue in the degree program.

APPLICATION FOR GRADUATION

Candidates for graduation must submit a Diploma Application to the Graduate School Office at the time of registration for the semester or session in which they plan to complete requirements for a graduate degree. Failure to apply for graduation will result in a one semester delay in receiving the degree.

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

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 should anticipate a one semester delay in receiving the degree. To avoid this possibility, the applicant 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. Grade reports and/or letters from instructors will not be accepted in lieu of official transcripts.

GRADE POINT AVERAGE REQUIREMENTS FOR GRADUATION

No student will be recommended and approved for a master's degree unless he has achieved a grade point of 5.0 (B grade). The specialist's degree requires a 6.00 or B+ average for graduation.

The grade point average requirement for graduation applies to: all graduate credit earned at Eastern Michigan University; all graduate credit included in the
area of specialization. Only the 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 credit are not included.

Students who do not meet minimum graduation requirements may be permitted to enroll in additional courses in the area of specialization subject to policies governing academic probation and dismissal.

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.

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 Fish Lake.

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 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 conforms with the minimum requirements of the Graduate School.

Students who are interested in completing a Provisional, Permanent or Continuing Certificate should contact the Office of Academic Records and Teacher Certification for specific requirements. Because credits earned to satisfy certification do not automatically apply 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**

| Art: Art Education | Charles Fensch  
|                    | 106 Sill Hall, Tele. 487-0392 |  
| MFA                | David Sharp  
|                    | 118 Sill Hall, Tele. 487-0392 |  
| Biology            | Dennis C. Jackson  
|                    | 412 Jefferson, Tele. 487-1031 |  
| Chemistry          | Bruce West  
|                    | 239 E. Jefferson, Tele. 487-0229 or 487-0107 |  
| Economics          | James R. Gibbons  
|                    | 703 Pray-Harrold, Tele. 487-3395 |  
| English            | Martin Kornbluth  
|                    | 612-Q Pray-Harrold, Tele. 487-0144 |  
| French             | Brigitte Muller  
|                    | 222 Ford Hall, Tele. 487-4081 or 487-0131 |  
| General Sciences   | Charles Breedlove  
|                    | 316 Strong, Tele. 487-4144 |  
| Geography          | Paul Buckholts  
|                    | 225 Strong, Tele. 487-0232 or 487-0218 |  
| History and Philosophy | Lee R. Boyer  
|                         | 702-F Pray-Harrold, Tele. 487-0066 |  
| Mathematics        | Madeline Early  
|                    | 601-T Pray-Harrold, Tele. 487-2140 or 487-1444 |  
| Music              | Maurice Riley  
|                    | 13-C Pease, Tele. 487-2457 or 487-4380 |  
| Physics            | Walter Gessert  
|                    | 311 Strong, Tele. 487-4144 |  
| Psychology: Clinical/General | Francis Canter  
|                             | 537-N Jefferson, Tele. 487-0044 |  
| School Psychology   | Robert L. Anderson  
|                             | 537 P. Jefferson, Tele. 487-0047 |  
| Sociology           | Werner Einstadter  
|                    | 712-U Pray-Harrold, Tele. 487-4246 or 487-0012 |  
| Spanish             | Francisco Villegas  
|                    | 206 Ford Hall, Tele. 487-0178 or 487-0131 |  
| Speech and Dramatic Arts | Parker Zellers  
|                             | 102 Quirk, Tele. 487-1220 |  

**College of Business**

- **Business Administration**  
  Robert Hislop  
  517 Pray-Harrold, Tele. 487-4444

- **Business Education**  
  Robert A. Ristau  
  511 Pray-Harrold, Tele. 487-3410

**College of Education**

- **Educational Leadership**  
  Doris Kilanski  
  101-C Boone Hall, Tele. 487-0257 or 487-0255

- **Educational Psychology**  
  Kishor Wahi  
  225-G Boone Hall, Tele. 487-4342

- **Curriculum, Elementary, Junior and Senior High School Education**  
  Robert Tibbals  
  305 Pierce Hall, 487-4441

- **Guidance and Counseling**  
  Winton Kloosterman  
  13 Boone Hall, Tele. 487-3455 or 487-3270

- **Physical Education**  
  John Sheard  
  229 Warner Gym, Tele. 487-0091

- **Reading**  
  Robert Krebs  
  338 Pierce Hall, 487-1160

- **Social Foundations**  
  Calvin Michael  
  345-G Pierce Hall, Tele. 487-1128

- **Special Education**  
  Joe Coyner  
  230 Rackham, Tele. 487-3302 or 487-3300

**Applied Science**

- **Home Economics**  
  Ruby Meis  
  202-B Roosevelt, Tele. 487-2490

- **Industrial Education**  
  Delmar Larsen  
  122 Sill Hall, Tele. 487-4330

**REGISTRATION INFORMATION**

**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-campus classes in the Registration Office, Briggs Hall, at times and in such manner as provided for in the class schedule issued each semester or session. Students register for off-campus courses through the Division of Field Services at Sherzer Hall.

**Adviser’s Signature on the Enrollment Plan**—Adviser’s signature is required for students majoring in business, economics, geography, history, in-
Industrial education, mathematics, music, psychology, social foundations and sociology. Other students enrolling in either business or industrial education courses also must obtain departmental advisers' signatures.

Any student on a degree program who does not obtain his adviser's signature assumes full responsibility for his registration. 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.

**ACADEMIC LOAD**

Twelve hours of graduate credit a semester is the usual full-time load. The coordinator of advising and the dean of the Graduate School approve programs in excess of this.

The usual full-time load for a half semester or session is six hours.

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 his/her adviser and the dean of the Graduate School.

Since graduate assistantships and teaching fellowships are granted for the support of students making substantial academic progress, each person holding an assistantship or fellowship 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.

**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.

**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.

*First Three Weeks*—Students who find it necessary to withdraw from an individual class or from all course work in which they are enrolled, do so through the Registration Office as a part of the registration adjustment process.

*Fourth Through Eighth Weeks*—During this period a student completes an appropriate withdrawal 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 Ninth Week*—Students may drop or withdraw with a grade of "W" for any reason up to one week before the end of the semester or session, providing the academic performance in each course at the time of withdrawal is a grade of B or better. Poor academic performance is not recognized as a valid reason for withdrawal. Because of this, students not performing at least at B level will be denied permission to withdraw with a grade of "W". Exception
may be granted when due to extended personal illness, verifiable by a physician, or death in the student's family.

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 sessions time schedules should be consulted for the calendar regulating withdrawals during these enrollment periods.

GRADE POLICIES

The grades used in the Graduate School of the University are listed below together with their description and grade point values.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Points per semester hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Outstanding Performance</td>
<td>8</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>B+</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>Good Performance</td>
<td>5</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>C+</td>
<td>Inadequate Performance</td>
<td>3</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>Failing Performance</td>
<td>1</td>
</tr>
</tbody>
</table>

"I" AND "W" GRADES

"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 by the end of the next semester or session in which the student is enrolled in this University, or within one calendar year, whichever comes first. The time period for removal of an "I" may be extended upon written recommendation of the instructor and approval of the Graduate Dean. Such extensions of time beyond one calendar year after completion of the course 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 within these time periods, 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 5.00 (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.

A graduate student placed on academic probation according to the provisions of the above who is not off probation by the end of the second enrollment period will be dismissed from the University.

A graduate student whose cumulative grade point deficiency at the end of any enrollment period is 15 points or more may be dismissed for academic reasons.

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. Any graduate credit transferred must:

be applicable to the degree program;
have associated with each course a grade of B or higher;
be on an official graduate transcript from an accredited college or university;
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 Non-Degree Admission Status:

Students admitted to non-degree or certification 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 a non-degree or certification 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 non-degree admission status must complete a minimum of 10 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 field different from the previous master's degree;
- Not more than six (6) semester hours of appropriate credit applied to meet the cognate requirement of the second degree program;
- Any credit utilized on the second degree from the first must meet the six (6) year time requirement for the second degree.

REGARDING CERTIFICATION

Provisional Certificate for students who hold a bachelor degree:

A. Persons who hold a valid teaching certificate from another state based on bachelor degree may obtain a Michigan Provisional Certificate by applying to:

   Michigan State Department of Education
   Teacher Education & Certification Section
   Box 420
   Lansing, Michigan 48902

B. Graduates from an out-of-state institution: Persons who have completed 13 or more hours on an education program at a regionally accredited out-of-state institution 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. An application form is available in EMU Records Office, Room 5, Pierce Hall.

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

C. All others: Graduates who do not fit category A or B 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 hours study with EMU. Information about the specific requirements for certification may be obtained from the EMU Records Office. A written plan of study will be provided on request, following admission to the Graduate School. Contact:

   Dr. Everett Marshall,
   Dean of Academic Records and
   Teacher Certification
   Room 5, Pierce Hall
   (313) 487-4111

   A copy of the plan of study must be placed on file in the Graduate Office.

D. Converting an 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 study will be provided by the Records Office on request, following admission to the Graduate School. A copy of the plan of study must be placed on file in the Graduate Office.

E. 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

- **Minor**—a minimum of 20 hours in courses appropriate to the pure minor or 24 hours in a group minor.
- **Major**—a minimum of 30 hours in courses appropriate to the pure major or 36 hours for a group major.

Students should contact the Records Office for information about course requirements. Departmental approval may also be required. A copy of the approved plan of study must be placed on file in the Graduate Office.

F. Renewal of a Provisional Certificate: Persons whose Provisional Certificate has been permitted to expire without having acquired three (3) years of successful teaching experience, may renew the certificate by completing 10 hours of credit after the issuance of the Provisional Certificate. Application to renew an expired certificate is made through the institution at which requirements for provisional certification were satisfied.

G. Certification in special fields: (Art Education, Physical Education, Industrial Education, Special Education, Home Economics and Music) Persons seeking certification in a special field should contact the appropriate department to obtain information about "special field" certification. A copy of the approved plan of study must be placed on file in the Records Office and the Graduate Office.

**Permanent Certificate**

Persons who received their Provisional Certificate PRIOR to July 1, 1970, may apply for the "Permanent" Certificate upon completion of 10 semester hours of credit earned within five (5) years after receiving the Provisional Certificate. Apply through the institution at which requirements for provisional certification were satisfied. (Three (3) years of successful teaching experience appropriate to certificate also required).

**Continuing Certification**

Persons who received their Provisional Certificate after July 1, 1970, 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 of study after the date of issuance of the state provisional certificate.

Students on master's degree programs 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 study approved by the dean 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 of a Permanent or Continuing Certificate.

Graduate credit earned for a Permanent or 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 credit 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 during the senior year is 10. Graduate courses which qualified seniors may take are identified by an asterisk (*) in the course description section of this catalog. Seniors are not permitted to enroll in graduate level independent study courses.

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

- Permission to take graduate courses does not represent 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 Permanent Certificate.
INDEPENDENT STUDIES

Independent studies are for graduate students who have been admitted to a degree program. These studies permit students to exercise, beyond what is normally possible in a conventional classroom setting, greater individual initiative and creativity for the enrichment of their study programs. A maximum of six semester hours may be earned in independent studies.

A graduate student wishing to enroll for independent study must secure permission to register from the adviser for the approved program of study. Courses numbered 597, 598 and 599 are reserved for independent studies for the master's degree while 697, 698 and 699 are reserved for independent studies for the specialist’s degree.

Because of the widely varying nature of independent studies, the graduate student should discuss with the study director the written style and format in which these studies must be presented.

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. Offered towards the end of a student’s program of study, it serves as a capstone affording an opportunity for some integration of one’s specialized subject matter.

Courses numbered 690, 691 and 692 are reserved for one, two and three credits respectively. These course numbers may be combined to allow up to six hours for thesis credit.

Guidelines and requirements governing this activity are available through the departments or the Graduate Office.

WORKSHOPS, INSTITUTES AND TRAVEL COURSES

Workshops and institutes for graduate credit in a number of subject-matter areas are offered both on and off campus. Graduate students who have been admitted to the Graduate School are eligible to enroll. New applicants who wish to enroll in any of these courses must satisfy the requirements of the type of admission they are seeking as provided elsewhere in this catalog.

Travel courses which provide graduate study opportunities abroad have been organized by a number of departments. These courses are usually offered during the summer session and vary in duration from four to six weeks each. More complete information is available upon request.

INTERRUPTION OF GRADUATE STUDY

Because Graduate School policies and degree program requirements change, students who interrupt their enrollment in courses at Eastern Michigan University for a period of two or more years are affected by the policies and degree program requirements in effect at the time of their return. Departments may require a review of a student’s records and program of study at the time they resume graduate study in that department.

Students who return to the University as a post-master's degree student to work on an additional graduate degree or to elect classes for self-improvement,
are required to re-establish admission in the Graduate School before registering for classes.
GENERAL POLICIES
AND INFORMATION

MAJOR BUILDINGS

- Richard G. Boone Building houses the College of Education and a post office substation.
- John D. Pierce Hall houses major administrative offices.
- Frederic H. Pease Auditorium seats 1,700 and is the location of the Frederick Alexander Memorial Organ, a stage, practice rooms, classrooms and faculty studios.
- Frederick Alexander Music Hall is adjacent to Pease Auditorium and houses the Department of Music offices, faculty and practice studios, classrooms, a recital hall and large rehearsal halls.
- Roosevelt Building houses the Departments of Home Economics and Military Science.
- Sherzer Hall houses the Division of Field Services and the University observatory and astronomy laboratory.
- Strong Physical Science Building houses the Departments of Physics and Astronomy and Geography and Geology.
- Daniel L. Quirk Jr. Dramatic Arts Building contains an instructional theater seating 381, radio facilities, an outdoor amphitheater, classrooms and offices housing dramatic and speech activities and the University radio stations.
- Walter O. Briggs Building houses registration and the Student Accounting Office.
- Joseph E. Warner Physical Education Building is adjacent to Bowen Field House and contains gymnasiums, classrooms, offices, special purpose rooms and a swimming pool.
- Wilbur P. Bowen Field House is one of the largest and most functional in the state. It houses a complete field house with an eight-lap-to-a-mile track, a basketball court and tennis, volleyball and badminton courts. The seating capacity is 4,350.
- Glenadine C. Snow Health Center provides the clinical services of the University Health Service.
- Charles McKenny Union offers dining and recreational facilities for students, faculty, staff and guests. It provides meeting and conference rooms, food catering facilities, the bookstore and a ballroom.
- Mary Ann Starkweather Hall is the center of campus religious activities.
- J.M.B. Sill Building houses classroom and offices for the Departments of Fine Arts and Industrial Education, as well as The University Bookstore Annex, art galleries and two large lecture halls.
- University Library opened at the beginning of the spring semester, 1967. It has seating space for 1,800 and houses more than 375,000 volumes. Almost all books are available to students from the open stacks.
- Pray-Harrold Classroom Building houses the Departments of English Language and Literature, History and Philosophy, Mathematics, Sociology and the College of Business.
— R. Clyde Ford Hall (formerly Mark Jefferson Library) provides office and classroom space for the Educational Television and Foreign Languages and Literature Departments.

— Mark Jefferson Science Building, a classroom and laboratory facility opened in 1970, contains the Biology, Chemistry and Psychology Departments.

— Julia Ann King Hall was renovated in 1971 to house the Music Department, the head of the department, music practice rooms and faculty; also additional offices for the Special Education Department.

— Bertha M. Goodison Hall was also renovated in 1971 to house the Counseling Center, Dean of Students, Student Government, Student Publications and the Women's Commission Office.

STUDENT ACADEMIC RIGHTS AND RESPONSIBILITIES

In November, 1972, the University approved a statement regarding student academic rights and responsibilities. This statement presents a set of principles regarding academic honesty and integrity that students are expected to adhere to, a listing of student rights and a procedure for resolving student and faculty differences.

A complete statement is available upon request through the Campus Assistance Center in Goodison Hall.

UNIVERSITY HOUSING

The University owns and operates 449 furnished apartments, in three separate developments, for married students. Some on-campus apartments for single students are available in Munson and Brown Halls. They are for occupancy by one, two, four or six students for periods of eight, ten, or 12 months. Rents range from $55 to $118 per student per month, depending on the length of lease and number of occupants per apartment. All apartments are basically furnished, carpeted and air-conditioned. All utilities, with the exception of telephone, are included in the monthly rent. Priority in leasing these apartments is given to graduate students, seniors and juniors and occupants of the former residence halls during the 1972-73 academic year.

In addition, the University offers 13 different living units for convenient on-campus location of primarily single undergraduate students, one unit having a living area specifically designated for graduate students. Graduate students interested in residence hall living will reside in Phelps-Sellers Living Center.

Students living in residence halls are required to sign a contract which also includes meals. There are two meal options, a 20-meal plan and a 15-meal plan (excludes Saturday and Sunday meals). Residence hall fees for room and board are $1,185 per academic year, 20 meals per week; the 15-meal option is $1,155. Rates for rooms in Jones-Goddard are $1,085 for the 20-meal plan; $1,055 for 15 meals per week. A single-occupancy room option at $225 additional per academic year will be available, providing that actual occupancy rates in the residence halls are below the specified level.

Married apartment units rent for $105 and $125 per month for one bedroom apartments and $120 and $140 per month for two bedroom apartments.

The University reserves the right to revise rates when necessary. The
University reserves all rights regarding the assignment and re-assignment of rooms or the termination of occupancy in accordance with University policies, regulations and procedures. Applications and additional information may be obtained from the University Housing Office.

The Housing Office also maintains listings of off-campus accommodations available in the surrounding University area. These listings include rooms, apartments and "roommates desired," and are usually located in close proximity to the campus, though some desirable choices may require transportation. Only those facilities available to students without regard to race, religion, creed, national origin or ancestry are listed. Inquiries regarding off-campus housing assistance may be directed to the University Housing Office.

FINANCIAL AID FOR GRADUATE STUDENTS

There are three sources of financial assistance available to graduate students at Eastern Michigan University.

ASSISTANTSHIPS AND FELLOWSHIPS

One source is through graduate assistantships and teaching fellowships which are administered by the individual departments and are awarded solely on the basis of the qualifications and merit of the applicant. The number of such appointments varies greatly from department to department. The stipend for a full time appointment ranges from about $2500 to $3300. Graduate students wishing to apply for such positions should write to the Head of the Department in the area of specialization chosen for study.

NATIONAL DIRECT STUDENT LOANS AND COLLEGE WORK-STUDY PROGRAM

A second source of aid is administered by the Office of Admissions and Financial Aids. Graduate students are eligible for National Direct Student Loans (NDSL), up to $2500 per year and for employment through the College Work-Study (CWS) Program. Both the NDSL and CWS Programs are based on financial need. To establish eligibility, a student must apply through the Office of Admissions and Financial Aids.

Because funds are allocated during March and April for the academic year beginning in the fall, an applicant for admission who seeks financial aid later than April usually cannot be accommodated until the following academic year.

MICHIGAN HIGHER EDUCATION ASSISTANCE AUTHORITY (GUARANTEED) LOANS

A third source of financial aid available to graduate students are MHEAA loans. Under the program, a qualified student borrows from the lending institution of his choice on interim notes as needed for each university year. While the student may repay the loan before it is due, quarterly repayment of the principal and interest does not start until approximately nine months after graduation or upon termination of study. A repayment schedule is arranged with the lending bank or agency.

The maximum loan for full-time graduate studies is $1500 per academic year, to a combined total of $7500. If the student has financial need as determined by
the Office of Admissions and Financial Aids, the Federal government will pay the total interest charge while the student is in school or in an eligible deferment status (military, Peace Corps or VISTA service).

STUDENT EMPLOYMENT OPPORTUNITIES

Students interested in earning money with which to pay a portion of their expenses will be given advice and detailed information about on-campus employment opportunities upon application at the University Placement Center.

Ypsilanti, located thirty miles west of Detroit and seven miles southeast of Ann Arbor, is the center of an area which provides many and varied employment opportunities. Employment is generally available in business and industry and in governmental agencies in the area.

UNIVERSITY PLACEMENT CENTER

The University offers graduates and alumni aid in securing positions and in obtaining professional advancement through the services of the University Placement Center. The Placement Center seeks to serve both graduates and employers by identifying the person best qualified for each position, thus providing jobs that fit the qualifications of the individual graduate. The Placement Center serves as the channel through which much information about the performance of Eastern Michigan University graduates is brought back into the instructional program of the University. Cumulative records of professional experience and advanced graduate study are maintained for students who wish to file at the Placement Center.

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 tuition and other matters of interest to the veteran, please contact the Veterans Affairs Office, 216 Pierce Hall.

CENTER FOR EDUCATIONAL RESOURCES

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 377,000 volumes of books, bound periodicals and documents. 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 microfilm materials, study in small groups and typing of papers. Inter-library loan services are available through the Humanities 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. Film, filmstrip, audio tape, record and video tape libraries exist for graduate student use. Production services in all areas may be requested.

**INSTRUCTIONAL COMPUTER SERVICES**

The Office of Instructional Computer Services, located in Room 117 Pray-Harrold Building, operates an IBM 1130 computer and a DEC System 10 computer together with customary peripheral equipment. A remote batch linkup with the University of Michigan's MTS is maintained. The office also operates optical scanning equipment.

The services of the center are available to all faculty and graduate students. Students may develop proficiencies in computer programming by enrolling in courses in that area. Assistance is provided in programming special instructional and research projects upon request.

**DIVISION OF FIELD SERVICES**

In response to the continuing education needs, Eastern Michigan University, through the Division of Field Services, offers credit courses in 17 established centers throughout southeastern Michigan: Adrian, Brighton, Center Line, Cherry Hill, Flint, Jackson, Lapeer, Marlette, Monroe, Mt. Clemens, Plymouth, Port Huron, Sandusky, Southgate, Taylor, Trenton, and Wayne. These classes are undergraduate and graduate courses conducted by regular instructors of the University. Presently, there are classes in practically any field connected with professional education. A list of the courses offered for fall, winter, spring and summer sessions may be acquired from the director of the division of field services. The Division of Field Services also offers courses on a contract basis.

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

A. **AN EASTERN MICHIGAN UNIVERSITY GRADUATE STUDENT**—a student who has been admitted to the Graduate School at EMU as a degree or non-degree student.

B. **A GUEST STUDENT**—a student who (1) currently holds graduate admission at another college or university, (2) wishes to earn graduate credit at EMU to be transferred to his/her present institution, (3) files an Application for Guest Admission and (4) has had Part 2 of the Guest Student application form—Recorder Action—filled out by the dean of the Graduate School at the parent institution, or by its designated agent. THE OFFICIAL SEAL OF THE PARENT INSTITUTION MUST BE AFFIXED.

C. **A UNIVERSITY EXTENSION STUDENT**—a student who holds a bachelor's degree but has not been admitted to the Graduate School, does not seek admission and/or does not qualify for admission. This status does not establish eligibility to enroll in on-campus classes.
TUITION AND FEES

FEES SUBJECT TO REVISION

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

FINANCIAL OBLIGATIONS

Having fulfilled all other requirements, a student is eligible for registration or graduation only if he has met all of his financial obligations to the University. If a student has not met his financial obligations to the University at the time of graduation or at the close of any semester, his credits or other statements of record will be withheld and he will be ineligible for further registration at EMU until all obligations have been satisfied.

OFFICIAL REGISTRATION DAY

The official registration day each semester for each student for the purpose of tuition and registration fee assessment is the day he completes his initial registration for the semester.

REGISTRATION FEE

A registration fee of $20 for the fall and winter semesters and $15 for the spring and summer sessions is charged to each student. This fee is collected when the student pays his tuition and is non-refundable after the student registers for the semester.

TUITION SCHEDULE—GRADUATE

All students holding a bachelor’s degree and who have been admitted to the Graduate School will pay graduate tuition.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Tuition</th>
<th>Registration Fee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$21.50</td>
<td>$20.00</td>
<td>$41.50</td>
</tr>
<tr>
<td>2</td>
<td>43.00</td>
<td>20.00</td>
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</tr>
<tr>
<td>4</td>
<td>86.00</td>
<td>20.00</td>
<td>106.00</td>
</tr>
<tr>
<td>5</td>
<td>107.50</td>
<td>20.00</td>
<td>127.50</td>
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<tr>
<td>6</td>
<td>129.00</td>
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</tr>
<tr>
<td>14</td>
<td>301.00</td>
<td>20.00</td>
<td>321.00</td>
</tr>
<tr>
<td>15</td>
<td>322.50</td>
<td>20.00</td>
<td>342.50</td>
</tr>
</tbody>
</table>

No additional charge for hours in excess of 15.
Non-Resident

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Tuition</th>
<th>Registration Fee</th>
<th>Total</th>
</tr>
</thead>
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<td>396.25</td>
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<td>430.00</td>
<td>20.00</td>
<td>450.00</td>
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<tr>
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<td>645.00</td>
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<td>665.00</td>
</tr>
<tr>
<td>13</td>
<td>698.75</td>
<td>20.00</td>
<td>718.75</td>
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<tr>
<td>14</td>
<td>752.50</td>
<td>20.00</td>
<td>772.50</td>
</tr>
<tr>
<td>15</td>
<td>806.25</td>
<td>20.00</td>
<td>826.50</td>
</tr>
</tbody>
</table>

No additional charge for hours in excess of 15.

For the spring and summer sessions, the rates per credit hour are the same as the above schedule, but the registration fee is $15 for each student.

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

For the purpose of determining tuition assessments, both activity and academic hours are counted.

AUDITING OF COURSES

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

WORKSHOP SESSIONS

Several two and three-week workshop sessions are offered during the spring and summer sessions. A fee is assessed for each workshop independent of tuition for other course enrollments. The registration fee does not apply to workshop sessions.

A credit adjustment of 100 percent of the workshop fee assessed will be made to those students who withdraw prior to noon of the first day of the session. No other adjustment will be granted.

PAYMENT OF TUITION

Tuition and other University fees are due and payable at the beginning of each semester or session. However, for those students who may prefer to make installment payments, the University provides an optional installment payment plan.

The installment payment plan applies only to tuition and room and board. It
consists of a minimum initial payment of 40 percent of the room and board and
tuition assessments for the semester, and one, two or three monthly installments
at the option of the student, each consisting of a minimum of 20 percent of the
assessments for the semester.

An installment payment service fee of $3.00 is collected with each installment
payment.

A late payment fee of $6.00 will be assessed for each initial payment and in-
stallment payment not received by the due date.

Tuition, room and board and other assessments are charged to an account
established for the student on computer files. A statement is sent to each student
prior to the beginning of each semester and each month that there is a balance on
the account. The due date of each payment is shown on the statement.

WITHDRAWAL FROM THE UNIVERSITY

Withdrawal Before the End of the Third Week of Classes. If a registered
student finds it impossible to return to the University, he must sign a cancellation
of registration form in the Registration Office before the end of the third week of
classes. This is necessary for adjustment of tuition assessment and for any
tuition refund to which the student may be entitled. In an emergency, a letter to
the Registration Office postmarked on or before the last day of the third week of
classes will be acceptable.

Withdrawal After the Third Week of Classes. If a graduate student finds it
necessary to withdraw from the University after the third week, he must initiate
the withdrawal in person or by letter through the Registration Office.

ADJUSTMENTS TO TUITION ASSESSMENTS

Adjustments to tuition assessments are computed electronically and entered
into student accounts following the close of the program adjustment period.

Adjustments as stated below apply to tuition only and not to the registration
fee.

Exceptions to the adjustment policy are made for students who are called into
military service other than by enlistment.

WITHDRAWAL FROM THE UNIVERSITY:

1. A credit adjustment of 100 percent of the tuition assessment for the
   semester will be made to those students who cancel their registration and
   withdraw from the University prior to first day of classes. Actual dates are
   printed in the class schedule for each semester.

2. A credit adjustment of 60 percent of the tuition assessment for the semester
   will be made to those students who withdraw from the University on the
   first day of classes or 20 days (six days for the spring and summer sessions)
   thereafter. Actual dates are printed in the class schedule for each semester
   and session.

DECREASE IN ACADEMIC LOAD:

1. A credit adjustment of 100 percent of the difference in tuition assessments
   for the semester will be made to those students who decrease their
academic load before the first day of classes. Actual dates are printed in the class schedule for each semester.

2. A credit adjustment of 60 percent of the difference in tuition assessment will be made to those students who decrease their academic load on the first day of classes or within 20 days (six days for the spring and summer sessions) thereafter. Actual dates are printed in the class schedule for each semester and session.

QUALIFICATIONS FOR MICHIGAN RESIDENCE

It is the policy of the Board of Regents for Eastern Michigan University that Michigan Residency, for purposes of tuition, shall be determined by the domicile of the student, and that such domicile shall be determined by the following criteria:

1. Length of time lived in Michigan prior to first enrollment.
2. High school attended or previous college.
3. Domicile of parents.
4. Status as an elector.
5. Status as a taxpayer.
6. Source, length and continuity of employment.
7. Marital status.
8. Ownership of real estate.
9. Source of driver’s license (state).
10. Source of vehicle license (state).
11. Self-supporting or dependency on others.
12. The type of visa held if a student from a foreign country.
13. Other factors which may be deemed relevant evidence of domicile.

A student shall have his residency status determined at the time of his initial enrollment and will be reviewed at each subsequent registration. It shall be the responsibility of any student adjudged as a non-resident, to apply for Michigan Residency if he believes he meets the requirements for such.

The Treasurer of the Board of Regents shall be the responsible officer for developing reasonable procedures and evaluating qualifications of individual applicants.

NOTE: It shall be 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 residence, to raise such questions with the Student Accounting Office in Briggs Hall.

LATE REGISTRATION FEE

A late registration fee of $5.00 is charged to those students who, for any reason, 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.

PROGRAM ADJUSTMENT FEE

A fee of $3.00 is assessed for each student-initiated change to his registration on
or after the first day of classes of each semester. Such changes consist of adding a course or changing sections.

APPLIED MUSIC FEE

All students accepted for private music lessons will be assessed an applied music fee at the following rates:

<table>
<thead>
<tr>
<th>Category</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Majors:</td>
<td>$60.00 per semester for all instruction.</td>
</tr>
<tr>
<td>Other University Students:</td>
<td>$60.00 per semester for one-hour lessons.</td>
</tr>
<tr>
<td>Students from public schools, the community and EMU staff and families:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$30.00 per semester for half-hour lessons.</td>
</tr>
<tr>
<td></td>
<td>$90.00 per semester for one-hour lessons.</td>
</tr>
<tr>
<td></td>
<td>$45.00 per semester for half-hour lessons.</td>
</tr>
</tbody>
</table>

Lessons are arranged through the office of the Music Department to begin only after payment of the music fee and tuition.

The applied music fee is payable each semester to the Student Accounting Office with the student’s tuition. 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:

<table>
<thead>
<tr>
<th>Department</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Arts Department</td>
<td>Graphics, Ceramics, Jewelry, Sculpture, 3-D Design, Multi-Media.</td>
</tr>
<tr>
<td>HPER</td>
<td>Bowling, Snowskiing, Trap and Skeet, Recreational Shooting</td>
</tr>
<tr>
<td>Business Education</td>
<td>Business Laboratory Fee.</td>
</tr>
<tr>
<td>Industrial Education</td>
<td>Flight Training.</td>
</tr>
</tbody>
</table>

VEHICLE REGISTRATION AND FEE

All graduate students, meeting with requirements of the law, are eligible to 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.

Motor vehicles driven to or on the campus before 7:30 p.m. must be registered with the University, and the appropriate fee paid at the University Safety Department during the first week of each semester.

Further details are printed in the Ordinance and in the Parking and Traffic Regulations brochure.
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 Literature
Geography and Geology
History and Philosophy
Mathematics
Music
Physics and Astronomy
Political Science
Psychology
Sociology
Speech and Dramatic Arts
ART

The Art Department offers two programs leading to the master's degree; the Master of Fine Arts and the Master of Art Education. The Art Department's graduate coordinator of advising will recommend admission to the department and assign each student to an adviser.

I. ADMISSION REQUIREMENTS

Master of Fine Arts

The prospective student should begin by making application for graduate status to the Graduate School, Pierce Hall, Eastern Michigan University and application for admission to the M.F.A. program to The Graduate Committee, Master of Fine Arts Program, Department of Art, Eastern Michigan University, Ypsilanti, Michigan 48197. Prerequisites for admission are an undergraduate degree with a major in art from an accredited institution, including 60 semester hours in art; an acceptable portfolio of ten two-inch by two-inch color slides or photographs of representative examples of recent work; and declaration of a specific area of concentration (e.g. painting, etc.).

Master of Art Education

Application for graduate work in art education should be made to the Graduate School, Pierce Hall, Eastern Michigan University. The requirements are a minimum of 34 semester hours of art education and studio art with a 2.8 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 12 slides, presented in a clear plastic holder. All slides should be individually labeled and identified. Each applicant should also submit a letter of purpose outlining his aspirations in graduate work. Each applicant is expected to hold a teaching certificate for the teaching of art.

II. 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 Art Education Program will contain a minimum of 30 semester hours beyond the bachelor's degree. The Art Department offers concentrations in drawing, painting, sculpture, ceramics, jewelry, weaving and graphics.

A. Fine Arts

1. Residence: Two years in residence. At the end of the first year in residence, the work of each M.F.A. candidate will be reviewed.
2. Course requirements: A minimum of 48 graduate semester hours is required. Additional courses may be required where undergraduate deficiencies exist.
   a. FA 630 Graduate Studio (8 semester hours)
      This course is conducted on a one-to-one basis with an instructor selected by the Graduate Committee. Emphasis is on student's in-
dividual development both technically and philosophically.

b. FA 631 Graduate Studio (8 semester hours)
The student continues development of ideas evolved in FA 630. The instructor is chosen by the student from those on the M.F.A. faculty.

c. FA 632 Graduate Studio (8 semester hours)
A continuation of FA 630 and 631.

d. FA 633 M.F.A. Exhibition and Thesis (9 semester hours)
A culmination of the three sequential Graduate Studio courses in which the student developed the ideas which now are to result in a body of work to comprise the graduate exhibition. A written thesis pertaining to the exhibition is required, as well as an oral defense of the ideas presented in thesis. The University reserves the right to retain work from the graduate exhibition to be added to the EMU collection.

e. FA 634 Seminar in Contemporary Ideas in Art (3 semester hours)
The first of two seminars required of all M.F.A. candidates, dealing with scholarly questions in contemporary art. Discussion is supplemented with slides and films. Taken concurrently with FA 630.

f. FA 635 Seminar in Contemporary Ideas in Art (3 semester hours)
The second semester seminar, required of all M.F.A. candidates. Taken concurrently with FA 631.

g. Cognate courses (electives), (9 semester hours)
Chosen in consultation with the graduate adviser. May be comprised of one or more courses transferred from other institutions. (Maximum hours transferable: six hours)

Total 48 semester hours

B. Art Education
Requirements

FA 596 Art Education Seminar 2 hrs.
FA 507 Crafts Workshop 4 hrs.
FA 505 Workshop in Two-D Media 4 hrs.
FA 506 Workshop in Sculptural Media 4 hrs.
FA 608 Exhibition in Art Education 2 hrs.

Total 16 hrs.

Electives (Fine Arts)
6 or 4 hrs.

FA 504 Elementary Art Studio 4 hrs.
(This course is recommended for the elementary art teacher)

Cognate Courses

Graduate level courses selected with adviser’s permission 6 hrs.

Grand total 30 hrs.

III. CANDIDACY
Upon completion of 12 graduate hours each student must be reviewed for candidacy to the appropriate degree. The student’s work will be reviewed by a
faculty committee. Approval for candidacy is necessary to continue work on the degree. A grade point average of 5.0 (B) is required to qualify as a candidate.

IV. 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.

Master of Art Education candidates should address requests for information to Professor Charles Fensch.

Master of Fine Arts candidates should address requests to Professor David Sharp.

FA 500 Masterpieces of Art. Two sem hours (Formerly CU 543) Historical art forms with readings, slides and discussion of historical works in the visual arts; a study by the block and gap method rather than a chronological survey. Design principles involved in the creation of the visual arts are applied both to famous works and the work of the student; laboratory experience in media for adults. Not open to students who have a major in art.

FA 501 Art Education Workshop. Two sem hours
Emphasis on composition: emotional, expressive, decorative, intellectual. Variety of media, color theory and color problems as they relate to art education in the elementary classroom. Not open to students who have a major in art.

FA 504 Elementary Art Studio. Four sem hours
Elective course specifically designed for candidates for the Master of Art Education 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 Two-D Media Workshop. Four sem hours.
Required course in two-dimensional artwork for candidates for the Master of Art Education 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 506 Sculptural Media Workshop. Four sem hours.
A workshop to afford the student a chance to explore new sculptural media. The problems will be tailored to individual student's needs and related to public school teaching. Art majors only.

FA 507 Crafts Workshop. Four sem hours
Crafts Workshop will afford the student an opportunity to explore a variety of media in the crafts. The problems will be tailored to the individual student's needs and related to public school teaching. Art majors only.

FA 509 Design for Tapestry. Two sem hours
Weaving with adherence to the disciplines inherent in tapestry, giving emphasis

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
to creativity and contemporary innovations. 
Prereq: Art majors only.

**FA 510 Ceramics. Two sem hours**
Advanced 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 Graphics. Two sem hours**
Advanced studio course in graphics. 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 Oil Painting. Two sem hours**
Advanced studio course in oil painting. Art majors only.

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

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

**FA 597, 598, 599 Independent Studies. One, two and three sem hours**
Prereq: Written permission.

**FA 608 Exhibition in Art Education. Two sem hours**
For a major receiving a degree in art education the exhibition will include the works of the student or may include examples of work done under the supervision of the art education degree candidate as evidence of master teaching ability. To be elected in the last semester before receiving a master's degree. 
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 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 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. Instruction to be selected by the student from the MFA faculty.
Prereq: Department permission.

FA 632 Graduate Studio. Eight sem hours
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 633 MFA Thesis and Exhibition. Nine sem hours
The last of the four graduate studio courses. Entails the presentation of an exhibition, and a thesis pertaining to the MFA candidate's work. Both the exhibition and the thesis will be reviewed by the examination committee of the candidate. The University reserves the right to retain work from the graduate exhibition to be added to the EMU permanent collection.
Prereq: Department permission.

FA 634, 635 Seminar in Contemporary Ideas. Three sem hours each
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, flims and the presentation of papers. Limited to M.F.A. students only.
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 majors.

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

FA 680, 681, 682 Oil Painting. One, two and three sem hours
Advanced studio courses in oil painting. Based on background and need of the student. Open only to majors.
OTHER COURSES

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.

406 Graphics. (3)
408 Ceramics. (3)
412 Advanced Sculpture. (3)
413 Oil Painting. (3)
414 Advanced Painting Watercolor. (2)
419 Advanced Life Drawing. (3)
423 Advanced Watercolor II. (2)
424 Advanced Watercolor III. (2)
425 Advanced Oil Painting. (3)
428 Seminar Modern Art. (2)
431 Multi Media Workshop. (3)

BIOLOGY

PHILOSOPHY AND OBJECTIVES

The major roles of the Biology Department at Eastern Michigan University include the preparation of students for biology teaching, for pursuit of further graduate study and research in biology, for some technical vocations and for study in some related professional areas (medicine, dentistry, nursing, etc.). The department's contribution to the general education of all university students is equally important.

The members of the Biology Department believe that all biologists should have a breadth of background at all levels of biology (from the subcellular to world biome) and an understanding of the unifying principles in biology. However, we also recognize that provision must be made for depth of study in areas specifically related to the student's vocational aims. We believe we offer the breadth of study necessary for most biologists.

PROGRAMS

Specialized programs which have been selected and developed for initiation at this time include those in college teaching, aquatic biology and physiology. These programs provide for breadth and depth of preparation at both the Graduate and Undergraduate level, and were selected on the basis of our present strengths and capabilities. There is also, of course, a program in general biology.
Information concerning the details of individual programs and their requirements are available upon request. Interested students should send a letter of inquiry regarding these to the Graduate Program Coordinator, Department of Biology, Eastern Michigan University.

DEGREES

The Master of Science is the conventional degree for majors in the Department of Biology. The Master of Arts degree may be conferred upon student request and approval by the dean of the Graduate School.

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 and (4) an academic record of B (3.0) or better during the junior and senior years. The graduate record examination is not required although it may be considered as one factor. Students deficient in one or more admission requirement 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.

REQUIREMENTS FOR THE DEGREE

Plan A: A minimum of 30 credit hours of graduate work is required. These hours added to those already taken at the undergraduate level are distributed so as to insure that at least 12 hours in biology, ten hours in botany, and ten hours in zoology are taken. At least 24 hours of graduate work must be in courses approved by the student’s guidance committee. In addition, six hours of cognate credits are required outside of the department. The candidate must successfully complete an original investigation with approval of, and supervision by, his guidance committee, submit a report of this research written in a manner suitable for publication and approved by his guidance committee and successfully defend it in an oral final examination. A maximum of six credit hours may be earned by thesis research.

Plan B: A minimum of 30 credit hours of graduate work is required. These hours added to those already taken at the undergraduate level are distributed so as to insure that at least 12 hours in biology, ten hours in botany, and ten hours in zoology are taken. At least 24 hours of graduate work must be in courses approved by the student’s guidance committee. Two credit hours in independent study including a written report is required and six graduate credit hours in a cognate field outside of the department. A comprehensive written examination over the major fields of biology will be taken by the student near the completion of his academic work.

GUIDANCE COMMITTEE

The Guidance Committee for each student includes three faculty members of the Biology Department: one of these, the chairman, is usually selected by the student, the other two members are appointed by the graduate biology program coordinator or the chairman of a specific program area in consultation with the student and other members of the program committee. The guidance committee
and the student will develop a personalized program acceptable to the Department of Biology and the Graduate School. A temporary graduate adviser will be assigned to a graduate student until he has selected his chairman or entered upon a specific program.

GRADUATE ASSISTANTSHIPS

Assistantships are available to graduate students in the Biology Department. Direct inquiries should be made to the head of the Biology Department before February 1. Appointments are normally for one academic year and may be renewed not more than once.

Occasionally financial assistance is available within specific program areas or through an individual faculty member. Inquiries concerning these should be directed to the graduate coordinator or the chairman of the Guidance Committee for each program.

FACILITIES

The Biology Department shares the new Mark Jefferson Science Complex with the Departments of Chemistry and Psychology. In addition to laboratories and preparation rooms for the conventional subsiences of biology, botany and zoology, the department has such facilities as: an electron microscope; a sound isolation room; photo-micrographic equipment; a number of photographic darkrooms; X-ray and radiation rooms; a counting room; walk-in cold and constant-temperature rooms equipped with environmental chambers; a herbarium, with collections of higher and lower plants (including the G.W. Prescott algal collection); museum rooms with invertebrate and vertebrate collections; aquarium rooms for plants and animals; field and project rooms; animal rooms and a greenhouse.

For field work, the department has the Loesell Field Laboratory, a few miles from campus, the adjacent Huron River and property at Fish Lake, near Lapeer, Michigan, to mention but a few of the available sites. The Aquatic Biology Laboratory on Lyman Street is specially equipped for individuals on research grants and certain class studies.

COURSES FOR NON-MAJORS

The following courses are intended for graduate students who have had little or no previous training in biology but would like to become better informed about various aspects of biology, either for general interest or for better preparation for teaching in the elementary grades. These courses may be applicable as cognates for other departments within the University. They are not open to students with an undergraduate major in biology and can not be applied to the graduate program in biology.

* 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 Biology or 221 General Botany.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*ZOO 501 Survey of the Animal Kingdom. Two sem hours
A survey of the major animal groups from protozoans to mammals. Structure function; the basis for classification and the evolutionary relationships of the several groups. *Not open to students who have credit in 205 Field Biology or 222 General Zoology.*

*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
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 513 Principles of Heredity. Two sem hours
The basic principles of heredity with emphasis on inheritance in man. *Not open to students who hold credit in 301 Genetics.*
Prereq: A recent course in introductory biology, or 502 Biology of Man.

*BIO 520 Problems in Functional Biology. Two sem hours
The reduction of complex life functions to a few basic principles; development of an ability to approach physiological problems with confidence; laboratory demonstrations as an effective learning device.

COURSES FOR NON-SPECIALIZING STUDENTS
The following courses are for non-specializing students who have not had equivalent courses as undergraduates: These may be counted on a graduate program in biology only after approval by the student’s graduate advisory committee.

*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.

*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 of technical raw materials; the dependence of man

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
upon the plant kingdom. Not open to students who have credit in 215 Economic Botany.

COURSES SPECIALLY FOR TEACHERS

* BIO 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. Should not be taken by students who have taken 402 Science in the Elementary Grades within the 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 have 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: 15 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.

* BIO 593, 594, 595 Workshop in Biology. One, two and three sem hours

ADVANCED COURSES
The following advanced courses are intended only for students with 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 the statistical methodology and the practical application of such statistics in biology. Prereq: A course in college algebra, 15 hours of biology. Not open to students with credit in 313 Biometry.

* BIO 512 Biogeography. Two sem hours
Descriptive and historical plant and animal distribution and the basic principles governing the natural distribution in both space and time. Prereq: A course in college biology and a course in earth science, or consent of the department.

* BIO 518 History of Biology. Two sem hours
Development of major concepts in biology from the Greek natural philosophers

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
to the present. Not open to students who have had credit in 485 History of Biology.
Prereq: At least two courses in biology.

* BIO 522 (410) Limnology. Three sem hours
A lecture, laboratory and field course dealing with physiochemical 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.

* BIO 526 Immunobiology. Two sem hours
The properties and behavior of antiserum 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: 331 Microbiology; biochemistry desirable.

* BIO 527 Molecular Genetics. Three sem hours
This course is designed as a follow-up to introductory genetics and will concentrate on the molecular aspects of the subject. The properties of genetical material will be discussed at the molecular level whenever possible.
Prereq: 301 Genetics, 371 Organic Chemistry; Biochemistry desirable. Not open to students who have had 427 Introductory Molecular Genetics.

* 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.
* BIO 537, 538, 539 Special Topics in Biology. One, two and three 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 studied.
Prereq: Approval by the department.

* BIO 593, 594, 595 Workshop in Biology. One, two and three sem hours

* BIO 596 Seminar in Biology. One sem hour

Presentation of special reports and group discussions of selected topics.
Prereq: 20 hours of credit in biology, including botany and zoology.

BIO 597, 598, 599 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.

BIO 610 Cytogenetics. Four sem hours

The structure and behavior of cells with emphasis on their nuclear components. Implications for genetics and evolution; some opportunity in the laboratory for individual investigation and for demonstration of techniques in cytological study.
Prereq: 15 hours of biology, including at least one course in genetics.

BIO 621 Electron Microscopy Laboratory. Three sem hours

A specialized course in techniques of electron microscopy including preparation of various tissues, use of electron microscope and its application to the study of biological problems. Darkroom technique is also covered.
Prereq: 20 hours of biology and consent of the department.

BIO 690, 691, 692 Thesis. One, two and three sem hours

BIO 695 Workshop in Advanced Biology. Two sem hours

BIO 696 Seminar in Biology; Laboratory Instruction. One sem hour

Analysis and discussion of the special problems of laboratory instruction in biology in college.
Prereq: Appointment to a graduate assistantship.

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 of technical raw materials; the dependence of man upon the plant kingdom. Not open to students who have credit in 215 Economic Botany.

* BOT 537, 538, 539 Special Topics in Botany. One, two and 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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
elect this course several times as long as different topics are studied.

*Prereq: Approval by the department.

**BOT 540** Mineral Nutrition of Plants. Two sem hours
A lecture course dealing with mineral nutrition in plants.

*Prereq: 221 General Botany and one year of chemistry.

**BOT 541** Mineral Nutrition of Plants Laboratory. One sem hour
Experimental studies dealing with inorganic nutrients of plants.

*Prereq or Coreq: BOT 540 Mineral and Nutrition of Plants.

**BOT 543** Plant Pathology. Three sem hours
A study of plant disease 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: 310 / 542 Plant Physiology desirable; no credit in 311 Plant Pathology.

**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 importance. 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 593, 594, 595** Workshop in Botany. One, two and three sem hours

**BOT 596** Seminar in Botany. One sem hour
Presentation of special reports and group discussions on selected topics.

*Prereq: Twenty hours of credit in biology, including botany and zoology.

**BOT 597, 598, 599** 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.

**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

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
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, plant or animal) and organic chemistry.

**BOT 650 Phycology. Two sem hours**
Structure, function, distribution and classification of the major groups of algae. Special attention to forms which may be found locally; opportunities for field collections, culturing algae.

**Prereq:** Fifteen hours of credit in biology including general botany and plant anatomy, or approval of the department.

**BOT 651 Advanced Plant Taxonomy. Three sem hours**
Comparison of modern systems of classification of Angiosperms. Newer techniques of characterization of plants, including morphometry, leaf architecture, biochemical systematics, cytogenetics and numerical analyses. The student will apply one or more of these in a field or herbarium problem.

**Prereq:** General Botany, systematic botany; biometry and organic chemistry desirable.

**ZOOLOGY**

* ZOO 537, 538, 539 Special Topics in Zoology.

One, two and 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.

**Prereq:** Approval by the department.

* 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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*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 in the field. Specific experience in the identification of the freshwater fishes of the Great Lake 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 spring and summer 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 fall migration as biological phenomenon.
Prereq: 575 (425) Ornithology, or approval of department.

*ZOO 581 Tropical Ornithology. Two sem hours
A field course covering activity of native tropical birds and of wintering North American birds, and the relationships between the two groups.
Prereq: one course in ornithology or experience in field identification of birds, and consent of the department.

*ZOO 582 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 anthropod 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; 360 Parasitology; 430 Invertebrate Zoology or 300 Natural History of Invertebrates; and 310 Natural History of Vertebrates or 324 Comparative Anatomy.

*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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*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 other aspects of their ecology are studied in the field, including behavior, migration, reproduction 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 Natural History of Vertebrates or 420 Ecology or 324 Comparative Anatomy of Vertebrates.

*ZOO 593, 594, 595 Workshop in Zoology. One, two and three sem hours

*ZOO 596 Seminar in Zoology. One sem hour
Presentation of special reports and group discussions on selected topics.
Prereq: Twenty hours of credit in biology, including botany and zoology.

ZOO 597, 598, 599 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.

ZOO 660 Experimental Animal Embryology. Two sem hours
Demonstration and laboratory experiences utilizing the experimental method. An individual research project is a major part of the course.
Prereq: 323 Embryology or equivalent.

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 ontogenetic and adaptive significance of behavior patterns.
Prereq: Two courses in zoology.

ZOO 671 Comparative Physiology. Four sem hours
A study of systems used to maintain endogenous homeostasis in a phylogenetic series of animals.
Prereq: Organic chemistry, animal physiology.

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 animal physiology.

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, con-
ductivity, metabolism, respiration, excretion, growth and reproduction. Lab course is available but not required. 

Prereq: 222 General Zoology, laboratory physiology (general, plant or animal) and organic chemistry. Biochemistry, elementary physics desirable.

ZOO 674 Animal Cell Physiology Laboratory. One semester

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.

OTHER COURSES

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.

Biology

302 Genetics Laboratory. (2)
329 General Cytology. (3)
401 Biological Techniques. (2)
405 Organic Evolution. (2)
480 Radiation Biology. (3)

Botany

304 Mycology. (3)
310 Plant Physiology. (3)
312 Plant Anatomy. (3)
345 Medical Mycology. (4)
430 Plant Morphology of Algae and Fungi. (4)
431 Plant Morphology of Mosses through the Vascular Plants. (4)
444 Microbial Physiology. (3)

Zoology

306 Physical Anthropology. (2)
323 Animal Embryology. (3)
324 Comparative Anatomy of Vertebrates. (4)
327 Vertebrate Physiology. (3)
360 Parasitology. (3)
404 Histology. (3)
CHEMISTRY

MASTER OF SCIENCE IN CHEMISTRY EDUCATION

Objectives: To provide individually prepared programs of advanced study for teachers in secondary schools and community colleges and for students seeking entry into specialist degree programs in teaching.

Admission Requirements: Application for admission to this program will be considered from all applicants who have an undergraduate degree with a major or a minor in chemistry. Undergraduate courses must include quantitative analysis, one year of organic chemistry, one year of physics and mathematics equivalent to one year of analytical geometry and calculus. Deficiencies in preparation may be made up without credit while in the program.

Examinations to assess preparedness for graduate work can be arranged, if desired, with the graduate adviser and may in some cases be required of applicants. In such cases, conditional admission to the Graduate School is granted and the student must prepare for and take the prescribed exams before degree admission will be considered.

Degree Requirement: Successful completion of a minimum of thirty semester hours of graduate credit, distributed as follows:

1. Enroll in Chm 372—374, 432, 461—463, 503 and 596 or demonstrate satisfactory knowledge of the topics normally covered in them.
2. A minimum of twenty hours of graduate credit in chemistry.
3. Graduate and undergraduate credit hours in chemistry must total at least forty-six.
4. Six hours in approved courses selected from outside the Chemistry Department.

Certification for teaching may be achieved by satisfying the additional requirements listed in the Undergraduate Catalog.

MASTER OF SCIENCE IN CHEMISTRY

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

Admission Requirement: Application for admission to this program will be considered from all applicants who have an undergraduate degree with a major in chemistry or majors in other science areas with strong secondary concentrations in chemistry (approximately 25 semester hours). Deficiencies in preparation may be identified by consulting the graduate adviser. Non-credit courses will be prescribed to correct such deficiencies.

Degree Requirement:

1. Satisfactory completion of a minimum of thirty semester hours of graduate credit, distributed as follows:
a. four of the following five courses must be taken: 451-2, 481, 532, 561, 571. Students who receive satisfactory scores on voluntary placement examinations may request exemptions from this requirement.
b. six to ten hours of research culminating in a written thesis or six hours of a suitable independent study project. Theses are subject to departmental approval.
c. two credit hours in seminar (CHM 596), taken twice.
d. electives chosen from advanced courses in chemistry.
e. six hours in approved courses selected from outside the Chemistry Department.

2. Demonstrated competence in the use of the chemical literature.

GRADUATE ASSISTANTSHIPS

Graduate assistantships for the academic year are available with stipends ranging from $2500 to $3000 depending upon experience. Completed application forms for the positions should be sent to the graduate adviser by March 15 for the fall term and by November 15 for the spring term.

For further information regarding these programs and admission procedures, contact graduate adviser in chemistry.

*CHM 503 New Approaches to Teaching Chemistry. Two sem hours
Laboratory procedures of the Chem Study Program. Pre-lab discussions and lectures.
Prereq: Three courses in chemistry.

CHM 520 Introductory Chemistry. Two sem hours
The relationship of chemistry to the earth sciences, physical sciences and biological sciences; terms and definitions common to the several fields. The periodic table, modern theories of atomic structure and chemical processes and reactions in relation to physical surrounding and to life processes. For non-majors only.

*CHM 530 X-Ray Crystallography. Three sem hours
Crystal symmetry including crystal classes, point groups and space groups. The origin and production of X-rays, the design of X-ray equipment and the diffraction of X-rays by crystals. The theory of single crystal and powder X-ray equipment and the diffraction of X-rays by crystals. The theory of single crystal and powder X-ray methods; the role of modern automated diffractometers and electronic computers in the solution of crystal structures; laboratory experience in the Weissenberg single crystal technique and the powder method.
Prereq: Physical chemistry or approval by the department.

*CHM 532 Structural Inorganic Chemistry. Three sem hours
Physical and chemical methods for determining structures of inorganic substances and the relationship between structure and descriptive chemistry.
Prereq: One year of physical chemistry and one course in advanced inorganic chemistry.

*Open to graduate students and qualified seniors — see "Enrollment in Graduate Courses by Seniors."
CHM 553 Enzymology. Two sem hours
A lecture course covering the nomenclature, kinetics, mechanism and isolation of enzymes.
Prereq: 451 Biochemistry.

CHM 554 Biochemistry Research Techniques. Two sem hours
A laboratory course dealing with the special techniques employed by biochemists.
Prereq: A semester of biochemistry with laboratory.

CHM 555 Biopolymers. Two sem hours
A lecture course concerned with the chemistry and function of proteins, nucleic acids and polysaccharides.
Prereq: 351 Introductory Biochemistry or 451 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 analytical geometry and calculus and one year of college physics.

CHM 565 Nuclear Chemistry. Three semester hours
The course will cover topics such as radioactive decay, decay systematic, 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 dealt with. 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 570 Modern Topics in Organic Chemistry. Four sem hours
Modern chemical principles, update information for students lacking recent instruction in chemistry. For non-majors only.

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 Stereochemistry of Organic Compounds. Two sem hours
Study of the fundamentals of stereochemistry, including such topics as structure and symmetry, stereoisomerism, classification and separation of stereoisomers and stereospecific and stereoselective reactions.
Prereq: 372 Organic Chemistry.

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

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* CHM 576 High Polymer Chemistry Laboratory. Two sem hours
Prereq or coreq: CHM 575 High Polymer Chemistry or permission of the department.

* CHM 581 Analytical Chemistry. Three sem hours
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 594 Special Topics in Chemistry. Two sem hours
An in-depth study of a specialized area of chemistry.
Prereq: Graduate standing or permission of the department.

CHM 596 Seminar in Chemistry. One sem hour
Discussions of specific topics in chemistry by graduate students, staff and visiting scientists. Attendance at all sessions is expected. Two enrollments are required for all Master of Science in Chemistry candidates. Each student makes one presentation per enrollment. One of these must be based upon a research or an independent study project.
Prereq: Graduate standing or permission of the department.

CHM 597, 598, 599 Research in Chemistry. One, two and three sem hours
The student performs original research under direction. Thesis is submitted.

OTHER COURSES FOR CREDIT TOWARD THE MASTER’S DEGREE
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 description.

**374 Organic Chemistry Laboratory (2)
410 Scientific Glassworking (1)
432 Advanced Inorganic Chemistry (3)
451 Biochemistry (3)
452 Biochemistry Laboratory (2)
**462 Physical Chemistry Laboratory (2)
**463 Physical Chemistry (3)

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
** No credit given toward the M.S. in chemistry degree.
ECONOMICS

INTEREST AREAS
The program of graduate study in economics is readily adaptable to, and designed for, several interest areas: 1) Teachers who prefer a master's degree in a subject matter field rather than in educational methods; 2) Persons who are currently engaged in community college teaching, or for persons planning such a career; 3) Graduate students enrolled in the College of Business who seek cognate training in economics; 4) Graduate students in fields such as education, history, sociology, geography, industrial education, mathematics and the sciences, who desire supplementary work in economics; 5) Persons who desire the terminal degree in economics in order to broaden opportunities for business and government employment; 6) Graduate students who are seeking the doctor's degree at another university; and 7) Graduate students who are interested in the study of economics per se, and who otherwise are not pursuing specific vocational goals.

REQUIREMENTS FOR ADMISSION
In addition to fulfilling the general Graduate School requirements, the applicant shall meet the following admission requirements of the Department of Economics:

1. The applicant normally shall have completed an undergraduate major or minor in economics, including courses in intermediate economic theory. However, the student may take courses to make up deficiencies under conditional entry.
2. Have earned a 2.5 grade point average in all undergraduate work.
3. Supply the Economics Department with graduate record examination scores in the aptitude and advanced economics tests. Students given conditional entry to the program need not take the test until the end of their second semester.
4. No student will be admitted to the master's degree program in economics until the application has been approved by the Department of Economics.

* No credit given toward the M.S. in chemistry degree.
and a preliminary program of study has been approved by the director of graduate study. The department may permit conditional entry to selected students lacking the above requirements if their overall undergraduate academic record or other experiences offer reasonable expectation of success in the program.

REQUIREMENTS FOR AWARDING OF THE MASTER OF ARTS DEGREE

The student shall meet the general requirements established by the Graduate School. In addition, the candidate shall meet the following specific requirements of the Department of Economics:

1. Completion of a minimum of thirty (30) hours of graduate study including at least twenty-four (24) from the field of economics and six (6) from cognate areas.
2. The candidate shall demonstrate research ability of a level reflected in successful completion of one of the following three research options: a) a master's thesis (not to exceed six (6) graduate credit hours); b) a master's essay (not to exceed two graduate credit hours); or, c) at least two short research papers prepared in conjunction with the requirements of graduate courses in economics.
3. The candidate shall complete one graduate seminar course in economics; or, as an option carrying no credit, arrange with the department to take and pass a final oral examination covering some major aspect of the student's graduate program in economics.
4. The candidate shall have completed the following three graduate courses in economics: a) ECO 506 Development of Economic Analysis; b) ECO 601 Macroeconomic Analysis; and c) ECO 602 Microeconomic Analysis.
5. The candidate shall have had a minimum of one course as an undergraduate or graduate student in economic statistics, econometrics or quantitative methods.
6. The candidate's graduate program shall contain study in several basic areas of economics, which will generally include selections from economic theory, various applied areas, quantitative methods, the development of analysis, and economic policy.

INFORMATION

Any queries about the Master of Arts program in economics should be addressed to the director of graduate studies in the Department of Economics.

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 201 and 202 Principles of Economics or equivalent.

ECO 501 Economic Theory and Policy I. Three sem hours
National income analysis, employment theory, monetary theory and practice and their application to economic policy.
Prereq: ECO 500 Economics: Principles and Institutions or permission of department. Not open to students who have had 301 Intermediate Macroeconomic Analysis or equivalent.
ECO 502 Economic Theory and Policy II. 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.
Prereq: ECO 500 Economics: Principles and Institutions or permission of department. Not open to students who have had 302 Intermediate Microeconomic Analysis 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 toward better public understanding of the issue implications of policy solutions.
Prereq: ECO 500 Economics: Principles and Institutions or permission of department. Not open to economics majors.

* 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 Preclassical, Classical and Neoclassical, Keynesian and NeoKeynesian thought.
Prereq: Six hours of economics.

* ECO 510 Advanced Economic Statistics. Three sem hours
The application of statistics and quantitative analysis to economic problems using computer techniques.
Prereq: 310 Economic Statistics 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.

* ECO 515 Advanced Econometrics. 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, heteroselasticity, logged 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 and three stage least squares.
Prereq: 415 Econometrics or 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.

*Open to graduate students and qualified seniors — see “Enrollment in Graduate Courses by Seniors.”
*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 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: ECO 501 Economic Theory and Policy I 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: Nine credit hours or department 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: ECO 500 Economics: Principles and Institutions or equivalent or permission of 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: ECO 501 Economic Theory and Policy I or equivalent.

*ECO 560 Economics of Industrial Organization. Two 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: Six hours of economics.

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

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*ECO 562 Government and Business. Two 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: One course in economics and one course in political science.

*ECO 580 International Trade: Theory and Policy. Three sem hours
Analysis of international trade theories and trade policy with reference to the effects of domestic fiscal and monetary policy on international economic problems.
Prereq: ECO 501 and 502 Economic Theory and Policy or equivalent.

*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: ECO 501 and 502 Economic Theory and Policy or equivalent.

*ECO 586 Economic Development Planning. Three sem hours
Analysis of the theory of economic development planning and its application in developed and underdeveloped countries. Major development planning models are discussed.
Prereq: ECO 501 and 502 Economic Theory and Policy or equivalent.

*ECO 587 Economic Development of the Far East. Three sem hours
An analysis of economic development in the Far East, including a comprehensive survey of the development policies and economic structures of individual countries.
Prereq: ECO 501 and 502 Economic Theory and Policy or equivalent.

*ECO 594 Special Topics. Three sem hours
An advanced level course in a specific area of economics.
Prereq: ECO 501 and 502 Economic Theory and Policy or equivalent.

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

ECO 596 Seminar in Economics. Three sem hours
A seminar in advanced economic theory or policy open only to degree students of the department.
Prereq: Twelve hours toward M.A. degree.

ECO 597, 598, 599 Independent Studies. One, two and three sem hours
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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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: ECO 501 Economic Policy and Theory I or equivalent or permission of the department.

ECO 602 Microeconomic Analysis. Three sem hours
Economic analysis of the behavior of individuals and firms; price determination in competitive and monopolistic markets; general static equilibrium and the allocation of resources.
Prereq: ECO 502 Economic Theory and Policy II or equivalent or permission of department.

ECO 690, 691, 692 Thesis. One, two and three sem hours
Completion of research problem and writing thesis.
Prereq: Students who select the thesis alternative toward M.A. degree.

ECO 696 Research Seminar in Economics. Two sem hours
A research methods course designed to develop the skills necessary for effective research in economics.
Prereq: M.A. degree candidates in economics.

OTHER COURSES
These upper division 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.

310 Economic Statistics (3)
321 Black Workers and Labor Market (3)
323 Labor and Government (3)
341 Money and Banking (3)
365 Public Utility Economics (2)
366 Economics of Transportation (3)
370 Comparative Economic Systems (3)
371 Latin American Economic Problems (3)
415 Econometrics (3)
445 Business Cycles (3)
480 International Economics (3)
ENGLISH LANGUAGE
and LITERATURE

The Department of English Language and Literature offers courses leading to the degree of Master of Arts in English, as well as some general courses that serve other purposes and do not count toward the degree.

General requirements for the master's degree: In addition to the general Graduate School requirements set forth in the early pages of this catalog, the Department of English requires (A) for admission to the program, at least 24 semester hours of undergraduate English, excluding freshman composition, (B) for admission to candidacy for the degree, at least 12 semester hours of graduate literature in English with grades averaging B or better, (C) for the degree, a minimum of 30 semester hours of graduate work (usually 12 hours in an English major, six hours in an English minor, six hours of electives in English and six 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 either of the following ways:

a. by presenting two years (or the equivalent) of undergraduate foreign language credit.

b. 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.

Major and minor requirements for the master's degree: ordinarily a candidate will complete a major of 12 hours in a field chosen from those listed under Groups I, II and III, a minor of six hours in a field chosen from a second group and electives of six hours chosen from fields of a third group.

Group I
MEDIEVAL AND RENAISSANCE
17th and 18th CENTURIES

Group II
19th AND 20th CENTURIES
AMERICAN LITERATURE

Group III
PROSE FICTION (A student presenting Prose Fiction as a major is advised to include a course in literary criticism and must include one course each in 18th, 19th and 20th century British prose fiction and one in American prose fiction among his total undergraduate and graduate credits.)

POETRY (A student presenting Poetry as a major is advised to include a course in literary criticism and must include one course each in Chaucer, Shakespeare and Milton among his total undergraduate and graduate courses.

It should be noted that the same course may not be presented for credit toward both the major and minor. The major and minor program is designed to provide
some depth in particular areas, but in considering his entire training in English (both undergraduate and graduate) the student should aim for breadth as well. It is especially advised that the minor be chosen in an area where he would otherwise be weak.

Graduate assistantships and teaching fellowships are available in the department each year. Interested students should consult with the director of graduate studies.

The director of graduate studies is Professor Martin Kornbluth. Members of the Departmental Graduate Committee are Professors George Perkins, Walter Brylowski, Arthur Harris, Paul Pillsbury, Ronald Trowbridge, and O. Ivan Schreiber. All are available during regular office hours for information or counseling.

I. GENERAL COURSES

LIT 500-508 and 580 are courses not open to undergraduate students and not credited toward a Master of Arts in Literature. Such courses are offered for the benefit of graduate students specializing in departments other than English who wish to take collateral or cognate work in the Department of English. Such students, however, are not restricted to these courses; they may take any graduate courses in English for which they have the prerequisites.

* LIT 500 Masterpieces of Literature. Two sem hours
A study of various literary forms—drama, poems and prose works—to provide greater understanding of the significance of literature to the individual and to society. Chosen for their excellence in themselves and for their relevance to contemporary life are works of such authors as Homer, Sophocles, Shakespeare, Wordsworth and Ibsen.

* LIT 502 Modern Problems as Portrayed in Modern Literature. Two sem hours
The portrayal in modern literature of such problems as the relation between the individual and the state, the family and the crowd; the relation between Western and other civilizations. The effect of the industrial system and the search for values. Writers whose works might provide material include Huxley, Mann, Shaw, Forster, Joyce, Lawrence, Wells, Faulkner, Eliot, Auden, Malraux and Dos Passos.

* LIT 503 Biography as Literature. Two sem hours
The documentary biography, the portrait biography and the narrative-pictorial biography; biography as fact, as psychological interpretation and as art.

* LIT 507 History of Children's Literature. Three sem hours
A survey of children's literature from 1484-1900. Students will concentrate their study on the 18th and 19th centuries and the different genres which developed. Main emphasis will be on fiction and poetry, but the contributions of children's periodicals and Sunday School Tract Society, the work of the illustrators of children's books and magazines, and the rise of non-fiction trade books separate from textbooks will be included.

*Open to graduate students and qualified seniors—see Enrollment in Graduate Courses by Seniors.
*LIT 508 Teaching of Children’s Literature. Two sem hours
An intensive study of the major genres of children’s literature with particular emphasis on important representative examples. A significant part of the course is devoted to the discussion and demonstration of various techniques employed in teaching literature to children. Offered for anyone planning to work with children pre-school through grade nine.
Prereq: 207 Introduction to Children’s Literature.

*LIT 580 The Making of the Modern Mind. Three Sem hours
The emergence of the moral, social, political and religious dilemmas that confront thinking men and women of the twentieth century, studied chiefly through works of British and American literature.

II. COURSES FOR MASTER OF ARTS IN LITERATURE

A. Medieval and Renaissance

*LIT 530 Studies in Chaucer. Three sem hours
Intensive reading of Chaucer’s major works and supplementary reading in Chaucerian criticism.
Prereq: 15 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: 15 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: 15 hours of credit in literature, including one course in Shakespeare.

*LIT 542 Elyot, Sidney, Spenser. Three sem hours
To examine in depth the artistic aims, techniques and achievements of three Sixteenth Century British authors, including their relation to Renaissance Christian Humanism.
Prereq: 15 hours of credit in literature.

B. Seventeenth and Eighteenth Centuries

* LIT 550 Donne, Browne and Others. Three sem hours
The principal works of two or three English authors from the period 1600-1660.
Prereq: 15 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: 15 hours of credit in literature.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*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: 15 hours of credit in literature.

*LIT 562 Boswell and Johnson. Three sem hours
Major writings with attention to the men and times.
Prereq: 15 hours of credit in literature.

*LIT 563 Studies in Eighteenth-Century Comic and Satiric Fiction. Three sem hours
Major comic or satiric authors of the 18th century and the literary, historical and critical problems arising from their work. On a cyclical basis, the authors studied will include Swift, Fielding, Sterne and Smollet, and some of their imitators and minor successors; the Fielding-Richardson inter-action.
Prereq: 15 hours of credit in literature.

*LIT 564 Studies in Eighteenth-Century Sentimental and Gothic Fiction. Three sem hours
Major sentimental or Gothic authors of the 18th century and the literary, historical and critical problems arising from their work. On a cyclical basis, the authors studied will include Defoe, Richardson, MacKenzie, Goldsmith, Godwin, Walpole, Radcliffe and Lewis.
Prereq: 15 hours of credit in literature.

C. Nineteenth and Twentieth Centuries

* LIT 570 Wordsworth. Three sem hours
An intensive study of the poetry and critical essays of Wordsworth.
Prereq: 15 hours of credit in literature.

* LIT 571 Byron, Keats. Three sem hours
An intensive study of the poetry of Byron and Keats.
Prereq: 15 hours of credit in literature.

* LIT 573 Tennyson and Browning. Three sem hours
Reading and analysis of major works by Tennyson and Browning, with peripheral study of their social and literary background.
Prereq: 15 hours of credit in literature.

* LIT 575 Carlyle, Arnold. Three sem hours
A close examination of selected works, accompanied by rapid reading of other works and of biographies, correspondence and other background materials that will aid students in placing these two major writers in their time, and in discovering their relevance to our time.
Prereq: 15 hours of credit in literature.

* LIT 581 Eliot, Jeffers, Auden. Three sem hours
Intensive study of the work of three major contemporary poets. This course may

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
also be credited under American Literature.
Prereq: 15 hours of credit in literature.

D. American Literature

*LIT 510 Problem of Evil in American Literature. Three sem hours
Analysis of selected essays, poems, short stories and novels in which three great
American writers, Emerson, Hawthorne and Melville, have delineated and
speculated upon the nature, loci, causes and effects of evil in the cosmos, in
society and in the individual soul.
Prereq: 15 hours of credit in literature.

*LIT 520 Dickinson, Robinson, Frost. Three sem hours
The lyric and narrative poetry of three New England poets: explication of poems,
biography and the poets' reflection of their times.
Prereq: 15 hours of credit in literature.

*LIT 521 Whitman and Contrasting American Poets. Three sem hours
Form and content in Whitman's poetry as related to the literary, social and
political backgrounds of his time. Comparisons with the theory and practice of
Bryant, Poe, Whittier and Longfellow.
Prereq: 15 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: 15 hours of credit in literature.

*LIT 525 Henry James. Three sem hours
Major novels, shorter fiction and literary criticism of Henry James.
Prereq: 15 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
1920's 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.

ENG 594 Teaching Composition on the College Level. Three sem hours
A course in the methods of teaching English composition, with particular at­
tention to beginning courses on the college and junior college level.

ENG 595 Teaching College English. One sem hour
A seminar for students teaching or preparing to teach freshman English com­
position at the college level. Required of all Eastern Michigan University
teaching fellows in English and open to other interested M.A. candidates. Does
not count toward 24-hour literature requirements.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."
LIT 596 Seminars in Selected Topics. Three sem hours
Topics and instructors announced from time to time.  
Prereq: 15 hours of credit in literature. Further prerequisites may be required for some topics.

LIT 597, 598, 599 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. Not to be elected until a student has been accepted as a candidate for the master's degree in literature.

LIT 609 Literary Criticism. Three sem hours
A study of various approaches to literary criticism with application to specific works.  
Prereq: 15 hours of credit in literature.

III. LANGUAGE, LINGUISTICS AND COMPOSITION

ENG 501 Basic Studies for Teachers of Language Arts.
Three sem hours
Seeks to increase the student's understanding of the nature and function of language to the end that he may deal more effectively with the communication problems of his pupils. No special knowledge of grammar is assumed.

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.

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 or 314 Old English.  
Recommended: 315 Age of Chaucer.

IV. OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN ENGLISH
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.

301 An Introduction to the English Language (3)

302 Modern English Syntax (3)

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
320 Introduction to Linguistic Science (3)
321 The History of the English Language (3)
322 Creative Writing Workshop (3)
425 Advanced English Syntax (3)
305 Shakespearean Comedy. (3)
314 Old English. (3)
315 Age of Chaucer. (3)
316 English Literature 1500-1600. (3)
317 English Literature 1600-1660. (3)
318 English Literature 1660-1744. (3)
319 English Literature 1744-1798. (3)
327 Milton. (3)
328 The American Novel 1798-1920 (3)
330 The Eighteenth Century Novel. (3)
331 The Nineteenth Century Novel. (3)
332 The Twentieth Century American Novel. (3)
333 The Twentieth Century British and European Novel. (3)
340 English Drama 1558-1642. (3)
341 English Drama 1660-1779. (3)
401 Modern American and British Poetry. (3)
403 Modern Drama. (3)
404 English Literature 1798-1832. (3)
405 Victorian Poetry. (3)
407 Victorian Prose. (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)
FOREIGN LANGUAGES
and LITERATURE

For admission to the program, a student shall present in the chosen language an undergraduate major, equivalent to the requirements for such a major at Eastern Michigan University; and shall have a 3.0 undergraduate grade point average in the major and an overall undergraduate grade point average of 2.51 or above. Students with less undergraduate preparation may be admitted to the program only by the special approval of the departmental graduate committee, which shall establish compensatory requirements.

Individual programs will be prepared by the adviser assigned by the department. The course requirements for the degree will be adjusted insofar as possible to complement the areas covered by the student during his undergraduate preparation. Every candidate for a degree will be expected to have completed work at the graduate level in the areas cited below with the minimum number of credit hours specified. Students seeking a degree in their native language are not eligible to take for credit certain language courses. Appropriate program adjustments will be made in consultation with the adviser.

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<th>FRENCH</th>
<th>LANGUAGE</th>
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<td>12 to 18 hours</td>
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<td>History of French language</td>
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<td>Old French</td>
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<td>Old Spanish</td>
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<td>Syntax</td>
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<td>Graduate Spanish Conversation</td>
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<td>Graduate French Conversation</td>
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<td>Diction</td>
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<td>Spanish Language in New World</td>
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<td>Contemporary French Scene</td>
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<td>Diction</td>
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<td>12 to 14 hours</td>
<td>12 to 14 hours*</td>
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<td>16th through 19th centuries</td>
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<td>20th century</td>
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ADMISSION TO CANDIDACY

In addition to the Graduate Record Examination to be submitted upon entrance to the program, the student shall demonstrate to a departmental committee his proficiency in the written and oral use of the language; and shall have completed a minimum of twelve semester hours of graduate work in his chosen field with an average grade of B or higher.

COMPLETION OF DEGREE

Candidates for the degree shall present a minimum of thirty hours of graduate work. The program will include six hours in a related area, to be determined by the departmental adviser and the student, and approved by the dean of the

*The student is expected to be conversant with both Peninsular and Latin-American literature, and his program must reflect this.
78 Graduate School

Graduate School. The candidate shall pass satisfactorily written and oral examinations. These examinations shall be completed at least one month before the degree is to be awarded. The examination will be based upon a Reading List presented to the student upon his admission to candidacy.

RESEARCH PAPER

As an alternative to the thirty hours of graduate work, a student may elect to prepare a research paper on a subject approved by his graduate committee. This alternative is recommended only for those students who plan to continue their graduate work toward the doctorate. Those selecting this alternative will be allowed a maximum of six hours of graduate credit for the completion of the research paper and will be required to submit at least twenty-four hours of graduate course work. The courses for credit in the preparation of the research paper are numbered 690, 691, and 692; they carry 1, 2 and 3 hours of credit respectively. The number of credit hours for this work in a given term will be recommended by the adviser in consideration of the scope and difficulty of the project and of the amount of time expended. the research paper must be approved by the graduate committee before a degree is recommended under this plan.

I. FRENCH

FRN 516, 517 Reading French for Graduate Students.

Three sem hours each

Structure, basic vocabulary, and common idioms of French for reading proficiency. Open to beginning students. Does not count toward a degree in French.

*FRN 519 French Diction. Two sem hours

Study of physiology of the fundamental vowel and consonant sounds in French. Drill on rhythm and intonation. Practice and recording in the laboratory.

FRN 520 French Grammar and Syntax. Two sem hours

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 521 Advanced Conversation in French. Two sem hours

Acquisition of an active vocabulary for daily life and greater oral facility. The student will work in the laboratory listening to and making his own recordings. This course may be repeated once for supplementary credit.

Prereq: 444 Advanced French Conversation or equivalent.

FRN 522 Stylistics. Two sem hours

Translation of selected passages into French; some free composition in French.

Prereq: 443 French Syntax or its equivalent.

*FRN 523 Contemporary French Scene. Two sem hours

An interdisciplinary approach to French language, culture and literature.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
Material to be read in the original and to serve as a basis for class discussion in French. Assigned reading and oral reports.  
Prereq: 443, 444 Advanced French Conversation and two courses in literature.

FRN 524 Modern French Novel. Two sem hours
Contemporary prose fiction from Gide to Michel Butor. Works of Malraux, Camus, Sartre and others will be studied and discussed.

*FRN 525 Modern French Theatre. Two sem hours
A study of the recent French theatre since the end of the first World War and continuing up to the present.
Prereq: 341, 342 Survey of French Literature or departmental permission.

FRN 563, 564 Sixteenth Century French Literature. Two sem hours
Literature of the sixteenth century in France, from Grands Rhetoriqueurs and Rabelais, to the Edict of Nantes.
Prereq: Two courses in French literature, beyond survey.

FRN 585, 586 Old French. Two sem hours
Development of Old French from its Latin roots with major emphasis upon the morphological changes. Readings in the literature of the Old and Middle French periods from the earliest documents to the time of Villon.
Prereq: 481 History of the French Language or its equivalent and two courses in literature beyond 341, 342 Survey of French Literature.

FRN 597, 598, 599. One, two and three sem hours
Intensive study of a problem under the direction of a member of the graduate staff. Not to be elected until the student has been accepted as a candidate for the M.A. degree.

FRN 690, 691 and 692. Research Paper. One, two and three sem hours
For students who seek the degree through the alternative plan outlined under Research Paper. The amount of credit will be recommended by the adviser.
Prereq: Departmental permission.

II. OTHER COURSES FOR CREDIT TOWARD M.A. IN FRENCH
The following courses for advanced undergraduates are also available to graduate students. The descriptions of the courses are given in the Undergraduate Catalog.

431 Moliere. (3)
432 Corneille and Racine. (3)
441, 442 Nineteenth Century French Novel. (3)
443 French Syntax. (2)
444 Advanced French Conversation. (2)

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
III. SPANISH

SPN 519 Spanish Diction. 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 520 Spanish Grammar and Syntax. Two sem hours
The morphological and syntactical structure of Spanish.
Prereq: 443 Advanced Spanish Composition or equivalent.

SPN 521 Graduate Spanish Conversation. Two sem hours
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 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.

*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 520 Spanish Grammar.

SPN 585, 586 Old Spanish. Two sem hours
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 15th Century.
Prereq: 481 History of the Spanish Language or equivalent and two courses in Spanish literature beyond 341, 342 Survey of Spanish Literature.

SPN 597, 598, 599. One, two and three sem hours
Intensive study of a problem under the direction of a member of the graduate staff. Not to be elected until the student has been accepted as a candidate for the M.A. degree.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
IV. OTHER COURSES FOR CREDIT TOWARD M.A. IN SPANISH

The following courses for advanced undergraduates are also available to graduate students. The descriptions of the courses are given in the Undergraduate Catalog.

351, 352 Survey of Spanish-American Literature. (3)

443 Advanced Spanish Composition. (2)

444 Advanced Spanish Conversation. (2)

445 Spanish-American Novel. (3)

446 Spanish-American Theatre. (3)

447 Modern Novel. (3)

448 Modern Drama. (3)

449 Romanticism. (3)

453 Drama of the Golden Age. (3)

454 Modernism in Spanish America. (2)

455 The Generation of 1898. (2)

463 Don Quijote. (3)

481 History of the Spanish Language. (2)

GEOGRAPHY and GEOLOGY

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 climatology, geology and other aspects of the natural environment receive the Master of Science degree.

Objectives. The objectives of programs leading to a master’s degree are aimed at helping each individual student to prepare for further study toward a doctoral degree; a professional career using geography after earning a master’s degree; or teaching at elementary, secondary or community college level with master’s degree competence in geography. Geographers are employed by government agencies, from local to federal levels, to work in urban and regional planning, analysis of foreign areas, resource management, agricultural and transportation surveys, cartography, climatology and general economic geography. Some opportunities also exist in private business for geographically trained persons who can do research in marketing and industrial location.

Admission Requirements. For admission to a master’s degree program in geography the student must have a bachelor’s degree from an accredited institution, and must have attained at least a 2.5 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 between 44 and 48 semester hours of undergraduate and graduate work in geography for the master's degree.

Degree Requirements. Normally a minimum of 30 semester hours will be required for a master's degree: 18 hours in geography courses, six hours for a thesis and six hours in a cognate field or fields. Courses will be selected with the guidance of a departmental adviser and will depend on the undergraduate background and master's degree objective of the individual student.

All candidates for the master's degree must have completed, within the total of their undergraduate and graduate study, at least two physical geography courses, at least two cultural geography courses, at least one regional geography course (not including Geography 110 World Regions) and at least one course in each of the following: history of geographic thought, cartography or quantitative methods, geographic field methods, geographic research and graduate seminar in geography. GEO 507, 508, 509, 522, 529 and 530 may not be counted for this requirement.

All graduate students are required to write a thesis and to pass a comprehensive oral examination as part of the master's degree program. The subject of the thesis is determined by the student and his/her advisers in order to provide an opportunity for the student to work in his/her special field of interest. The oral examination, conducted by a committee made up of at least four members of the graduate faculty, will cover the field of geography and will emphasize the student's special field of interest.

Students desiring more information concerning the master's degree programs in geography should contact Dr. Paul Buckholts, the department's coordinator of graduate advising.

* GEO 505 Aerial Photograph Interpretation and Remote Sensing.

Two sem hours

Application of remote sensing techniques, in particular black and white photography, to various scientific research problems. How may environments be sensed remotely, and analysis of the imagery.

Prereq: 301 Introduction to Cartography or consent of the department.

* GEO 507 Resources and Nations. Two sem hours

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. Not open to students who have more than eight hours of credit in geography.

* GEO 508 Earth Science I. Two sem hours

Rocks and minerals and their significance in the development of landforms. Not open to students who hold credit in 108 Earth Science.

GEO 509 Earth Science II. Two sem hours

Weather and climate and related phenomena such as natural vegetation and soils. Not open to students who hold credit in 108 Earth Science.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
**GEO 522 Processes of Landform Development. Two sem hours**
Interrelations of climate, microclimate, vegetation, near-surface materials, soil formation and types and landforms in Michigan, emphasizing direct observation in the field.

**GEO 528 Plant and Animal Geography. Two sem hours**
A description of world vegetation and wildlife regions including the relationship of habit 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 529 Common Rocks and Minerals. Two sem hours**
Materials and processes in the formation and distribution of important minerals and rocks. *Not open to students who have credit in 229 Rocks of Michigan.*

**GEO 530 Principles of Earth History. Two sem hours**
Relationship of geologic processes to the rock record of earth, its relationship to the solar system, time, earth change and the succession of life. *Not open to students who have credit in 230 Historical Geography.*

**GEO 531 Introduction to Coastal Environments. Two sem hours**
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 539 Special Topics in Geography. Two 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 541 South American Lands. Two sem hours**
A regional study of the countries of South America; resources, people and national cultures are stressed.
_Prereq:_ Fifteen hours of credit in geography or approval by the department.

**GEO 542 Middle America and the Caribbean World. Two sem hours**
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:_ Fifteen hours of credit in geography, including one course in regional geography, or approval by the department.

**GEO 544 Problems in Urban Geography. Two sem hours**
Selected geographic problems: urban sprawl, deterioration of the urban en-

*Open to graduate students and qualified seniors — see "Enrollment in Graduate Courses by Seniors."*
environment, changing urban functions and others. Acquisition of analytical techniques and geographical insights.
Prereq: Fifteen hours of credit in geography, including one course in urban geography, or approval by the department.

*GEO 545 Problems in Political Geography. Two sem hours
Individual and group research in the geopolitical relationships among sovereign states, alliances and coalitions.
Prereq: Fifteen hours of credit in geography, including 432 Political Geography, or approval by the department.

*GEO 546 Problems in Population Geography. Two sem hours
Readings, discussion, and research on selected problems in population geography.
Prereq: Ten hours of credit in geography including 361 Population Geography or approval by the department.

*GEO 552 Historical Geography of Michigan. Two sem hours
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.

*GEO 556 Problems in the Geography of Western Europe. Two sem hours
Selected problems in the cultural and economic geography of Western Europe.
Prereq: Fifteen hours of credit in geography including one course in the geography of Europe or approval by the department.

*GEO 557 Field and Project Geography. Six sem hours
Use of field instruments and methodologies in physical, agricultural, urban, industrial and settlement geography. Not open to students who hold credit in 403 Field and Project Geography.
Prereq: Graduate majors in geography or approval by the department.

*GEO 559 Problems in Soviet Geography. Two sem hours
Individual and group research in selected problems in the geography of the Soviet Union.
Prereq: Fifteen hours of credit in geography, including a course in Soviet geography, or approval by the department.

*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: Permission 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;

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
concludes with experimental forecasting. One hour lecture and two hours laboratory per week. Not open to students holding credit in 223 Weather and Climate.

*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 graphical forms are interpreted in evaluating and classifying climates. One hour lecture and two hours laboratory per week.
Prereq: 223 Weather and Climate or GEO 562 Weather.

*GEO 568 Geography Field Trips. Four sem hours
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 569 The American Midwest. Two sem hours
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: Fifteen hours of credit in geography, including a course in geography of Anglo-America, or approval by the department.

*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 Social Studies in Elementary Schools.

*GEO 574 Problems of Sub-Saharan Africa. Two sem hours
Individual research in selected problems in the geography of Sub-Saharan Africa.
Prereq: Fifteen hours of credit in geography, including a course in the Geography of Africa, or approval by the department.

*GEO 585 City and Regional Planning. Two sem hours
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: Ten hours of credit in geography or approval by the department.

*GEO 595 Teaching College Earth Science. One sem hour
A seminar for students teaching or preparing to teach freshman Earth Science at the college level. Required of all Eastern Michigan University graduate assistants and teaching fellows in earth science and open to other interested M.A. candidates.

GEO 596 Seminar in Geography. Two sem hours
Research, reports and group discussions emphasizing the distinctive concerns

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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 597, 598, 599 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: Approval by the department.

GEO 649 Problems in Economic Geography. Two sem hours
Research problems and techniques dealing with the production, distribution and consumption aspects of economic geography.

Prereq: Fifteen hours of credit in geography, including a course in economic geography, or approval by the department.

GEO 655 Field Studies in Michigan. Two sem hours
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 660 Area Analysis. Two sem hours
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 303 Field Geography, 403 Field and Project Geography or GEO 557 Field and Project Geography or approval by the department.

GEO 663 Analytical Climatology. Two sem hours
An advanced course in climatology which treats in detail the causes and effects of climates in specific areas of the world. Analysis of various climatic classification systems, regional climatology and applied climatology are stressed.

Prereq: 223 Weather and Climate or GEO 582 Weather and GEO 583 Climate.

GEO 670 History of Geographic Thought. Two sem hours
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 690, 691, 692 Thesis. One, two and three sem hours
An intensive study of a problem of group direction or problems under the direction of a faculty member.

Prereq: Approval by the department.

GEO 696 Seminar in Methods and Research. Two sem hours
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.
OTHER COURSES FOR CREDIT TOWARD A MASTER'S DEGREE IN GEOGRAPHY

A maximum of three advanced undergraduate courses from the following list are also available to graduate students. For descriptions of these courses see the Undergraduate Catalog.

312 Geography of Canada. (2)
313 Geography of Michigan. (2)
321 Geography of Latin America. (3)
322 Geography of Africa. (3)
323 Geography of Australia and the Pacific Islands. (3)
324 Geography of South Asia. (3)
325 Geomorphology. (3)
326 Structural Geology. (3)
327 Introduction to Soil Science. (2)
329 Lithology. (3)
330 Sedimentation and Stratigraphy. (3)
331 Introduction to Paleontology. (3)
332 Urban Geography. (3)
333 Settlement Geography. (3)
359 Geography of the U.S.S.R. (3)
360 Cultural Geography. (3)
361 Population Geography. (3)
365 Nature and Origins of Urbanism. (3)
370 Glacial Geology. (3)
423 Problems of Southeast Asia. (2)
424 Climatology. (2)
425 Near East. (2)
428 Optical Minerology. (4)
430 Petroleum Geology. (3)
431 Historical Geography of the United States. (3)
432 Political Geography. (3)
433 Case Studies in Political Geography. (3)
438 Manufacturing Geography. (3)
HISTORY and PHILOSOPHY

The program leading to the degree of Master of Arts in history is designed primarily for present or prospective teachers of history in secondary schools and junior colleges. However, it also serves those with other personal or vocational goals. Each student, in consultation with the department's graduate adviser, plans a course of study appropriate to his/her preparation and interests and satisfying the requirements outlined below.

In addition to Graduate School requirements for admission, the department requires an applicant for admission to present a minimum of 20 semester hours of undergraduate history courses and grade point averages of 2.5 (4.0=A) for all undergraduate courses and 2.75 for all undergraduate history courses.

For the degree of Master of Arts in history, the department requires satisfactory completion of 30 semester hours of credit. This may include up to 15 hours in approved upper division undergraduate courses. Specific requirements are:

A. twenty-four hours of history courses carrying graduate credit.
B. a seminar with a formal research paper.
C. a combination of graduate and upper-division undergraduate courses including:
   course work in historical method and historiography (students entering without such course work will register for a graduate course in historical method during their first semester of graduate study) at least two courses in each of the three areas
   at least three courses in each of two fields, the fields chosen from two different areas.
D. an oral examination in each of the two fields.
E. six hours of cognate courses.

In addition to history requirements, the student must meet all other Graduate School requirements.

The areas of historical study, with their respective fields, are:
A limited number of graduate assistantships are available. Interested students should direct their inquiries to the head of the department.

Graduate students in history must arrange an early conference with the departmental graduate adviser and have all course elections approved by him each semester.

For admission to a Master of Arts degree program in social studies, the student shall present a bachelor's degree from an accredited institution, a grade point average of 2.5 either in all his undergraduate work in the social studies or in his his/her prospective social studies area of concentration, and not less than 30 semester hours of undergraduate credit in social studies. Candidates for the degree must also possess a teacher's certificate for the elementary or secondary level. Students who do not meet their qualifications will make up the deficiency.

For completion of the Master of Arts degree in social studies, the applicant must present a total of not less than 30 semester hours of graduate credit. This may include up to 15 hours in approved upper division undergraduate courses. The credit must be distributed as follows:

1. Twelve semester hours in one social studies area of concentration (economics, history, political science, sociology and such geography courses as are classed as social sciences).
2. Twelve semester hours to be selected from at least two of the social studies areas other than his area of concentration.
3. Six elective semester hours of graduate work. The elective hours may be social studies or any other graduate courses offered by the University.
4. All course elections must be approved by the departmental graduate adviser.

The departmental graduate adviser is Dr. Lee R. Boyer, 702-F Pray-Harrold Building.

I. HISTORY

A. Courses for the Master of Arts in History

AREA 1: UNITED STATES

* HIS 531 Studies in Black History. Three sem hours
The major developments in the history of Negro Americans from 1619 to the present.
Prereq: Six hours of U.S. History.

* HIS 533 Studies in Michigan History. Three sem hours
Intensive study of differing periods and topics in Michigan history.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Prereq: 313 Michigan History, 414 Michigan in the Twentieth Century or permission of the department.

*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
Ref orm movements of the period; the labor movement, education, immigration, the Negro and the democratization of politics.
Prereq: Three courses in American history.

*HIS 568 The New Deal. Two sem hours
Political, social and economic problems of the 1930's and early 1940's; attempted solutions and their ramifications.
Prereq: Three courses in American History, including 224 American History, 1877 to Present, or its equivalent.

*HIS 582 Studies in the Constitutional History of the United States. Three sem hours
Major problems and events in American constitutional history from 1607 to the present.
Prereq: 411 American Constitutional History to 1865, 412 American Constitutional History, 1865 to Present, Political Science 312 American Constitutional Law I or 313 American Constitutional Law II.

*HIS 583 Studies in the Civil War and Reconstruction. Two sem hours
Major problems of interpretation in the period from 1850 to 1877.
Prereq: Two courses in American History.

*HIS 584 The United States: 1877-1917. Two sem hours
The history of the United States for the four decades preceding 1917.

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 Ancient History I. Two sem hours
Greek City-State Civilization; the political, economic, social, cultural and religious life of the Greeks in the period between the Persian Wars and the successors of Alexander the Great (479-323 B.C.) with special attention to fifth-century Athens, the legacy of Greece to the modern world.

*HIS 512 Ancient History II. Two sem hours
Roman Imperial Civilization; the political, economic, social, cultural and religious life of the Romans from the accession of Augustus to the death of Constantine (31 B.C.-337 A.D.)

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*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: 309 France to 1789 or 331 Modern Europe, 1500-1815.

* 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, 1500-1815.

* HIS 547 Nineteenth Century Ideological Background of the Russian Revolution. Three sem hours
Russian thought from the accession of Nicholas I (1825) until the Bolshevik revolution. Major themes to be treated are: the Slavophiles and Westernizers, socialism, anarchism, nihilism, populism, liberalism and conservatism.
Prereq: One course in modern European history or permission of the department.

* HIS 548 History Travel-Study Tours. Two sem hours
Representative areas with significant historical background.

* HIS 550 Twentieth Century Russia. Two sem hours
Political, economic and diplomatic developments in the history of Russia from the Revolution of 1905 to the death of Stalin.

AREA 3: OTHER

* HIS 507 History of Religions I: Judaism and Islam. Two sem hours
Major themes and movements in the development of two great Semitic religions, with reference to an understanding of the present scene.
Prereq: 201 The Comparative Study of Religion or permission of the department.

*HIS 508 History of Religions II: Christianity. Two sem hours
Formative influences in the development of Latin, Byzantine and Reformation

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
**HIS 509 History of Religions III: Hinduism and Buddhism.**

Two sem hours

The development of Hinduism and Buddhism with emphasis on the influences they exercise in Asia in the twentieth century.

Prereq: 201 The Comparative Study of Religion or permission of the department.

**HIS 542 Studies in 20th Century Africa.** Three sem hours

A detailed examination of Black Africa's response to the historical experience of European colonialism. The evolution of these responses, forms and patterns applicable not only to Africa, but the entire non-Western world.

**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: 441 Middle Eastern History, 1798 to Present, 442 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 557 Intellectual History of the Far East.** Two sem hours

Major schools of Chinese classical thought; Japanese politics—religious traditions; development of Buddhism and neo-Confucianism in China and Japan; reaction to Western influences; 19th and 20th century ideas on religion and government.

Prereq: One course in Far Eastern history or permission of the department.

**HIS 558 Diplomatic History of the Far East.** Two sem hours

The international relations of China, Japan and Korea with each other and with the Western powers from the beginning of the nineteenth century to the present; stresses arising from East Asia’s enforced entry into the modern state system.

Prereq: One course in Far Eastern history or permission of the department.

**HIS 561 Studies in Latin American History I.** Two sem hours

Selected political, economic, social and intellectual aspects of Spanish American and Portuguese American history from the period of discovery to the independence era.

Prereq: One course in Latin American history or permission of the department.

**HIS 562 Studies in Latin American History II.** Two sem hours

Selected political, economic, social and intellectual aspects of the history of Spanish and Portuguese America during the National Period, from independence to the present.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
Prereq: One course in Latin American history or permission of the department.

*HIS 585 Emergence of Canada. Two sem hours
The Canadian people and their culture; the government (English-Canadian relationship), the resources, the development of industry, United States-Canadian relations and the emergence of Canada as a contemporary world power.

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.

HIS 597, 598, 599 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.

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 696 Seminar in History. Three sem hours
Research in problems of significance in history; areas of concentration will vary. The preparation of a paper demonstrating the ability of the student to apply the canons of historical scholarship will constitute a substantial part of the course. Prereq: Fifteen hours of graduate credit in history plus HIS 505 Historical Method.

OTHER COURSES FOR CREDIT TOWARD THE MASTER'S DEGREE
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.

1. United States

303 History of American Religion. (3)
313 Michigan History. (3)
315 History of Black Americans. (3)
361 Foreign Relations of the United States. (3)
362 American Urban History (3)
365 The Old South. (3)
368 Social and Intellectual History of the United States to the Civil War. (3)

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
369 Social and Intellectual History of the United States since the Civil War. (3)

380 The American Colonies to 1763. (3)

383 The Age of Jackson. (3)

385 Civil War and Reconstruction. (3)

402 The American Revolution. (2)

411 American Constitutional History to 1865. (3)

412 American Constitutional History, 1865 to the Present. (3)

414 Michigan in the Twentieth Century. (3)

425 Twentieth Century America to 1945. (3)

426 The United States since World War II. (3)

480 Federalist Jeffersonian America. (3)

2. Europe

309 France to 1789. (3)

310 France since 1789. (3)

311 England to 1689. (3)

312 England 1689 to Present. (3)

323 Greek History. (3)

324 Roman History. (3)

327 The Early Middle Ages. (3)

328 The High Middle Ages. (3)

330 Europe in the Renaissance and the Reformation. (3)

331 Europe from Absolutism to Revolution, 1648-1815. (3)

332 Modern Europe 1815-1919 (3)

333 Europe since 1919. (3)

337 German History to 1815. (3)

338 German History since 1815. (3)

343 Russia to 1855. (3)

344 Russia since 1855. (3)

435 Italy since 1815. (3)

471 Social and Intellectual History of Nineteenth Century Europe. (3)
3. Other

301 The Religions of South and East Asia. (3)
302 Near Eastern and Western Religions. (3)
355 Latin America: Colonial Period. (3)
356 Latin America: National Period. (3)
357 History of Mexico. (3)
371 The Far East to 1800. (3)
373 History of Modern China. (3)
374 History of Modern Japan. (3)
375 Modern India. (3)
377 History of Sub-Saharan Africa. (3)
403 History of the Ancient Near East. (3)
438 History of Islamic Lands to 1800. (3)
441 Middle Eastern History, 1798 to Present. (3)
442 North Africa, 1798 to Present. (3)

II. PHILOSOPHY

PHI 502 Foundations of Western Thought. Two sem hours
Writings of some of the most influential philosophers, e.g. Plato, Aristotle, Descartes, Berkeley, Hume and Kant. For graduate students with no previous work in philosophy.

PHI 510 Studies in the Philosophy of Art. Two sem hours
An application of contemporary analytical methods of problems in the philosophy of art. The reading matter consists of leading journal articles published during the twentieth century. 
Prereq: One course in philosophy and graduate standing.

PHI 530 Plato. Two sem hours
Major and minor Platonic dialogues and some of the epistles. 
Prereq: 230 History of Philosophy: Ancient and Medieval or permission of the department and graduate standing.

PHI 543 Aristotle. Two sem hours
The main works of Aristotle either in part or completely. The student will concentrate on one aspect of Aristotle and write a paper on it. 
Prereq: 230 History of Philosophy: Ancient and Medieval or permission of the department and graduate standing.
MATHEMATICS

THE MASTER OF ARTS DEGREE

The Graduate Advisory Committee of the department (henceforth referred to as the Graduate Committee) will consider admission to the program after assigning each student to an adviser.

I. Requirements for admission to the program:
   A. admission to the Graduate School.
   B. 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 Committee.
   C. acceptance by the Graduate Committee after individual consultation with member(s) of the Committee.

II. Degree requirements:
   A. The Graduate Committee, after consultation with the student, will recommend that a minimum of 30 semester hours credit beyond the bachelor's degree be divided in one of the following two ways:
      1. a. a minimum of 24 semester hours in mathematics, including at least one course each in algebra, analysis and geometry;
         b. six semester hours in courses outside the Mathematics Department.
      2. a. a minimum of 20 semester hours in mathematics, including at least one course each in algebra, analysis and geometry;
         b. four semester hours in methods or history of mathematics and methods;
         c. six semester hours in courses outside the Mathematics Department.
   B. approval by the Graduate Committee of each semester's courses.
   C. final recommendation for the degree by the Graduate Committee.

Students seeking a Master of Arts in mathematics and having primary interest in computing and numerical analysis should take the following suggested courses: Such students should have credit for a first course in computer programming and the equivalent of 420 or 425 before entering the program. They should then complete 416 or 418, 436 or MTH 537, 437, MTH 511 and MTH 512. The remaining courses should be chosen from the following list, unless written permission for each deviation is obtained from the student's assigned adviser: 321, 402, 421, 426, 470, 471, MTH 506, MTH 521, MTH 526, MTH 527, MTH 528, MTH 546, MTH 574, MTH 575, MTH 576, MTH 577.

For further details contact Dr. Robert S. Pate, head of the Mathematics Department.

* 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

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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 calculi and rules of deduction; application in mathematical systems and proofs.
Prereq: A minor in mathematics.

* MTH 508 Foundations of Mathematics. Two sem hours
An introduction to axiomatic methods, 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 512 Linear Algebra II. Two sem hours
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.

* MTH 516 The Theory of Integers. Two sem hours
Elementary properties, divisibility, congruences, powers and other topics.
Prereq: An undergraduate major in mathematics.

* MTH 518 Group Theory I. Two sem hours
Definitions and examples, modules, commutative groups, homomorphisms, quotient groups, permutations, groups with operators and dimension.
Prereq: Fifteen hours of undergraduate credit in mathematics and permission of the department.

* MTH 519 Group Theory II. Two sem hours
Homomorphy and groups with operators, construction of composite groups, Sylow p-groups and p-groups, transfers into subgroups and other topics.
Prereq: MTH 518 Group Theory I.

Open to graduate students and qualified seniors. See "Enrollment in Graduate Courses by Seniors."
* 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 521 Elements of Set Theory. Two sem hours (Formerly MTH 515)
Sets, set operations, relations and functions, cardinal numbers, order, axiom of choice and other topics.
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: 320 Differential Equations I and 420 Advanced Calculus I, or equivalents.

* MTH 524 Complex Analysis I. Two sem hours (Formerly MTH 626)
Stereographic projection and the Riemann sphere, mappings, Bolzano-Weierstrass theorem, power series and their properties, analytic functions and conformal mapping, rational functions; exponential, trigonometric, hyperbolic, logarithmic and inverse functions; paths, regions, continua and the definite integral.
Prereq: 420 Advanced Calculus I or MTH 526 Real Analysis I or equivalent.

* MTH 525 Complex Analysis II. Two sem hours (Formerly MTH 627)
Cauchy's integral theorem and formula, uniform convergence, Taylor's series and related topics, analytic continuation, Liouville's and Casorati-Weierstrass factor theorem, meromorphic functions, Riemann surfaces and multiple-valued functions.
Prereq: MTH 524 Complex Analysis I.

* MTH 526 Real Analysis I. Two sem hours
Topology of the real line; metric spaces; sequences and series; limits, continuity, differentiability, bounded variation of real valued functions.
Prereq: 420 Advanced Calculus I or MTH 521 Elements of Set Theory (formerly MTH 515) or permission of the department.

* MTH 527 Real Analysis II. Two sem hours
Uniform convergence; Stone-Weierstrass theorem; measure, measurable functions, Lebesque integration on the real line.
Prereq: MTH 526 Real Analysis I.

* MTH 528 Introduction to Topology I. Two sem hours
Elements of general topology including countability, metric spaces, topological spaces, continuity, separation axioms and compactness.
Prereq: 420 Advanced Calculus I (may be taken concurrently) or MTH 521 Elements of Set Theory (formerly MTH 515) or permission of the department.

* MTH 529 Introduction to Topology II. Two sem hours
Connectedness, local connectedness, product and quotient spaces, metrizability, completeness, generalized convergence and homotopy.
Prereq: MTH 528 Introduction to Topology I.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*MTH 531 Modern Mathematics Content, Junior High School.  
Two sem hours
The modern mathematics required for teaching this subject in the junior high school: algebra, geometry, axiomatic systems, number theory, measurement, proof, probability and statistics, relations and functions and their graphs.  
Prereq: Teaching experience in junior high school mathematics or 15 hours of undergraduate credit in mathematics.

*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 236 Introduction to Computer Programming or 237 Computer Programming and Numeric 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.

*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 547 Geometry for High School Teachers. Two sem hours
Fundamental concepts of Euclidean and non-Euclidean geometries including topology, developed from a postulational point of view.
Prereq: A minor in mathematics.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
**MTH 548 Introduction to Differential Geometry. Two sem hours**

Fundamental concepts of the theory of curves and surfaces in three-dimensional space. Applications.

*Prereq: An undergraduate major in mathematics.*

**MTH 550 Number Theory II. Two sem hours**

Basic principles and ideas of algebraic number theory: divisibility, algebraic number fields, ideals, arithmetic in algebraic number fields, Fundamental Theorem of Algebraic Number Theory and its consequences.

*Prereq: 414 Theory of Numbers or MTH 516 The Theory of Integers.*

**MTH 561 Modern Mathematics Content, Senior High School. Two sem hours**

The modern mathematics required for teaching this subject in the senior high school: number theory, nature of proof, mathematical systems such as groups, integral domains, rings and fields, concept of isomorphism and elementary matrix theory.

*Prereq: A minor in mathematics.*

**MTH 574 Probability. Two sem hours**

Probability, expectation, variance, co-variance, distribution functions, sampling theory and other topics. *Not open to students who have credit in 470 Introduction to Mathematical Statistics I.*

*Prereq: Fifteen hours of undergraduate credit in mathematics.*

**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 Mathematical Statistics II.*

*Prereq: MTH 574 Probability or 470 Introduction to Mathematical Statistics I.*

**MTH 576 Selected Topics in Probability and Statistics. Two sem hours**

Analysis of variance and regression, Bayesian Statistics, multivariate analysis, games and decisions, non-parametric methods, sequential analysis.


**MTH 577 Applied Statistics I. Two sem hours**

Principles of experimental design and analysis of available data; specific examples from social and biological sciences; clinical trials, Cochran's Theorem; analysis of variance and covariance.

*Prereq: 470 Introduction to Mathematical Statistics I or MTH 574 Probability, and 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.*

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."*
Prereq: MTH 500 Modern Mathematics Content, K-6 or permission of the department.

* MTH 583 Modern Mathematics Methods, Junior High School. Two sem hours

Effective techniques in presenting materials, planning class activities and creating good learning situations; current problems in a modern mathematics curriculum for junior high school.
Prereq: MTH 531 Modern Mathematics Content, Junior High School 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.
Prereq: A minor in mathematics.

* MTH 586 Teaching of Modern High School Mathematics. Two sem hours

Current problems in a modern high school mathematics curriculum; recommended courses at the senior level. Content and methods; high school reform movements.
Prereq: An undergraduate major in mathematics including 306 Teaching of High School Mathematics or MTH 585 Modern Mathematics Methods, Senior High School.

* MTH 587 Enriching Instruction in Mathematics, Senior High School. 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: 306 Teaching of High School Mathematics or MTH 585 Modern Mathematics Methods, Senior High School or MTH 586 Teaching of Modern High School Mathematics, and MTH 561 Modern Mathematics Content, Senior High School.

MTH 591 Special Topics in Mathematics. Two sem hours

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.
Prereq: Completion of a minimum of 10 hours of graduate credit in mathematics and overall graduate G.P.A. in mathematics 6.0 or above, and permission of the department.

MTH 595 Workshop. Two sem hours
Prereq: Permission of the department.

MTH 597, 598, 599 Independent Studies. One, two and three sem hours
A report on an approved subject in the field of mathematics, the history of

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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 6.0 or above, and permission of the department.

MTH 610 Rings and Ideals I. Two sem hours
Polynomial rings, ideals and homomorphisms, imbedding theorems, prime ideals, the radical, minimal and maximal prime ideals belonging to an ideal. 
Prereq: Any course in abstract algebra.

MTH 611 Rings and Ideals II. Two sem hours
Direct and subdirect sums, Boolean rings, rings of matrices and additional theory of ideals in commutative rings. 
Prereq: MTH 610 Rings and Ideals I.

MTH 614 First Course in Field Theory. Two sem hours
Finite fields and finite projective geometries. Prime fields and their extensions, splitting fields, separability, irreducibility, Galois theory and the Fundamental Theorem of Algebra. 
Prereq: MTH 518 Group Theory I or equivalent.

MTH 681 The Teaching of Junior College Mathematics. Two sem hours
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. 
Prereq: Permission of the department.

OTHER COURSES
The following courses may also be elected for graduate credit and course descriptions may be found in the Undergraduate Catalog. A selected maximum of 12 such hours may be applied to the program M.A. in Mathematics.

321 Differential Equations II (3)
400 History of Mathematics (3)
402 Finite Mathematical Structures (3)
403 Current Research in Elementary School Mathematics (3)
411 Modern Algebra (3)
414 Theory of Numbers (3)
416 Elements of Matrices (3)
418 Applied Linear Algebra (3)
420 Advanced Calculus I (3)
421 Advanced Calculus II (3)
MUSIC

Curriculums leading to the Master of Arts degree are offered in choral conducting, music education, music literature, music theory-literature and performance. All curriculums are designed to expand musicianship and to make available the most recent developments in music and the teaching of music. Each program leading to the master's degree in music is based upon a minimum of 30 semester hours, including 24 hours in music and six hours of cognate courses outside the Department of Music.

The Department of Music recently participated in the Institute for Music in Contemporary Education, sponsored by the Ford Foundation, and the Music Educators National Conference. The department is currently revising curriculums and developing new programs for the master's degree in music.

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 directly 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 is based upon an undergraduate degree in music or its equivalent.

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. Admission to a specific music degree program is contingent upon the successful
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completion of six credit hours of graduate study in music at Eastern Michigan University. After completing six credit hours, the student requests permission to pursue one of the music degree programs. Requests should be directed to the chairman of the Graduate Committee of the Department of Music.

Placement tests 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.

CANDIDACY

A student is eligible to petition for candidacy in a degree program when he/she:

1) has completed 12 semester hours of graduate work on the program, with at least six hours in courses taken at Eastern Michigan University.
2) has a cumulative grade point average of 5.00 (B) in courses taken at this University.
3) has met any special requirements for candidacy status established by the College and the degree program area.

The completion of 12 graduate credits in a degree program does not guarantee admission to candidacy. All petitions for candidacy must be approved by the area in which the student is pursuing graduate study. Petitions are approved when a student has met the specific requirements for candidacy and has demonstrated the competence to successfully complete more advanced study.

A final recital, thesis or composition with supporting paper is required in each degree program.

FELLOWSHIPS AND ASSISTANTSHIPS

A number of assistantships, averaging $2500 for two semesters, are available for outstanding students. These include laboratory assistanships in theory and music education, teaching assistantships in history of music, occasionally in theory, and in a number of performance areas, including accompaniment. Assistantships entail approximately ten hours of work a week; some provide apprenticeship work in connection with the Contemporary Music Project.

Applications should be sent in the form of a letter to the chairman of the Graduate Committee of the Department of Music.

AUDITIONS AND PLACEMENT TESTS

Placement tests for admission to the graduate music program will be held in the year 1973-74 on the following dates:

Fall Semester
   September 26, 1973

Winter Semester
   January 30, 1974

Summer Session
   July 10, 1974

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.

I. OPEN TO GRADUATE MUSIC MAJORS

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 652 Advanced Techniques and Materials for Vocal Music in the Elementary Schools. Two sem hours
New materials and advanced teaching techniques in the elementary vocal music area.

MUS 653 Advanced Techniques and Materials for Developing the Secondary School Vocal Program. Two sem hours
Modern theory, techniques and materials for choral directors, vocal specialists and school music administrators; specialized instruction in their respective areas of concentration.

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 691, 692 Thesis. Two, three 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 694 Final Project. Two sem hours
A substantial and original undertaking 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 696 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.
Performance Courses

MUS 681, 682, 683, 684, 685, 686 Performance. Two sem hours each
Open to performance majors only, with a graduate recital required in partial fulfillment of the Master of Arts in Music degree.
Prereq: Audition.

MUS 689 Graduate Recital. Two sem hours
Required in partial fulfillment of the Master of Arts degree of those students concentrating in performance. Student must be enrolled in Music 681-686 concurrently.

II. OPEN TO GRADUATE STUDENTS AND QUALIFIED SENIORS *

* MUS 501 Introduction to Graduate Studies. Two sem hours
(Formerly 510)
Available source materials for graduate research; research, documentation, evaluation and scholarly presentation, organizing and assembling a bibliography. Required of all music majors in all curriculums early in the graduate program.

* 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. Open to majors and non-majors.

* MUS 510 Masterpieces of Music. Two sem hours
(Formerly 501)
Promotes interest, enjoyment and understanding of some of the important works of great composers; importance of music as a factor in human experience and as a mode of thought. Not open to students who have a major or minor in music.

* 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).

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*MUS 518 Music Composition II. Two sem hours
Original composition based upon techniques of the twentieth century; com-
position of works of moderate length.
Prereq: MUS 517 Music Composition I or equivalent.

*MUS 519 Music Composition III. Two sem hours
Original composition in larger forms with the intent of performance.
Prereq: MUS 517 Music Composition I and MUS 518 Music Composition II or equiva lent.

*MUS 531 Renaissance Music. Two sem hours
Selected works representing the forms, styles and idioms of the fifteenth and
sixteenth centuries. Open to majors and non-majors.

*MUS 532 Baroque Music. Two sem hours
Selected works representing some of the styles and idioms of the seventeenth
century; works of the early and mid-eighteenth century (Bach, Handel) in the
restricted viewpoint of their relationship to the preceding century. Open to
majors and non-majors.

*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. Open to majors and non-majors.

*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. Open to majors and non-majors.

*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. Open to
majors and non-majors.

*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 characteristic 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, per-

*Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."

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formance and perception. Listening, study, discussion and performance, covering vocal, instrumental and electronic techniques. Open to majors and non-majors.

* MUS 540 The Symphony. Two sem hours
The symphony as an art form; a musical and historical survey of the influences, trends and styles found in examples from its inception to the present. Open to majors and non-majors.

* MUS 551 The General Music Class. Two sem hours
The place of music in the education of adolescents, involving methods and materials for the general music classes.

* MUS 558 Supervision and Administration of School Music Education Programs. Two sem hours
Trends and practices in the teaching of vocal and instrumental music at the elementary and secondary school levels.

* 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 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 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.

* MUS 596 Seminar in Music. Two sem hours
Topic to be announced in the schedule of classes. Seminar topics may be in some area of music education, theory, literature, history, musicology or performance. Open to all students in the University. May be repeated for credit.

MUS 597, 598, 599 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 advisor and study director.

Performances Courses

* MUS 546 Collegium Musicum. One sem hour
Various ensembles of soloists-instrumental, vocal and mixed. Opportunity to

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
perform old and new music infrequently heard. *Open to all interested students by permission of the department.*

*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. *Open to all interested students by permission of the department.*

*MUS 550 Ensemble. One sem hour*
Participation in any regular departmental ensembles 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.*

*MUS 571, 572, 573, 574, 575, 576 Applied Music (Secondary Instrument or Voice). One sem hour each*
*Open to majors and non-majors.*
*Prereq: Audition.*

*MUS 581, 582, 583, 584, 585, Applied Music (Major Performance Medium). Two sem hours each*
*Prereq: Audition.*

### III. UPPER DIVISION COURSES OPEN TO GRADUATE STUDENTS.

*MUS 448 Opera Performance. One Sem hour*

*MUS 449 Opera Performance. 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.*

*MUS 451 Vocal and Instrumental Accompanying. Two sem hours*
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 460 Studies in Pedagogy. Two sem hours*
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 461 Studies in Performance Literature. Two sem hours*
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.*

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
PHYSICS and ASTRONOMY

The Department of Physics and Astronomy offers three programs leading to a master's degree.

1. 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 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. Further information may be obtained from Dr. Walter Gessert or Dr. Robert Silver, graduate advisers, Department of Physics and Astronomy.

2. THE PHYSICS EDUCATION PROGRAM is designed to improve the preparation of 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 44 approved hours of mathematics, as well as an essay in physics, physics history, or the teaching of physics, and satisfactory performance in an oral examination. Further information may be obtained from Dr. Walter Gessert or Dr. Robert Silver, graduate advisers, Department of Physics and Astronomy.

3. THE GENERAL SCIENCE PROGRAM is a comprehensive program designed to upgrade the academic and professional preparation of in-service and pre-service junior high and middle school science teachers. Prerequisites for admission to the program include a minimum of 40 semester hours of work in science and mathematics with a basic one year course in biology, chemistry, earth science, physics and mathematics, and at least a minor in one of these areas. Any person who has not completed a one-year course in one or more of the five areas may remove the deficiency by completing courses specifically designed for this purpose. Graduation requirements include teaching experience or completion of state certification requirements, and the completion of a minimum of 70 semester hours (graduate and undergraduate combined) of approved work in science and mathematics, with 20 semester hour concentrations in two science areas. Further information may be obtained from Dr. Charles B. Breedlove or Dr. Jean R. Moore, general science advisers, Department of Physics and Astronomy.

A limited number of graduate assistantships are available in the department. Normally persons holding these assistantships do an equivalent of 20 hours of work per week for the department in assignments which may include the teaching of laboratory sections, paper grading, preparation in care of lecture and laboratory equipment and similar duties. Applications for these assistantships may be obtained by writing to the department head.

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.

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 (Formerly 580)
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 (Formerly 581)
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 522 New Approaches to the Teaching of Science in the Junior High School I. Two sem hours
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 courses.

*PHY 523 New Approaches to the Teaching of Science in the Junior High School II. Two sem hours
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 525 Physical Science II. Two sem hours
A course for teachers dealing with some fundamentals of the physics and chemistry of electric charge, and the forms of energy and the conservation of energy.
Prereq: Three laboratory courses in science.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* 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. No open to students who have credit in 471 Nuclear Physics.

* PHY 550 New Approaches to Teaching Physics I. Two sem hours
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 551 New Approaches to Teaching Physics II. Two sem hours
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 550 New Approaches to Teaching Physics I.

PHY 552 Supervision of the Science Program. Two sem hours
Problems in organizing, staffing and curriculum planning for the K-12 science program.
Prereq: Graduate standing.

PHY 553 Recent Science Curricular Developments. Two sem hours
Problems in development and implementation of materials, methods and content of recent curricular efforts.
Prereq: Science teaching experience and graduate standing.

* PHY 562 Advanced Mechanics. Three sem hours
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 571 Electromagnetic Theory. Three sem hours
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 equation, 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 582 Quantum Mechanics. Four sem hours
The Schrödinger 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

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* PHY 594 Special Topics. Two sem hours
An experimental or innovative approach to subjects in physics and physical science.

* PHY 595 Workshop. Two sem hours
Laboratory and/or field experience guided toward problems and new curricula in physics and physical science.

* PHY 596 Seminar. Two sem hours
Presentation of special reports and group discussion on selected topics in physics and physical science.

PHY 597, 598, 599 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: Prior approval of the physics graduate adviser and permission of the department.

PHY 697, 698, 699 Research in Physics. 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 (Formerly PHY 503)
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 303 Introduction to Astronomy.

AST 504 Astronomy II. Two sem hours (Formerly PHY 504)
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 303 Introduction to Astronomy 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 both the dean of the Graduate School and the chairman of the Committee on Graduate Studies in the Depart-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
ment 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 Science Students. (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)

**POLITICAL SCIENCE**

At this time there is no graduate program in political science. Graduate courses in this area are available and a major emphasis can be developed in political science through the Master of Arts in social studies degree program. Information on this program is listed under "History and Philosophy."

* **PLS 505 Problems in Public Administration. Two sem hours**
Selected problems in public administration on the local, state and federal levels; inter-governmental administrative relationships.

* **PLS 539 Special Topics in Political Science. Two 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 of the department.

* **PLS 540 Public Opinion. Two sem hours**
The role of public opinion in a democracy. Opinion methodology; the techniques of measuring public opinion.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* PLS 541 Studies in Latin America. Three sem hours
Comparative government of Latin America; political development theories applied to a Latin American context.
Prereq: 367 Contemporary Political Systems of Latin America or permission of the department.

* PLS 543 Political Behavior. Two sem hours
Empirical and theoretical knowledge concerning certain aspects of the actions and interactions of men in the political process; political participation, political affiliations and party identification, political leadership, political communication, political institutions and voting behavior.
Prereq: One course in political science.

* 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 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: 210 Comparative Political Analysis, 211 European Political Systems, or permission of the department.

* PLS 554 Studies in Canadian Politics. Three sem hours
Analysis of selected aspects of the Canadian political system and related problems.
Prereq: 211 European Political Systems or 354 Government and Politics of Canada or permission of the department.

* PLS 580 American Governmental Executives-National.
Two sem hours
The American Presidency; creation of the office; its historical evolution; its national and world significance; problems related to the powers, responsibilities and limits of the office; election to the office; succession to the office.

* 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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* PLS 587 State and Local Government. Two sem hours
  Forms and functions of state and local government. Not open to students who
  hold credit in 202 State and Local Government.

* PLS 596 Seminar in Current Affairs. Two sem hours
  The problems involved in the teaching of current affairs and exploration of the
  most effective techniques and materials available in the field.

PLS 597, 598, 599 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.

**PSYCHOLOGY**

The Department of Psychology offers graduate programs leading to the
Master of Science degree with emphasis in general psychology, the teaching of
psychology and clinical psychology. 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. Continue their training in doctoral programs.
2. Take teaching positions in community and four year colleges.
3. Gain employment in a wide variety of industrial and institutional settings.

**ADMISSION REQUIREMENTS**

Admission to the graduate program of the Psychology Department is available
to those students who meet the 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 Records Examination
   which include the Verbal, Quantitative and the Advanced (Psychology)
tests.

Application to the psychology program should not be made until the stated

*Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."*
requirements can be satisfied. Credits earned under non-degree status do not automatically apply to the requirements of the degree program.

Applications should be submitted to the Graduate School in accordance with the instructions prescribed in this catalog.

Completed applications must be received before March 1st for consideration for fall term admission and before November 1st for consideration for winter term admission. There are no admissions to the degree program in the spring or summer terms. Students who meet the qualifications for admission but whose completed applications are received after the above deadlines, will be placed on a waiting list for admission if the Departmental quota for admission has already been filled. Placement on the waiting list, however, does not guarantee admission unless spaces become available, in accordance with Departmental admission standards and policies.

FINANCIAL ASSISTANCE

Graduate assistantships are available to a limited number of graduate students. The assistantships require 20 hours of work per week for a stipend of $2700. Graduate assistants are not permitted to accept other employment during the contract period. These assistantships are awarded on the basis of academic achievement, demonstrated abilities, previous work experience and departmental needs. Applications for graduate assistantships should be made directly to the Chairman, Committee on Graduate Studies, Department of Psychology.

PROGRAM REQUIREMENTS

I. Master of Science Degree In General Psychology

The Master of Science degree in general psychology requires the completion of thirty graduate credits, twenty-four credits in psychology, plus six credits in a cognate area. The specific program of each student is designed in consultation with a graduate adviser. This program must be approved by the graduate adviser before the student may enroll for course credit.

The requirements outlined below provide the basic guidelines within which students' programs are developed.

1. Core Requirement (nine sem hours)
   - PSY 600 Psychological Statistics I
   - PSY 620 Learning
   - PSY 646 Personality: Theory and Research

2. Minimum of one course from Group A and one from Group B
   - Group A (Three sem hours)
     - PSY 601 Psychological Statistics II
     - PSY 605 Research Design
     - PSY 623 Experimental Analysis of Behavior
     - PSY 626 Motivation and Emotion
     - PSY 629 Physiological Psychology
     - PSY 632 Sensation and Perception
   - Group B (Three sem hours)
     - PSY 635 Cognitive Processes
     - PSY 637 Social Psychology
     - PSY 640 Developmental Psychology
     - PSY 643 Psychopathology
PSY 650 Clinical Psychology
PSY 660 Theory of Psychological Testing

3. Electives (12 sem hours)
   Psychology courses within the department
   Cognate courses from outside the department

4. Thesis (PSY 692)
   Original research designed and completed by the student under the guidance of his/her thesis committee

5. Comprehensive Examination

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 teaching assistant at Eastern Michigan University or in a school or college setting under supervision.

II. Master Of Science Degree In Clinical 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 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 (45) graduate credits consisting of the basic master's course requirements, plus nine (9) credits in clinical assessment courses which include Psychology 662, 663, 670 and 671, and six (6) credits in practicums. The research project completed as a part of the second practicum experience replaces the thesis requirement. Preliminary preclinical practicum experience, not included in the six credit hours of practicum, may be required by 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 IN SCHOOL PSYCHOLOGY

Purpose and Objectives

This program is designed to prepare individuals as school psychologists to:

A. prepare individuals to serve as psychological examiners in state approved programs;
B. prepare individuals to complete psychological evaluations, including diagnosis and development of appropriate educational recommendations;
C. develop knowledge of community and school mental health resources and remedial programs;
D. develop leadership in promoting an understanding of special education needs to appropriate administrative staff.

Program

This program is an interdisciplinary effort among the Departments of Psychology, Educational Psychology and Special Education. It is coordinated through the Department of Psychology.

Course work and educational experiences are designed to provide a depth of understanding and ability in evaluation and diagnosis, instructional methods and programs, communication skills, administration and organization, community resources, research and group work.

Admission

Admission to the program is based upon:

A. meeting minimal graduate school standards.
B. minimum undergraduate grade point average of 2.75 on a 4.0 scale.
C. an undergraduate background in psychology, educational psychology or special education.
D. successful past professional experience in psychology, special education or education.
E. the GRE general aptitude and advanced tests in psychology and education.
F. letters of recommendation.

GRADUATE COURSES OPEN TO SENIORS

PSY 520 Human Learning. Two sem hours
Conditioning and learning in the acquisition and modification of individual responses; theories and principles having application to personality theory, psychotherapy and education.
Prereq: One course in psychology.

PSY 532 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 540 Psychology of Adjustment. Two sem hours
Issues, concepts, principles and theories in human adjustment.
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 570 Consumer Psychology. Two sem hours
A survey of psychological principles, theories and methodology relating to consumer behavior.
Prereq: One course in psychology; open to majors and minors with permission of the department.

PSY 580 Psychology of Individual Differences. Two sem hours
The objective and quantitative investigation of human variability in behavior phenomena and the factors influencing those differences.
Prereq: One course in psychology.

PSY 591, 592, 593 Individual Reading. One, two and three sem hours
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 595 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.

COURSES OPEN ONLY TO GRADUATE STUDENTS

PSY 600 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 601 Psychological Statistics II. Three sem hours
More complex analysis of variance models plus various correlational procedures.
Prereq: PSY 600 Psychological Statistics I.
PSY 605 Research Design. Three sem hours
Research methods and analysis of data.
Prereq: 301 Introductory Experimental Psychology or equivalent.

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.

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.

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.

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.

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.

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.

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.

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.

PSY 643 Psychopathology. Three sem hours
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 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, or permission of the department.

PSY 650 Clinical Psychology. Three sem hours
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 permission of the department.

PSY 660 Theory of Psychological Testing. Three sem hours
Assumptions, rationale and statistical foundation of psychological tests used in different diagnosis.
Prereq: Twenty hours in psychology and permission of the department.

PSY 662 Individual Testing I. Three sem hours
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: PSY 600 Psychological Statistics I or concurrently.

PSY 663 Individual Testing II. Three sem hours
Training and supervised experience in Binet and special diagnostic tests.
Prereq: PSY 662 Individual Testing I.

PSY 670 Personality Evaluation I. Three sem hours
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: PSY 662 Individual Testing I and permission of the department.

PSY 671 Personality Evaluation II. Three sem hours
Supervised practice is given in test administration, scoring and interpretation of test protocols administered to psychiatric patients and emotionally disturbed children.
Prereq: PSY 670 Personality Evaluation I.

PSY 680 Practicum in Clinical Psychology I. Three sem hours
Supervised psychological testing and interviewing in a clinical setting.
Prereq: PSY 650 Clinical Psychology and 662 Individual Testing I.

PSY 681 Practicum in Clinical Psychology II. Three sem hours
Supervised psychological testing and counseling in a clinical setting, plus completion of a research project in that setting.
Prereq: PSY 680 Practicum in Clinical Psychology.

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 696 Seminar in School Psychology. Four sem hours

(one hour per sem)

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.
Prereq: Admission to the School Psychology Program.

SOCILOGY

ADMISSION REQUIREMENTS

1. Admission to the Graduate School of the University.
2. Students should have an undergraduate major or minor in sociology with courses in statistics, methodology and theory. Students lacking this background will be required to make up deficiencies in their preparation.
3. A grade point average of 3.00 (B) is desirable.
4. Scores on the Graduate Record Examination if required.
5. Recommendation of the Graduate Committee in Sociology.

ADMISSION TO CANDIDACY FOR A DEGREE

With the completion of 12 hours of graduate credit including at least nine in sociology, the department will transmit a recommendation to the dean of the graduate school.

COURSE REQUIREMENTS

Semester Hours

1. SOC 530 Advanced Social Statistics .......................... 3
SOC 535 Advanced Methods in Sociological Research ........... 3
SOC 540 Advanced Sociological Theory ........................ 3

2. Additional graduate sociology electives as approved by graduate adviser in the Sociology Department .................. 9

3. Independent study or thesis credit ................................ 4

4. At least one seminar (Sociology 596). 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 .................. 6

30*

A total of six credit hours may be chosen from 300 and 400 level sociology courses for graduate credit in consultation with the graduate adviser.

*NOTE: 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) these 30 hours of requirements.
All graduate students in sociology are required to have their program approved by the graduate adviser in the Sociology Department prior to registration each semester.

**THESIS REQUIREMENT**

Each student is required to write a thesis as part of the Master of Arts program in sociology (four hours of the graduate program are set aside for thesis preparation). The subject of the thesis is determined by the student and his/her advisers in light of the special interests of the student. The completed thesis must be approved by the department.

**FINANCIAL AID**

A number of graduate assistantships and teaching fellowships are available.

**INFORMATION**

Any queries about the Master of Arts Program in sociology should be addressed to the graduate adviser in the Department of Sociology.

**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.

*Prerequisite: SOC 105 Introduction to 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.

*Prerequisite: 105 Introductory Sociology, or SOC 500 Man in Society.*

**SOC 505 Cultural Anthropology. Two sem hours**
Technology, social structure, political institutions, warfare, kinship and the family, religion and magic, art, recreation and education in the cultures of non-literate peoples. Cultural dynamics; applied anthropology. Not open to students with credit in 135 Cultural Anthropology.

**SOC 510 Theories of Criminal Behavior. Three sem hours**
Consideration of major theories of criminal delinquent causation. Emphasis on sociological factors in criminal acts and dynamics of criminal and delinquent behavior.

*Prerequisite: At least two courses in Sociology, including 406 Criminology.*

*Prerequisites may not be taken concurrently with courses for which they are required.*
SOC 511 Sociology of Crime and its Correction. Three sem hours
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 406 Criminology.

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 530 Advanced Social Statistics. Three sem hours
This course will focus considerable attention on nonparametric 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 Studies.

SOC 535 Advanced Methods in Sociological Research. Three sem hours
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.

SOC 536 Qualitative Analysis. Three sem hours
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 539 Special Topics in Sociology. Two sem hours
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 540 Advanced Sociological Theory. Three sem hours
An analysis of contemporary theoretical schools of thought in sociology.

SOC 541 Theory Construction and Verification. Three sem hours
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.
SOC 542 Social Stratification Theory and Research. Three sem hours
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 Social Stratification or an undergraduate degree in sociology.*

SOC 545 Advanced Social Psychology. Three sem hours
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 551 Research in Family Interaction. Three sem hours
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 555 Contemporary Community Structure. Three sem hours
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 556 Human Ecology and Community Development. Three sem hours
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 594 Supervised Field Experience. Two sem hours
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. The student is expected to derive a master's thesis from this experience.
*Prereq: Permission of the department.*

SOC 595 Workshop in Crime and the Community. Two sem hours (Summer only)
A brief, intensive exploration of specific aspects of crime and its relationship to social organization. Not open to students with credit in 406 Criminology or equivalent.
*Prereq: 105 Introductory Sociology or SOC 500 Man in Society.*

SOC 596 Seminar in Sociology. Two sem hours
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 597, 598, 599 Independent Studies. One, two and three sem hours
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.

SOC 690, 691 and 692 Thesis. One, two and three sem hours
Prereq: Permission of the department.

II ANTHROPOLOGY

ANT 505 Cultural Anthropology. Two sem hours
Technology, social structure, political institutions, warfare, kinship and the family, religion and magic, art, recreation and education in the cultures of non-literate peoples. Cultural dynamics; applied anthropology. Not open to students with credit in 235 or 135 Cultural Anthropology.

ANT 509 Culture and Personality. Two sem hours
An analysis of the manner in which group and cultural factors influence the growth and change of personality. Some attention is given to the impact of personality types on group life. Not open to students with credit in 309 Culture and Personality.

Prereq: 105 Introductory Sociology and 101 or 102 General Psychology.

SPEECH and DRAMATIC ARTS

The Department of Speech and Dramatic Arts provides the following program of graduate study to the Master of Arts in speech and dramatic arts.

I. Objectives:
A. To provide advanced preparation both for the teaching of speech and dramatic arts and for other communication related pursuits;
B. To provide preparation for further study of advanced graduate work in speech and dramatic arts.

II. Requirements for Admission:
A. Undergraduate major or minor in speech and / or dramatic arts;
B. Regular admission to the Graduate School as described elsewhere in this catalog;
C. Regular admission to the department by the Graduate Committee of the Department of Speech and Dramatic Arts.

III. Course of Study:
A. The completion of a minimum of 30 hours beyond the bachelor's degree;
B. Course work to include training in research approaches and resources in speech and dramatic arts; an interdepartmental cognate; a possible intradepartmental cognate in communication-public address, dramatic arts,
broadcasting, oral interpretation or speech science and pedagogy; and a choice of emphasis either in communication-public address or dramatic arts.

IV. Graduate Assistantships:
A. Each year a limited number of graduate assistantships and teaching fellowships are awarded by the department to students possessing excellent background in speech and dramatic arts and at least a B average in their overall undergraduate work. Such students normally assist in teaching one of the basic courses in the department and/or with supervision of one of the activities.

V. Graduation Requirements:
A. The completion of all conditions stipulated upon entry into the program;
B. The attainment of a 5.0 (B) average in all course work;
C. Either the successful completion of a terminal qualifying examination or the submission and defense of a thesis.

For further information about the graduate program in speech and dramatic arts, contact Department Head, Speech and Dramatic Arts, 124 Quirk Building.

I. 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 509 Communication for Leaders. Two sem hours
Principles and techniques in effective communication; the use of communication skills in interviews, discussions, staff meetings, abstracting printed materials, bulletins, written and spoken reports.

*SPH 589 Discussions and Conference. Two sem hours
The principles and practice of discussion in problem solving and learning groups: conference, committee, panel, symposium and forum.

*SPH 596 Seminar in Directing High School Forensics Activities. Two sem hours
The philosophy, organization and administration of forensic programs for those who direct or plan to direct extracurricular speech activities.

Dramatic Arts

SPH 503 Play Production—Junior-Senior High School. Two sem hours
Principles and techniques of play production with emphasis on problems encountered in secondary schools. Dramatic structure, play selection, directing,

*Open to graduate students and qualified seniors — see "Enrollment in Graduate Courses by Seniors."
scene design and construction, stage lighting, make-up, costuming, properties and business management; improvement of effectiveness in both curricular and extracurricular theatre.

**SPH 596 Seminar in Directing High School Dramatic Activities.**

**Two sem hours**

The philosophy, organization and administration of dramatic programs for those who direct or plan to direct extracurricular dramatic activities.

**Dramatic Arts for Children**

**SPH 501 Creative Drama. Two sem hours**

The theory and techniques of informal drama, improvisation and dramatic play.

**SPH 502 Drama for Children. Two sem hours**

Theory and techniques of directing plays with and for children.

**Radio, Television and Film**

**SPH 536 Broadcast Management. Three sem hours**

An analysis of station management in the areas of advertising, programming, promotion and publicity, applied research and labor relations.

**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.

**SPH 596 Seminar in Directing High School Broadcasting and Film Activities. Two sem hours**

Practical experience in radio, television and film. Available to teachers and high school students interested in broadcasting.

**II. 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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Communication and Public Address

SPH 539, 540, 541 Special Topics in Speech and Dramatic Arts. One, Two and Three sem hours
A course which focuses on a particular topic in speech and dramatic arts which is approved by the department.
Prereq: Department permission.

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 speech.

*SPH 581 Rhetorical Theory. Three sem hours
Study of the principles of rhetorical criticism.
Prereq: Fifteen hours of credit in speech.

*SPH 582 Modern Rhetorical Theory. Three sem hours
A study of rhetorical theory developed since 1915.
Prereq: Fifteen hours of credit in speech.

*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 speech.

*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 speech; graduate standing.

*SPH 586 Theories of Persuasion. Three sem hours
A review of contemporary research and theory in persuasion.
Prereq: Fifteen hours of credit in speech; graduate standing.

*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 speech; graduate standing.

*SPH 588 Research Methods in Speech Communication. Three sem hours
The examination of speech communication research methods with major emphasis upon empirical research. Students will select and design a major research project.
Prereq: Fifteen hours of credit in speech; graduate standing.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SPH 592 Research Techniques in Speech and Dramatic Arts.  
Two sem hours
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 major/graduate.

SPH 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of one or more problems in group direction under the direction of a University faculty member.

SPH 689 Readings in Speech and Dramatic Arts. One sem hour
Supervised reading in the literature of speech or dramatic arts to provide comprehensive understanding of the field.  
Prereq: Graduate student in speech and dramatic arts and department permission.

SPH 690, 691, 692 Thesis. One, two and three sem hours
An intensive study of one or more problems in group direction under the direction of a University faculty member.  
Prereq: Department permission.

SPH 696 Seminar in Speech and Dramatic Arts. One sem hour
A research-oriented course for graduate majors in speech and dramatic arts.  
Prereq: Graduate student in speech and dramatic arts and department permission.

Dramatic Arts

*SPH 539, 540, 541 Special Topics in Speech and Dramatic Arts.  
One, Two and three sem hours
A course which focuses on a particular topic in speech and dramatic arts which is approved by the department.  
Prereq: Department permission.

*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 552 Theatre Management. Two sem hours
The materials and procedures of theatrical business management including scheduling, budgeting, accounting, ticket sales, house management, program editing and public relations.  
Prereq: Nine hours of credit in dramatic arts or permission of the department.

*SPH 556 Advanced Directing Lab. One sem hour
Intensive scene study of selected dramatic styles and theatrical variants.  
Prereq or coreq: SPH 558 Advanced Directing.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*SPH 557 Advanced Acting Lab. One sem hour
Intensive scene study of selected dramatic styles and theatrical variants.
Prereq or coreq: SPH 559 Advanced Acting.

* SPH 558 Advanced Directing. Two sem hours
Theoretical and practical considerations involved in the direction of selected nonrealistic styles of drama.
Prereq: 335 Play Direction or permission of the department.

* SPH 559 Advanced Acting. Two sem hours
Theoretical and practical consideration involved in the acting of selected nonrealistic styles of drama.
Prereq: 242 Fundamentals of Acting, 335 Play Direction, SPH 558 Advanced Directing 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 17th century.
Prereq: 406 History of the Theatre 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: SPH 560 Ancient Dramatic Theory 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 late 1700's to the present day.
Prereq: 406 History of the Theatre or permission of the department.

* SPH 566 Seminar in Theatre History. Two sem hours
This course will be concerned with a penetrating study of the theatrical activity and technology prevalent during two or more periods in world history.
Prereq: 406 or department permission.

* SPH 567 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: 370 Scene Design, 376 Stage Lighting, 406 History of the Theatre or permission of the department.

* SPH 568 Seminar in Acting. Two sem hours
Discussion in depth of outstanding representatives from the literature of the field of acting.
Prereq: Nine hours of credit in dramatic arts or permission of the department.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* **SPH 569 Seminar in Directing. Two sem hours**  
Discussion in depth of outstanding representatives from the literature of the field of directing.  
**Prereq:** *Nine hours of credit in dramatic arts or permission of the department.*

**SPH 592 Research Techniques in Speech and Dramatic Arts. Two sem hours**  
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 major/graduate.*

**SPH 597, 598, 599 Independent Studies. One, two and three sem hours**  
An intensive study of one or more problems in group direction under the direction of a University faculty member.  
**Prereq:** *Department permission.*

**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 652 Lighting. Two sem hours**  
A continuation of 376 Stage Lighting.  
**Prereq:** *Graduate standing.*

**SPH 653 Costume I. Two sem hours**  
Intermediate study of the approaches to and the historical sources for stage costuming.  
**Prereq:** *Six hours of credit in dramatic arts.*

**SPH 654 Costume II. Two sem hours**  
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:** *377 Stage Costume: History and Theory, SPH 653 Costume I or permission of the department.*

**SPH 655 Playwriting I. Two sem hours**  
Intermediate study of the approaches to and the structural composition of dramatic writing.  
**Prereq:** *Six hours of credit in dramatic arts.*

**SPH 656 Playwriting II. Two sem hours**  
A continuation of 386 Dramatic Writing.  
**Prereq:** *Graduate standing.*

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."*
SPH 689 Readings in Speech and Dramatic Arts. One sem hour
Supervised reading in the literature of speech or dramatic arts to provide a comprehensive understanding of the field.
Prereq: Graduate in speech and dramatic arts and department permission.

SPH 690, 691, 692 Thesis. One, two and three sem hours
Prereq: Department permission.

SPH 696 Seminar in Speech and Dramatic Arts. One sem hour
A research-oriented course for graduate majors in speech and dramatic arts.
Prereq: Graduate student in speech and dramatic arts and department permission.

Drama for Child and Adolescent

*SPH 565 Seminar in Dramatic Arts for Children.
Two sem hours (Formerly SPH 596)
Advanced study of the history, theory and techniques of dramatic arts for children.
Prereq: 222 Dramatic Arts for Children, 323 Creative Drama, SPH 501 Creative Drama plus 322 Theatre for Children or SPH 502 Drama for Children.

SPH 657 Advanced Improvisation. Two sem hours
A continuation of 323 Improvisation.
Prereq: Graduate standing.

SPH 658 Theatre for Children. Two sem hours
Intermediate consideration of the theoretical and practical factors involved in play production for child audiences.
Prereq: Six hours of credit in dramatic arts.

III. 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)
475 Practicum in Speech Communication Behavior. (3)
485 Theories of Speech Communication Behavior. (3)
466 Forensic Contest Speaking. (1)

Broadcasting and Film
431 Advanced Radio Production and Direction. (3)

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
432 Advanced Television Production and Direction. (3)
446 Broadcasting in Society. (3)

Interpretation
411 Advanced Problems in Interpretation. (3)
414 Development and Theory of Oral Interpretation. (3)

Dramatic Arts
406 History of the Theatre. (3)
467 Theatre Practice. (1)

Speech Science
402 Voice Development. (1)

The following courses for undergraduates 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 completing his registration.

Communication and Public Address
366 Forensic Debate and Discussion. (1)

Broadcasting and Film
331 Fundamentals of Radio Production and Direction. (2)
332 Fundamentals of Television Production and Direction. (2)
340 Broadcasting and Film Performance Techniques II. (2)
344 Broadcast Continuity Writing. (2)

Interpretation
310 Oral Interpretation of Poetry. (3)
314 Interpretation of Drama. (3)

Dramatic Arts
324 Oral Interpretation of Children's Literature. (3)
335 Play Direction. (3)
367 Theatre Practice. (1)

Drama for Child and Adolescent
322 Theatre for Children. (3)
323 Improvisation. (3)
324 Oral Interpretation of Children's Literature. (3)
Speech Science

300 Phonetics. (3)
301 Speech Science. (3)
302 Voice Development. (1)
COLLEGE OF BUSINESS

DEAN: Earl A. Roth

DEPARTMENTS

Accounting and Finance
Business Education
General Business
Management
Marketing
Two graduate programs are offered, one leading to the Master of Business Administration (MBA) degree, and the other to the Master of Business Education (MBE) degree. The former provides professional preparation for business; the latter for teaching of business subjects at secondary and community college levels.

ADMISSION TO GRADUATE PROGRAMS

1. A baccalaureate degree from an accredited institution.
2. An overall undergraduate grade point average of 2.5 or better, or 2.75 for the last two years, or a master's degree from an accredited institution.
3. An Admission Test for Graduate Study in Business score of 450 or above. Performance on other standardized tests may be considered.
4. In exceptional cases successful work experience and a 500 ATGSB score will be accepted. Special consideration will also be given to applicants who received their baccalaureate degrees in the top 25 percent of their class or received above average test scores. In these cases favorable letters of recommendation must be submitted from senior professors who know the applicant's academic qualifications or an employer who has observed his performance on the job.
5. Six semester hours of undergraduate study each in accounting and economics, and three semester hours each in management, marketing, computer science, finance, statistics, legal environment of business, and math including probability and beginning concepts of calculus. Additional preparation in intermediate Economic Theory and Statistics is recommended. Applicants with non-business degrees are required to remove these deficiencies by completing a maximum of 27 semester hours of graduate study in foundation courses.
6. Foreign students must provide scores on the Test of English as a foreign language or equivalent.

MASTER OF BUSINESS ADMINISTRATION

Program Objectives
The primary purpose of the Master of Business Administration degree program is to provide men and women with high-level, professional preparation required for successful careers in business, industry and public service. 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 sufficient specialization or concentration for the student to perform in his chosen area of employment.

Length of Program
Under normal conditions, students with business administration degrees may complete the program in one calendar year. For graduates with non-business degrees, Eastern Michigan offers a series of time-saving graduate level courses (foundation) to meet undergraduate course requirements.
The MBA Degree Program or foundation classes may be started at any regular enrollment period—fall, winter, spring or summer.

**Foundation Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 501</td>
<td>(3)</td>
</tr>
<tr>
<td>Finance 502</td>
<td>(3)</td>
</tr>
<tr>
<td>Marketing 501</td>
<td>(3)</td>
</tr>
<tr>
<td>Management 501</td>
<td>(3)</td>
</tr>
<tr>
<td>Statistics (GBS) 501</td>
<td>(3)</td>
</tr>
<tr>
<td>Computers (GBS) 502</td>
<td>(3)</td>
</tr>
<tr>
<td>Macro Theory ECO 501</td>
<td>(3)</td>
</tr>
<tr>
<td>Micro Theory ECO 502</td>
<td>(3)</td>
</tr>
<tr>
<td>Legal Env. of Bus GBS 503</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**MBA Program Requirements**

The MBA degree program requires a minimum of 30-33 hours in addition to any foundation or prerequisite course requirements.

The maximum class load for a full-time student is 12 hours per semester. An overload is permitted only after a student has demonstrated his ability to achieve an outstanding graduate record at this University. Students working full-time should not take more than six hours.

The MBA program is divided into three parts: basic disciplines (core) 12 hours, operational areas 9-12 hours and electives or cognates, nine hours.

To qualify for graduation, a 5.0 grade point average must be maintained in all business courses in addition to the required 5.0 GPA in all graduate work.

**Basic Disciplines (Core)**

All MBA students take each of the following courses:

- Quantitative Analysis for Business GBS 586 (3)
- Managerial Economics GBS 588 (3)
- Business Research MKT 592 (3)
- Seminar in Admin. Policy MGT 696 (3) 12 Semester Hours

**Operational Areas**

All MBA students will be required to take one class in each of the operational areas listed below unless the student’s undergraduate transcript shows a major in management, marketing, accounting or finance.

- Administrative Controls ACC 584 (3)
- Financial Administration Policies FIN 583 (3)
- Organization Theory and Systems MGT 585 (3)
- Marketing Policies and Problems MKT 518 (3) 9-12 Semester Hours

**Area of Concentration (Electives)**

Students may not elect more than three hours of additional graduate course work in their undergraduate major field and they may elect no more than six semester hours of 400 level undergraduate, or graduate non-business cognate credit to complete their area of concentration.

An area of concentration may be elected in management, marketing, accounting, finance, international business, information systems, a combination of business and / or business related (cognate) courses and / or independent study, research or thesis. Each student’s undergraduate program will be given full consideration when planning the area of concentration or electives.

9 Semester Hours
Program Requirements (Minimum)  

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Disciplines (core)</td>
<td>12 Sem. hours</td>
</tr>
<tr>
<td>Operational Areas</td>
<td>9-12 Sem. hours</td>
</tr>
<tr>
<td>Area of Concentration (Electives)</td>
<td>9 Sem. hours</td>
</tr>
<tr>
<td>Semester Hours</td>
<td>30-33 Sem. hours</td>
</tr>
</tbody>
</table>

A student who has not met all prerequisites must ordinarily complete the equivalent foundation courses before enrolling in MBA level courses. Ordinarily the basic disciplines (core) courses will then be completed followed by the operational area courses, business elective and cognate courses.

To qualify for graduation, a 5.0 GPA must be maintained in all business courses in addition to the required 5.0 in all graduate work.

MASTER OF BUSINESS EDUCATION

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 in community colleges. Special opportunity is provided for students wishing to complete academic study required for vocational certification in distributive and office occupations.

Program Requirements (Minimum)  

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Background:</td>
<td>6</td>
</tr>
<tr>
<td>(Science, Humanities, Social Sciences, Music, Art)</td>
<td></td>
</tr>
<tr>
<td>Business Administration, Mathematics, Economics</td>
<td>5-9</td>
</tr>
<tr>
<td>Business and Professional Education</td>
<td>15-19</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Additional information regarding graduate study in the College of Business may be obtained from special advisers:

- MBA Degree Program: Academic Advising and Counseling Center  
  517 Pray-Harrold Building
- MBE Degree Program: Department of Business Education  
  511 Pray-Harrold Building

FINANCIAL ASSISTANCE

A limited number of graduate assistantships and teaching fellowships are available for full-time graduate students. Assistantships and teaching fellowships require 20 hours of work per week and carry a stipend of from $2,000 to $3,200 for two semesters. Inquiries regarding these programs should be addressed to the head of the department in which the student intends to specialize.
ACCOUNTING and FINANCE

ACC 501 Accounting Principles. Three sem hours
For students who have not had undergraduate accounting. Introductory course on the development of accounting principles and techniques for use in making financial decisions. Covers both financial and managerial 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 Tax Accounting for International Business. Three sem hours
International accounting problems; the interaction of tax laws of the United States and of selected foreign countries.
Prereq: ACC 584 Administrative controls.

ACC 584 Administrative Controls. Three sem hours
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: ACC 501 Accounting Principles and FIN 502 Financial Principles.

ACC 586 Theory of Accounting. Three sem hours
Advanced treatment of accounting principles. Covers problems in financial reporting to stockholders and regulation of financial reports by SEC.
Prereq: ACC 584 Administrative Controls.

ACC 597, 598 and 599 Independent Studies. One, two and three sem hours
Directed study of problems in accounting or finance not otherwise treated in departmental courses.
Prereq: Departmental permission.

ACC 610 Accounting System Design and Installation. Three sem hours
Concepts of a responsive information system, including principles of basic design, profitability and responsibility accounting and internal control. Coverage of major business procedures. Treated in the context of modern data processing technology.
Prereq: ACC 584 Administrative Controls.

ACC 696 Seminar in Accounting. Three sem hours
Study of selected problems in accounting.
Prereq: Departmental permission.

FIN 502 Financial Principles. Three sem hours
Introduction to the theory of financing the business firm. Covers methods for evaluating the selection of capital from among alternative sources and the allocation of capital among alternative opportunities.
Prereq: ACC 501 Accounting Principles.
FIN 553 Business Financial Markets. Three sem hours
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.

FIN 573 Securities Analysis. Three sem hours
An advanced course for the professional investment manager covering economic forecasting, security valuation, technical analysis, portfolio methods and procedures applied to institutional portfolio management, trust financial management.
Prereq: FIN 502 Financial Principles.

FIN 583 Financial Administration Policies. Three sem hours
The internal policies and problems of financial management encountered by businesses. Developing administrative insight in funds administration planning, capital structure planning, security distribution arrangements and timing, expansion financing and solvency maintenance.
Prereq: FIN 502 Financial Principles.

FIN 594 Special Topics in Finance. Three sem hours
An in-depth study of a specialized area in accounting or finance.
Prereq: Departmental permission.

BUSINESS EDUCATION

*BED 555 Teaching Data Processing. Three sem hours
Basic information in the area of storage and retrieval systems and the methodology for presenting such information.

*BED 562 Cooperative Programs in Business Education. Three sem hours
Purpose and philosophy of vocational education in the fields of distributive and office occupations. Focus on organization and administration of vocational business education under federal, state and local regulations.

*BED 568 Coordination of Cooperative Programs in Business Education. Three sem hours
To acquaint the student with 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 dif-

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
different types of educational institutions; professional leadership and current research in the field.

**BED 571 Current Problems in Business Education. Two sem hours**
Current problems confronting business teachers in the secondary schools. Organization and administration of business education programs; physical facilities, equipment, and instructional materials; student personnel relationships; school-business relationships; evaluation of business education programs. *Open to Business Education majors only.*

**BED 572 Administration of Business Education. Two sem hours**
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 595 Workshop in Business Education. Two sem hours**
Modern methods, procedures, and materials for improving the effectiveness of the classroom teacher in the areas of shorthand, typewriting, bookkeeping and basic business.

**BED 596 Seminar in Business Education. Three sem hours**
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 597, 598, 599 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. *Departmental Permission.*

**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.*

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**GENERAL BUSINESS**

**GBS 501 Introductory Probability and Statistics for Business.**
Three sem hours

**GBS 502 Introduction to Computers and Programming. Three sem hours**
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 MBA students with deficiency in the area of computers. 

Prereq: Open only to graduate students.

GBS 503 Legal Environment of Business. Three sem hours
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. Not open to students with credit in law.

GBS 530 Public Law of Business. Three sem hours
Examination of case law and statutory law which sets the limits on the manager's discretion in formulating and implementing policies. Major topics: Administration and the Law; Unfair Trade Practices Law; Anti-trust Law; Labor Law; Securities Law.

Prereq: 303 Business Law and business major.

GBS 567 Risk and Risk Management. Three sem hours
Comprehensive study of the risk management function in business and industry. Topics covered include: nature of risk, risk management function, tools of risk management, insurance contracts and their use, and risk management and public policy. Cases and projects are used extensively in applying risk management principles and practices.

Prereq: Business major.

GBS 568 Administrative Communication Theory. Three sem hours
A survey of the research and literature to familiarize the student with theory, concepts and methods relevant to administrative communication.

Prereq: Business major.

GBS 570 Economic Dimensions of Current Business Problems. Three sem hours
Course will focus on the application of economic analysis to contemporary business problems. Topics may include business operations in a "controlled" economic system, the international business sphere, and corporate social responsibility concerning the environment. Format may include visiting experts from the fields of business and economics.

Prereq: Business major, six hours of economics or departmental permission.

GBS 586 Quantitative Analysis for Business. Three sem hours
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.

Prereq: GBS 501 Introductory Probability and Statistics for Business or equivalent.

GBS 587 Advanced Quantitative Methods. Three sem hours
Transportation networks, Queueing theory, Bayesian Inference, Regression and Correlation Analysis, in addition to various Discrete Mathematical Programming Topics of contemporary interest.

Prereq: GBS 586 Quantitative Analysis for Business and GBS 502 Introduction to Computers and Programming or departmental permission.
GBS 588 Managerial Economics. Three sem hours
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 antitrust economics.
Prereq: Business major, GBS 501 Introductory Probability and Statistics for Business or equivalent.

GBS 589 Business Conditions: Analysis and Forecasting. Three sem hours
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: GBS 586 Quantitative Analysis and GBS 588 Managerial Economics.

GBS 594 Special Topics in General Business and / or Business Computer Systems. Three sem hours
This course will be offered periodically to review selected contemporary topics in administrative communications, quantitative analysis, business computer systems, business law, managerial and business economics and / or insurance.
Prereq: Graduate Business Student or departmental permission.

GBS 595 Workshop in General Business. Three sem hours
This course will be offered periodically to present workshop experiences in administrative communications, quantitative analysis, business computer systems, business law, managerial economics and / or insurance.
Prereq: Graduate business student or departmental permission.

GBS 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the directions of a University faculty member.
Prereq: Departmental permission.

MANAGEMENT

MGT 501 Management of Human Resources. Three sem hours
For graduate students whose undergraduate major was not in business. An understanding of management concepts in organizational theory, human relations and administrative control.
Prereq: Open only to graduate students.

MGT 576 Business in Society. Three sem hours
Intellectual and cultural foundations of business. The ideas and concepts upon which our society is based; the relationship of these concepts to the meaning of today's business.
Prereq: Business major or by permission of department.
MGT 585 Organization Theory and Systems. Three sem hours
The man-machine system of business enterprise; system concepts, feasibility studies, designing, planning, authorizing, installing, operating and modifying. Management decision-making concerning organizational concepts and staffing. 
Prereq: Six hours of credit in management or by permission of department.

MGT 596 Seminar in Management. Three sem hours
A study of selected management issues and problems. Specific topics vary from term to term.

MGT 597, 598, 599 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: MKT 592 Business Research and approval of department.

MGT 687 Seminar in Personnel Administration. Three sem hours
Problems actually faced by executives, line and staff, in all levels of an organization in carrying out their responsibility for personnel administration.
Prereq: Graduate standing and six hours of credit in management or by permission of department.

MGT 689 Problems in International Management. Three sem hours
Problems of international business involving management in foreign countries.
Prereq: MGT 585 Organization Theory and Systems or by permission of department.

MGT 696 Seminar in Administrative Policy. Three sem hours
Policy making and administration from the viewpoint of the executive; an appreciation of the nature and origin of policies, leadership and authority. Environment influence and experience in decision making.
Prereq: Twelve hours of credit in business administration.

MARKETING

MKT 501 Marketing. Three sem hours
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 and markets; channels of distribution; advertising; personal selling; pricing policies; and regulation of marketing. Open only to graduate students.

MKT 518 Marketing Policies and Problems. Three sem hours
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 501 Marketing or equivalent.

MKT 592 Business Research. Three sem hours
Scientific research; basic considerations in research methodology; economic analyses. Oral and written reports.
MKT 597, 598, 599 Independent Studies, One, two and three sem hours
An intensive study of a problem under the direction of faculty members of professional rank.
Prereq: Six hours of graduate credit in marketing.

MKT 660 International Marketing. Three sem hours
Investigation of international marketing and its role in the multinational corporation. Subjects included are appraising international market opportunities, international product, promotion, price and distribution policies and international marketing environments.
Prereq: MKT 501 Marketing or equivalent.

MKT 680 Application of Quantitative Techniques to the Marketing Process. Three sem hours
The development of student skills in quantitative data and marketing decision-making process. Forecasting models, inventory models, transportation models, models of customer behavior and advertising models. Attention is given to problem definition, gathering data, methods and analysis and decision theory.
Prereq: MKT 501 Marketing or equivalent and MKT 592 Business Research or permission of the department.

MKT 696 Seminar in Advanced Marketing Theory and Practice. Three sem hours
Selected topics of importance in marketing theory and practice.
Prereq: MKT 501 Marketing or equivalent and three graduate hours in marketing or permission of the department.
COLLEGE OF EDUCATION

DEAN: Allen Myers

DEPARTMENTS

Curriculum and Instruction
Educational Leadership
Educational Psychology
Guidance and Counseling
Health, Physical Education and Recreation
Special Education

DIVISIONS

Educational Media
Social Foundations
The Curriculum and Instruction Department offers six areas of concentration leading to the degree Master of Arts. These are: early childhood education, elementary education, middle school/junior high school teaching, secondary school teaching, secondary curriculum and reading.

**Early Childhood Education**

The area of concentration in early childhood education is designed to further the student’s knowledge of the preschool, nursery, kindergarten and primary years. Courses, seminars, workshops and field experiences focus on critical examination of the basic concepts of growth, development and behavior and of the multi-dimensional aspects of the teacher’s role with children, parents, professional colleagues and community. Current practices are evaluated in the light of theoretical foundations and relevant research findings.

**Elementary Education**

The program in elementary education also 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 insure more effective service as a classroom teacher in the elementary school.

**Middle School/Junior High School Teaching**

The program in middle school/junior high school teaching enriches the foundations work in secondary 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 strengthen the teacher’s competence in his teaching field.

**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 also is placed on courses which strengthen the teacher’s competence in his teaching field.

**Secondary School Curriculum**

The program in secondary school curriculum is designed for those whose professional interests and responsibilities recommend a broad understanding of the current controversies and trends in secondary education and the historical, social and philosophical influences which have shaped the secondary school.

**Reading**

The program in reading is designed for the professional preparation of classroom teachers, special teachers of reading at both elementary and secon-
dary 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. A student can plan a program with his adviser that will enable him to meet the state of Michigan requirements for a reading specialist.

Admission to the Programs

Students are admitted to the Graduate School following satisfactory evaluation of undergraduate records which 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 a program adviser to each student following receipt of the proper records from the Graduate School and acceptance into the department. 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.

* RDG 500 Foundations of Reading Development. Four sem hours
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: Undergraduate course in teaching reading or language arts.

* RDG 501 Developmental Reading—Elementary. Two sem hours
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.
Prereq: Not open to reading majors.

* RDG 502 Developmental Reading—Secondary. Two sem hours
Curricular objectives and their implementation through recommended activities, methods and materials; functional programs for disabled readers.

* CUR 504 Creative Activities in Early Elementary Education.
Two sem hours
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 523 The Junior High / Middle School Curriculum. Two sem hours
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 530 Education of the Black Man in Contemporary America.
Two sem hours
This course focuses on the current problems, attitudes and opinions of black

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Americans and their relation to education. It is designed to help those planning teaching careers to better understand the black man in America.

*CUR 532 Elementary School Children and Social Studies.  
Two sem hours

Current issues and controversies in the teaching of social studies in the elementary school.

*CUR 540 Curriculum Foundations. Two sem hours

Curriculum content and patterns of schools in the United States. Historical and theoretical authority for the curriculum; criteria for the choice of content.

*CUR 541 Curriculum—Elementary School. Two sem hours

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 542 Curriculum—Secondary School. Two sem hours

The development and present status of the secondary curriculum; principles of curriculum revision and some factors involved in curriculum changes. Students are encouraged to concentrate on curriculum problems present in their school system.

*CUR 543 Core Curriculum. Two sem hours

An insight into the nature and techniques of core teaching.

*CUR 546 The Dropout Problem. Two sem hours

An intensive review of this national problem; practical procedures based upon school and community resources for improving holding power.

*CUR 553 Survey of Recent Science Curricular Developments.  
Two sem hours

Problems in development and implementation of materials, methods and content of recent curricular efforts.

Prereq: Undergraduate major in science and teaching experience.

RDG 560 Reading Problems of the Disadvantaged.  
Two sem hours

Methods, techniques and materials found effective in teaching reading to the disadvantaged, proper placement of developmental tasks; promising practices in large city school systems; compensatory education as it affects reading.

Prereq: Undergraduate course in teaching reading or language arts.

*CUR 564 The Open Classroom. Four sem hours

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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* CUR 565 The Community-Centered Classroom. Four sem hours
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 humane learning environment which will promote multi-cultural understanding and a one-world concept.

* CUR 566 Improving Instruction. Two sem hours
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 567 Enriching the Early Elementary Classroom Program. Two sem hours
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.

* 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 and GEO 348.

* RDG 573 Programs in Language Arts. Two sem hours
Curricular objectives and their implementation through listening, speaking, handwriting, spelling and creative, narrative and expository writing, evaluative procedures and some consideration of corrective techniques.

* RDG 582 The Nature of Common Reading Problems. Two sem hours
Problems of underachievement; weaknesses and deficiencies in attitudes, comprehension, word recognition and facility and flexibility in silent and oral reading, physical, psychological, environmental and educational factors. Prereq: RDG 500 Foundations in Reading Development.

* CUR 584 Planning the Pre-School Environment. Two sem hours
Requirements and recommendations for personnel, physical facilities, materials and equipment to serve children in day care, nursery, pre-school and kindergarten programs. Planning for child development centers in schools and communities.

* CUR 585 Kindergarten Education. Two sem hours
Basic principles and philosophy of kindergarten education; curriculum planning and curriculum materials for kindergarten children.

* CUR 586 Trends and Issues in Kindergarten Education. Two sem hours
Important trends and issues affecting the education of kindergarten children.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* CUR 587 Early Childhood Education. Two sem hours
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.

RDG 589 Developing School-Wide Reading Programs. Two sem hours
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.

CUR 591 Supervision of Student Teachers. Two sem hours
Preparing the public school teacher to work with student teachers.

RDG 594 Internship in Reading. Four sem hours
Supervised experiences in selected school systems; major functions and problems of reading consultants and/or co-ordinators.
Prereq: Departmental permission.

CUR / RDG 595 Workshops in Selected Areas. Two sem hours
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past are:

- The Adolescent in American Society.
- The Curriculum and Racism.
- Early American Life-Colonial Williamsburg.
- East African Studies.
- Individualizing Instruction.
- Kindergarten Materials.
- Providing for Individual Differences in Reading.
- Teaching the Disadvantaged.

CUR / RDG 596 Seminars in Selected Areas. Two sem hours
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past are:

- CUR 596 Seminar: Secondary Curriculum. Two sem hours
  Prereq: CUR 540 Curriculum Foundations, CUR 542 Curriculum—Secondary Schools and 20 hours of graduate credit.

- RDG 596 Seminar: The Teaching of Reading. Two sem hours
  Prereq: Eight hours of graduate credit in reading.

CUR / RDG 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems. The completed study must

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
give evidence of 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.

RDG 660 Survey of Resources and Materials in the Language Arts.
Two sem hours
Publications useful in teaching, listening, speaking, reading and writing; special-purpose reading materials such as high-interest, low-vocabulary materials, materials for the gifted, materials for bibliotherapy. Determinants of readability.
Prereq: Eight hours of graduate credit in reading.

RDG 661 Analysis and Treatment of Common Reading Problems.
Two sem hours
Survey of diagnostic procedures, formal and informal; organization and interpretation of case history and test data; determinants of prognosis, preparation of recommendations; designing individualized programs.
Prereq: RDG 582 Nature of Common Reading Problems.

RDG 663 Evaluation of Reading Growth and Development.
Two sem hours
Standardized and informal tests; selection, administration and interpretation, techniques for appraising achievement in listening, speaking, reading and writing. Kindergarten through 12th grade.
Prereq: RDG 500 Foundations in Reading Development.

RDG 692 Reading Practicum I. Two sem hours
Supervised and directed experiences in teaching reading appropriate to the student's needs. The practicum student will have a group experience, developmental or remedial. The student will diagnose the strengths and weaknesses of the subjects and design treatment to develop specific skills and abilities. Approved and supervised by the reading staff professor.
Prereq: Departmental permission.

RDG 693 Reading Practicum II. Two sem hours
Supervised and directed experience in teaching reading appropriate to the student's needs. The practicum student will work with an individual remedial case. The detailed case-study approach will emphasize specialized planning based upon a thorough diagnosis. Approved and supervised by the reading staff professor.
Prereq: Departmental permission.

CUR / RDG 696 Seminars in Selected Areas. Two sem hours
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past are:

CUR 696 Seminar: Elementary School Curriculum.
Two sem hours
Prereq: CUR 541 Curriculum—Elementary School and 20 semester hours of graduate credit.

CUR 696 Seminar: Early Childhood Education.
Two sem hours
CUR 696 Seminar: Reassessing Human Potential. Two sem hours
Prereq: CUR 540 Curriculum Foundations

CUR 696 Seminar: Changing Process of Elementary Education. Two sem hours
Prereq: CUR 540 Curriculum Foundations.

RDG 696 Seminar: The Reading Process. Two sem hours
Prereq: Twenty hours of credit in reading.

EDUCATIONAL MEDIA

At the present time there are no graduate programs in either audio-visual or library science. However, a master's degree in educational media is being developed. The present offerings in educational media provide some course work leading to permanent certification and for electives in most 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. For those interested in courses in education media, please check with your adviser.

* EDM 512 Audio-Visual Instruction. Two sem hours
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 522 Administration of Audio-Visual Services. Two sem hours
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 512 Audio-Visual Instruction.

* EDM 524 T.V. in Education. Two sem hours
Extent and nature of experimentation in instruction by radio and television; current philosophy and attitudes toward teaching by radio and television.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* EDM 525 Resource Materials for the Elementary School.  
Two sem hours  
Criteria and sources for selection and purchase of books, pamphlets, periodicals and free materials for nursery school through the sixth grade. **Teachers only.**

* EDM 526 Radio and TV in the Classroom. Two sem hours  
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 595 Workshops in Selected Areas. Two sem hours  
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past are:

**EDM 595 Workshop in Reading Guidance for Children.**  
Two sem hours  
Reading guidance for teachers and librarians learning to meet the special needs of the individual child. Pre-school children to adolescents.

**EDM 595 Workshop in Production of Instructional Materials.** Two sem hours  
Basic techniques in the production of a variety of teaching materials; lettering, mounting, and color application to flat pictures and graphics; projected materials of various sizes; overhead projectuals; display boards of all types. **Prereq:** 344 Audio-Visual Methods in Teaching or EDM 512 Audio-Visual Instruction.

**EDM 595 Workshop in Television Utilization.** Two sem hours  
For teachers; advanced problems in the use of television in the classroom.

EDM 596 Seminars in Selected Areas. Two sem hours  
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past are:

**EDM 596 Seminar: The Administrator and the School Library.** Two sem hours  
For administrators, supervisors, beginning audiospecialists and beginning librarians; services, activities, materials and standards of a materials center in a school library.

**EDM 596 Seminar: Instructional Materials.** Two sem hours  
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,  

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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 512 Audio-Visual Instruction or permission of the department.

EDM 596 Seminar: History and Appreciation of Motion Pictures and Photography. Two sem hours

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 512 Audio-Visual Instruction or permission of the department.

EDUCATIONAL LEADERSHIP

The Department of Educational Leadership offers preservice and in-service preparation programs in elementary and secondary school, community education and community college administration. Degrees currently offered include:

Master's — Educational Leadership
Specialist's — Educational Leadership

These graduate programs prepare educators for one of the following administrative positions:

Middle School Principalship
Elementary Principalship
Secondary Principalship
Assistant Principalship
Department Head
Superintendency
Community School Director
Community College Administration
Teacher Organization Leadership

Central Office Positions:
Research Director
School Plant Planner
School District Negotiator
Curriculum Director
Supervisor of Instruction
Federal Projects Director
Public Relations Director
Business Manager
Special Education Director
Community Education Coordinator
Vocational Education Director
School Personnel Director
Assistant Superintendent

The master's program includes:

| Educational Leadership Courses | 14-16 hours |
| Education Courses | 8-10 hours |
| Courses Outside College of Education | 6 hours |
| TOTAL | 30 hours |
The specialists program is a 62 hour program of graduate study and includes the master degree program requirements shown above plus the following additional hours:

<table>
<thead>
<tr>
<th>Leadership Courses</th>
<th>20 hours</th>
</tr>
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<tbody>
<tr>
<td>Thesis or Internship</td>
<td>6 hours</td>
</tr>
<tr>
<td>Courses outside College of Education</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>32 hours</strong></td>
</tr>
</tbody>
</table>

Students should, if possible, consult with department adviser before initial registration for classes and complete an official program of studies prior to or during the first enrollment period. Department advisers are encouraged to develop programs which will assist students in fulfilling career goal aspirations.

**ADMISSION REQUIREMENTS FOR A MASTER'S DEGREE:**

1. Admission to 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 test score.
4. A valid teaching certificate. (See adviser for waiver provisions).
5. A favorable interview.

**ADMISSION REQUIREMENTS FOR THE SPECIALIST'S PROGRAM INCLUDE:**

1. Admission to the Graduate School.
2. A valid teaching certificate. (See adviser for waiver provisions).
3. A year or more of successful educational experience.
4. Three favorable recommendations from supervisors in educational experience.
5. A 2.5 undergraduate grade point average: or a 2.75 (last 60 hours), or a favorable test score.
6. A 6.0 graduate grade point average.
7. A favorable interview.

**RESIDENCY REQUIREMENTS FOR COMPLETION OF DEGREE:**

All educational leadership students must satisfy University residence requirements for degree consideration. In addition, specialist’s degree candidates must attend classes for one semester as a full-time student or two consecutive full-time summer sessions.

**COURSE SUBSTITUTIONS**

Must be approved by the adviser.

**AREA OF CONCENTRATION**

With the approval of the student’s adviser, one course may be substituted from another area if the course is administrative in nature. Such as course cannot carry more than three hours of credit.
COURSES OUTSIDE THE COLLEGE OF EDUCATION

A suggested list of courses has been prepared by the department. Other courses not including methods 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 under the direction of an experienced public school administrator. Further information is available from the director of internship programs.

MOTT LEADERSHIP PROGRAM

Mott fellowships are available for a one-year study program leading to a master's degree in educational administration with an emphasis on community education.

GRADUATE ASSISTANTSHIPS

One available each year and selected by the department staff. Assists in research, teaching and administration. Also assists the coordinator of advising in processing applicants for admission.

TEACHING FELLOWSHIPS

Available to students on the specialist's program with teaching experience. Assists in the supervision of student teachers, coordination of staff seminars and special assignments in the department.

ADVISERS (Students may choose)

Coordinator of Advising—Doris Kilanski
Advisers — Master's Program
G. Brower, D. Fox, J. Minzey, W. Kromer, W. Hetrick
Advisers — Specialist's Program
E. Duvall, K. Grinstead, D. Kilanski

EDL 502 Educational Organization. Two sem hours
Organization of American public schools; authority, functions and relationships of federal, state and local governments to education. Methods of organization within school districts; nongraded organizational patterns.

EDL 515 Accounting for School Business Administrators. Two sem hours
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.

EDL 540 Community Organization. Two sem hours
An understanding of the community as a social group. Emphasis on community analysis, leadership, criteria of a good community change and action and community problems. Open to teachers and community members.

EDL 550 Adult Education. Two sem hours
Organization and administration of adult education programs for communities. Open to nonmajors.
EDL 553 Economics of Public Education. Two sem hours
Examines the basic economic, fiscal and legal theories of support for education tax structures, state aid formulas, federal aid and school budgets.

EDL 556 Community Education. Two sem hours
The basic principles and philosophy of community education; its current status and relationship to education. Open to nonmajors.

EDL 560 School and Community Understanding. Two sem hours
Interpreting the school to the community with emphasis on improving relationships between the school and the community. Assessing community opinion on education and educators.

EDL 562 Educational Leadership. Two sem hours
The process and function of various school leadership positions are explored including current practices, theories, and concepts of educational administration. A general course describing the role of principal, superintendent, board of education and other administrative positions in the public schools.

EDL 563 Philosophy and Purposes of the Community College. Two sem hours
An overview of the development of the two year college, its origins, major characteristics and prospects with special emphasis to philosophy and purposes. Fundamental issues identified and conflicting positions investigated. Open to non-majors.

EDL 566 Supervision of Instruction. Two sem hours
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.

EDL 580 School Law for Teachers. Two sem hours
Legal principles underlying the day-to-day teaching activities; how laws operate and legal principles develop. Open to non-majors.

EDL 587 Evaluating Educational Services. Two sem hours
Problems, principles and procedures involving the evaluation of school facilities, curriculum, teachers and administrators. Evaluation instruments will be developed, applies and analyzed. Evaluation procedures at the secondary level.

EDL 594 Master's Internship in Educational Leadership. Two sem hours
Training in administration through actual supervised experience. Arrangements must be approved by adviser and Director of Intern program prior to registration. Enrollments limited. Departmental permission.

EDL 595 Workshop in Educational Leadership. Two sem hours.
Topics to be selected (see current schedule).
Concerned with special topics of educational leadership. Designed to maximize students participation and workshop method of teaching and learning emphasized.
EDL 596 Seminar in Administration and Supervision or Seminar in (Topics to be selected, see current schedule). Two sem hours
Concerned with broad or special topics of educational leadership. (Students are limited to two EDL 596 seminars on master's degree program).
Prereq: Six hours credit in administration, majors only.

EDL 597, 598, 599 Independent Studies. One, two and three sem hours
Prereq: Permission of the department.

EDL 605 Leadership Research and Theory. Two sem hours
Theories and models of administration and leadership; general theories of leader behavior. A philosophy of social change and an understanding of social action.

EDL 651 Collective Negotiations in Education. Two sem hours
An analysis of negotiations; issues which may be encountered by school administrators and teachers in collective negotiations in education. Open to non-majors.

EDL 653 Advanced School Finance. Two sem hours.
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 553 Economics in Public Education.

EDL 655 School Plant Planning. Two sem hours
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.
Prereq: Six hours credit in administration.

EDL 658 School Personnel Administration. Two sem hours
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.
Prereq: Six hours in Educational Leadership.

EDL 671 Elementary School Principalship. Two sem hours
The examination of the elementary school principal's role in improving curriculum and instruction, in the establishment of effective, routine operations in an elementary school, in establishing avenues for change by an awareness of innovations, materials, technologies and research that are relevant to elementary school education.
Prereq: Six hours credit in administration.

EDL 672 Middle School Administration. Two sem hours
An examination of the characteristics of the Middle 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, ex-
ploratory and enrichment studies, evaluation methods, student services and community relations.

Prereq: Six hours credit in administration.

EDL 673 Senior High School Principalship. Two sem hours
Educational leadership in the senior high school and 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 674 Community School Administration. Two sem hours
Principles and techniques of administering community education programs.

Prereq: EDL 556 Community Education

EDL 675 Organization and Administration of the Community College. Two sem hours
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.

Prereq: Six hours credit in administration.

EDL 677 School Business Management. Two sem hours
School business procedures; budgeting, construction, purchasing, salary schedules, school indebtedness and insurance problems.

Prereq: 553 Economics of Public Education. Six hours credit in administration.

EDL 680 Legal Aspects of Administration. Two sem hours
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.

Prereq: Six hours of credit in administration. Majors only.

EDL 682, 683 Behavioral Science in Administration and Supervision I and II. Two sem hours
Emphasizes contributions of research in the behavioral sciences to educational leadership. Critical readings of psychologists, sociologists, political scientists and others that have special value in understanding such concepts as leadership, organization, power, authority, communication, innovation and decision making.

Prereq: Six hours in administration and EDP 592

EDL 690, 691 and 692 Thesis. One, two and three sem hours
Prereq: Approval of adviser.

EDL 693 Practicum. Two sem hours
Development of the proposal for a study to be undertaken for either thesis or internship credit. Must be taken prior to the Thesis (690, 691, 692) or Internship (694).

Prereq: EDL 592, EDL 682, EDL 683 and permission of the adviser.

EDL 694 Internship in Educational Administration. Six sem hours
Provides an opportunity for the graduate student, teacher or administrator to develop his administrative skills by working under the direction of an ex-
An intensive study of selected problems in administration and supervision. Students are limited to two EDL 696 seminars on specialist degree program.

EDL 696 Interuniversity Seminar. Two sem hours
Students from various Michigan universities will meet at Flint for eight sessions on the first Friday of the month, beginning in October. Speakers of national significance will discuss topics from fields outside of but pertaining to vital issues in education. Students must apply to instructors for admission to the course prior to July 1. May be used by administration majors for cognate credit.

EDL 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.

EDUCATIONAL PSYCHOLOGY

The objectives of the Master's degree program in Educational Psychology include: (1) To provide the professional educator with a broad foundation in the areas of human growth and development, learning and educational technology, measurement and evaluation of learning, research methodologies and personality dynamics, (2) to improve the educator's competencies and skills in the understanding and the utilization of psychological theories and principles and (3) to provide a foundation for the pursuit of advanced degrees in educational psychology or allied fields.

ADMISSION REQUIREMENTS FOR THE MASTER'S DEGREE

Students must apply through and meet 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 not be a condition for admission.

In addition, students must apply to the chairman of the Graduate Committee in Educational Psychology for admission to the program. The procedure for application to this program is as follows:

1. Submit completed application blank obtainable from the secretary of the Department of Educational Psychology.
2. Submit transcripts of all undergraduate and graduate work.
3. Submit Miller Analogies Test score. Arrangements for taking the MAT may be made with the secretary of the Department of Educational Psychology.

This information is reviewed by the Graduate Committee. Undergraduate grade-point-average (a 2.5 average on a 4.0 scale is required), satisfactory performance on the Miller Analogies Test, experience in related fields and personal recommendations will be considered when determining readiness for graduate study in this program.

PROGRAM REQUIREMENTS

1. All students must complete EDP 502, Basic Concepts in Educational Psychology; EDP 521, Statistics I; Descriptive Statistics; and EDP 592, Research Techniques. In addition one course from each of the areas of concentration: (A) development, (B) learning and technology, (C) personality and (D) measurement and research, must have been completed.
2. The minimum of 30 semester hours must include six hours of cognates, i.e., courses elected from departments outside of Educational Psychology and approved by the student’s adviser.
3. Completion of six hours of cognates (credits earned in related fields outside the Department of Educational Psychology).
4. Completion of EDP 596 Seminar in Educational Psychology.
5. Completion of a total minimum of 30 hours including no more than 12 transfer credits.

RESIDENCY REQUIREMENT

The residency requirement must be satisfied by completing 12 hours on campus. These need not be simultaneous or consecutive but must include EDP 502, 521, and 592. The student need not reside on campus to meet this requirement.

DEGREE REQUIREMENTS

1. A minimum of 30 semester hours of graduate credit applicable to the program.
2. The minimum of 30 semester hours must include six hours of cognates, i.e., courses elected from departments outside Educational Psychology and approved by the student’s adviser.
3. A B+ (6.0) average for all work applicable to the degree.
4. The recommendations of his/her adviser.

FINANCIAL AIDS

Information concerning financial aids, graduate assistantship, research assistantship, student employment, loans, scholarships and grants may be obtained by writing the chairman of the Graduate Committee in Educational Psychology.
ADDfIONAL INFORMATION
Applications for admission to the program and requests for additional in-
formation may be sent to:
Chairman, Graduate Committee in Educational Psychology
Department of Educational Psychology
Eastern Michigan University
Ypsilanti, Michigan 48197

EDP 500 Human Development. Two sem hours
The study of social, emotional, physical and mental growth; processes and
developmental stages throughout the life cycle and their implications for learn-
ing 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 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 503 Principles of Classroom Learning. Two sem hours
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 504 Essentials of Programmed Instruction. Two sem hours
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 505 Mental Hygiene. Two sem hours
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.
Prereq: EDP 302, Educational Psychology or EDP 320, Human Growth and
Development or Departmental permission.

EDP 506 Technology of Instruction. Two sem hours
Classroom management of learning and instruction; the tools of instruction.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."
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 508 Computer Applications in Education. Two sem hours
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 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 510 Personality Theories for Educators. Two sem hours
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: Six hours of graduate or undergraduate work in Educational Psychology, Human Growth and Development and Psychology.

EDP 514 Psychology of Creativity for Educators. Two sem hours
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: Six hours of graduate or undergraduate credit acquired by completion of any of the following courses: Introduction to Psychology, Child Psychology, Educational Psychology and Human Growth and Development.

* EDP 521 Statistics I: Descriptive Statistics. Two sem hours
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 531 Measurement and Evaluation. Two sem hours
A study of the construction and use of teacher-made tests, rating scales, questionnaires, checklists and similar measures. Also includes the administration of standardized tests and utilization of their results.

EDP 539 Experimental Course. Two sem hours
An experimental course designed to include specific topics of concern in Educational Psychology.
Prereq: Permission of the instructor.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
EDP 551 Statistics II: Inferential Statistics. Two sem hours
Inferential statistics, both parametric and nonparametric; theory of hypothesis testing.
Prereq: EDP 521 Descriptive Statistics or its equivalent.

EDP 584 Psychoanalytic Theory and Education. Two sem hours
Major psychoanalytic concepts will be discussed and compared. Applicability of psychoanalytic theories to problems of education will be explored.
Prereq: EDP 500 Human Development or equivalent.

* EDP 592 Research Techniques. Two sem hours
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 596 Seminar in Educational Psychology. Two sem hours
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 597, 598 and 599 Independent Study. One, two and three sem hours
Prereq: Permission of the graduate adviser.

EDP 631 Statistics III: Analysis of Variance. Two sem hours
Involves statistical principles in experimental design through the study of single and multi-factor analyses of variance.
Prereq: EDP 521, Descriptive Statistics and EDP 551, Inferential Statistics or equivalents.

EDP 690, 691 and 692 Thesis. One, two and three sem hours
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 under "Psychology."

GUIDANCE, COUNSELING and PERSONNEL WORK

Graduate study in the Department of Guidance and Counseling is designed primarily for the professional preparation of elementary and secondary school

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
counselors and college student personnel workers. Programs are also available for individuals in various counseling roles in industry, employment offices, vocational rehabilitation centers, social agencies and other similar settings.

Advanced graduate study is offered which is designed to provide individuals with professional competencies required for leadership roles in guidance and personnel programs. In addition, introductory courses are provided for classroom teachers and graduate students in related fields who wish to acquire basic understandings of guidance practices.

ADMISSION REQUIREMENTS FOR THE MASTER'S DEGREE PROGRAM

1. Admission to the Graduate School.
2. A valid teaching certificate (elementary and/or secondary) or a waiver of this requirement by the department.
3. A 2.25 undergraduate grade point average or a 2.5 undergraduate grade point average for the last 60 semester hours.
4. Completion of Personal Data Form.
5. A personal interview with an assigned adviser.

A program adviser will be assigned to each student when his/her records are received from the Graduate School. At this time, the student will be notified of his/her adviser and should arrange for a personal interview. The adviser will assist the student in developing a 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 should contact Dr. Winton A. Kloosterman, chairman of the advising committee, 13 Boone Hall.

REQUIREMENTS FOR THE MASTER'S DEGREE PROGRAM

The master's degree program consists of three major components which include foundation courses, a major concentration in guidance and counseling and cognate courses in the behavioral sciences. The following outline describes the general program requirements which lead to a minimum program of 32 semester hours of graduate study:

A. Foundation Courses

EDP 521 Educational Statistics (required)

Other approved courses from the area of educational psychology, educational leadership, curriculum and instruction and social foundations.

B. Concentration in Guidance and Counseling

1. Core requirements
   G&C 500 Introduction to Guidance and Counseling
   or
   G&C 501 Guidance in the Elementary School
   G&C 505 Counselor Development: Basic Skills
   G&C 510 Counseling Principles and Practices
   G&C 520 Standardized Group Testing
   G&C 540 Group Guidance
G&C 680 Counseling Practicum I
G&C 696 Seminar in Guidance/College Personnel Work

2. Electives

These guidance and counseling courses are selected with the approval of the adviser and reflect the student's professional objectives (e.g., elementary school counseling, secondary school counseling, college personnel work).

C. Cognate Courses

These courses are selected from the behavioral sciences and are intended to strengthen the student's background in individual development and social conditions. Such courses are usually taken in the departments of psychology, sociology, economics, and special education.

ADMISSION REQUIREMENTS FOR THE SPECIALIST'S DEGREE PROGRAM

1. Admission to the Graduate School.
2. A master's degree in guidance and counseling or its equivalent from an accredited institution.
3. A 6.0 graduate grade point average.
4. A valid teaching certificate or a waiver of this requirement by the department.
5. Evidence of successful experience in a helping profession.
6. Submission of scores on the Miller Analogies Test or the general and verbal sections of the Graduate Record Exam.
7. Two letters of recommendation, one of which is from an immediate supervisor.
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. Winton A. Kloosterman, chairman of the advising committee, or Dr. John G. Pappas, department head, 13 Boone Hall.

REQUIREMENTS FOR THE SPECIALIST'S DEGREE PROGRAM

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.

A. Foundation Courses

This requirement is designed to provide the counselor with greater ability to relate to the total functioning of his work setting. It is also designed to ensure 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 592 Research Techniques for one of these experiences.
B. Area of Concentration

1. Didactic Courses (10-14 sem hours)
   - G&C 610 Theories of Counseling
   - G&C 650 Organization and Administration of Guidance and Personnel Services

   Electives-600 level graduate courses in Guidance and Counseling

2. Supervised Experiences (4-6 sem hours)
   - G&C 685 Counseling Practicum II
   - G&C 686 Supervision of Counseling Practicum
   - G&C 681 Field Work in Guidance and Personnel Work

3. Specialist's Report (3 sem hours)

C. 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, economics and business management are of special value in this component of the program.

Student progress is reviewed after the completion of twelve hours in the graduate program. At this time, an interim check is made and faculty recommendations regarding the student's continuation in his/her program are forwarded to the Graduate School. Also, students seeking counselor endorsement of their teaching certificate must provide evidence of their valid Michigan teaching certificate at the time of admission. These students are eligible to apply for counselor endorsement of their teaching certificate at the completion of their graduate program of study.

* G&C 500 Introduction to Guidance and Counseling. Two sem hours
A general course designed to present the philosophy, practice and principles underlying counseling and guidance service in schools and other agencies. It is intended to provide an overview of the counseling and guidance field as well as an introduction to the professional program for the counselor. Not open to students who have credit in G&C 501 Guidance in the Elementary School.

* 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. Not open to students who have credit in G&C 500 Introduction to Guidance and Counseling.

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.
Prereq: Open to G&C majors only.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
G&C 510 Counseling Principles and Practices. Two sem hours
An introduction to current principles and practices of individual counseling. Through analysis and evaluation of counseling interviews, students develop skills and understandings critical to effective counseling relationships. Students participate in various counseling situations as a means of personal development and assessment of their counseling potential.

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.
Prereq: G&C 500 Introduction to Guidance and Counseling or G&C 501 Guidance in the Elementary School and EDP 521 Educational Statistics.

G&C 540 Group Guidance. Two sem hours
This course affords the student an opportunity for experience in a small group. Included in the content will be the skills, techniques and materials for group methods in guidance and personnel programs.

G&C 595 Workshop in Selected Areas. Two sem hours
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 596 Seminars in Counselor Development. Two sem hours
Seminars will be offered dealing with contemporary issues and problems in the guidance and counseling field. These counselor development seminars will be designed primarily for advanced graduate students in Guidance and Counseling and practitioners in the guidance and counseling profession.
Prereq: Permission of adviser or departmental approval.

G&C 601 Student Personnel Services in Higher Education. Two sem hours
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 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. Each
student is encouraged to develop a theoretical basis for his own counseling practice.

Prereq: Ten semester hours in G&C courses.

G&C 611 The Elementary School Counselor. Two sem hours

The function of the elementary school counselor, his evolving role and relationships 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; development of his abilities and talents; diagnosis of his learning difficulties; and early use of available resources to meet his needs.


G&C 612 Case Studies in Counseling. Two sem hours

An opportunity for advanced students to make an intensive study of selected counseling cases. Purpose of this study will be to acquaint students with critical areas in the counseling process and to develop professional skills which will assist in working through these areas.

Prereq: Ten semester hours in G&C 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 621 Individual Mental Testing for Counselors. Two sem hours

An introduction to the administration, scoring and interpretation of Wechsler psychological scales. Special emphasis is placed on the use of these test results by the school counselor in elementary or secondary schools.


G&C 630 Educational and Occupational Information. Two sem hours

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 G&C 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 the manpower resources, locally and in the community at large.

Prereq: G&C 630 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 630 Educational and Occupational Information.

Two sem hours
The philosophy and principles of guidance as implemented in practice; the administration of the various special guidance services. Guidance functions of various school staff members will be considered.
Prereq: Ten semester hours in G&C courses.

G&C 680 Counseling Practicum I. Two sem hours
An introduction to supervised counseling experiences. A variety of counseling cases, criticism by other members of the class and the instructor, together with self-evaluation combine to produce great skill and understanding of the counseling relationships.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 681 Field Work in Guidance, Counseling and Personnel Work.
Two sem hours
On-the-job experiences under professional supervision that afford the student practical experience in counseling and guidance. Settings for the field work may include elementary and secondary schools, junior and senior colleges and universities, or other approved agencies.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 685 Counseling Practicum II. Two sem hours
(Formerly G&C 644)
An advanced course in supervised counseling experience.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 686 Supervision of Counseling Practicum. Two sem hours
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 694 Internship in Guidance, Counseling and Personnel Work.
Eight sem hours
A supervised work experience in an approved program of counseling, guidance, pupil personnel work, student personnel services or other setting appropriate to the interest and background of the enrollee. The intern will be required to spend at least 500 clock hours on the job to satisfy the course requirement.
Prereq: Permission of the adviser.
G&C 696 Seminar in Guidance, Counseling and Personnel Work.  
Two sem hours
An integrating experience for the M.A. program. Includes organization and administration of services, and other selected topics for intensive study.  
Prereq: Ten semester hours in G&C 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 consent and supervision of a member of the faculty in guidance and counseling.  
Prereq: Permission of the adviser.

G&C 699 Specialist in Arts Report. Three sem hours
A formal research paper required of each candidate for the specialist's degree in guidance and counseling. Each candidate's study will be supervised and approved by a committee consisting of a chairman and one additional member of the Graduate Committee in Guidance and Counseling.  
Prereq: Permission of the adviser.

HEALTH, PHYSICAL EDUCATION and RECREATION

The primary aim of the master's degree in physical education is to assist the individual graduate student in the proper utilization of all his classroom and practical experiences in such a way as to afford optimum effectiveness in teaching/coaching.

OBJECTIVES
Upon completion of the master's degree, the student should be able to:

1. Utilize philosophy in establishing the objectives, methods, curricular activities and techniques of evaluation which he should use in the physical education program.
2. Develop a curriculum for either elementary school or secondary school physical education and utilize appropriate methods to achieve its goals.
3. Utilize current procedures for evaluating student progress in achieving the objectives of the physical education program.
4. Utilize sound administrative techniques in solving typical administrative problems in the area of physical education.
5. Interpret current research as it applies to his own teaching.
6. Acquire knowledge in greater depth in the areas of teaching as selected by the individual student.
7. Acquire skills, knowledges and experiences in areas which extend beyond his undergraduate preparation that would enhance his ability to teach more effectively.
ADMISSION REQUIREMENTS
1. A baccalaureate degree from an accredited institution.
2. A major, minor or the equivalent in physical education or one of the associated areas.
3. 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. Each candidate must take 5-6 required classes in the core program and complete the total hours through electives.
3. Must have completed not less than six (6) hours of elective cognate courses outside the department.
4. Must receive the recommendation of the department graduate adviser and graduate coordinator.

TEACHING FELLOWSHIPS
A limited number of these positions are available to qualified individuals to teach in the general service program. Applications may be submitted in November and the selections are made the following March.

CURRICULUM REQUIREMENTS
Candidates will have the responsibility of scheduling conferences with their graduate H.P.E.R. adviser to complete the following:

1. CORE CLASSES .......................................................... 12 hours
   a. PED 585 Physical Education in Elementary Schools
   or
      PED 586 Physical Education in Secondary Schools
   b. PED 587 Philosophy of Physical Education
   c. PED 588 Administrative Problems in Physical Education
   d. PED 589 Advanced Physical Testing
   e. PED 592 Research Techniques
   f. PED 598 Independent Study

2. PROFESSIONAL CLASSES (electives in H.P.E.R.) .............. 12 hours

3. COGNATE CLASSES (electives outside H.P.E.R.) ................. 6 hours

GRADUATE ADVISER IN H.P.E.R.
For further information concerning graduate work in H.P.E.R. contact:

Dr. John E. Sheard
Department of H.P.E.R.

I. SERVICE COURSES

*PED 505 Basic Statistics. Two sem hours
Statistical procedures, distribution, measures of central tendency, measures of dispersion, and correlation.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
PED 506 Test Construction. Two sem hours
Types of written tests and examinations; construction, selection and interpretation of results.

II. ATHLETIC COURSES

PED 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.

PED 515 Workshop in Athletics. Two sem hours
A specialized workshop in the area of athletics, with the central theme to be announced.

PED 611 Seminar in Athletics I. Two sem hours
A lecture-demonstration course in the problems and techniques of advanced coaching theories; emphasis on basketball and baseball.

PED 613 Seminar in Athletics II. Two sem hours
A lecture-demonstration course in the problems and techniques of advanced coaching theories; emphasis on basketball and baseball.

PED 619 Problems in Training for Athletics. Two sem hours
Problems in the physical preparation of athletes for competition; treatment and rehabilitation following injuries.

III. RECREATION COURSES

PED 520 Trends in Community Recreation. Two sem hours
Recreation and the cultural aspects of communities.

PED 522 Social Recreation. Two sem hours
Planning and directing activities for family groups, church groups, senior citizens and school and community functions.

PED 535 Workshop in Recreation. Two sem hours
A specialized workshop in the area of recreation, with the central theme to be announced.

IV. HEALTH COURSES

PED 545 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.

PED 546 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,

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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.

* PED 555 Workshop in Health Education. Two sem hours
A specialized workshop in the area of health education, with the central theme to be announced.

PED 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.

PED 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: PED 640.

PED 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.

PED 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: PED 640.

PED 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: PED 640.

V. PHYSICAL EDUCATION COURSES

* PED 548 Physical Education Travel Study Tour. Four sem hours
A tour of several foreign countries to study curriculums, methods of teaching, training techniques, facilities and points of cultural interest related to health, physical education, recreation and athletics.

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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* 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 568 Workshop in Physical Fitness. Two sem hours
Current theories and practices in the development of physical fitness in our society; evaluation of school programs.
Prereq: Graduate major.

* 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 571 Seminar in Modern Dance. Two sem hours
A concentrated study of the teaching of modern dance in the secondary school, including technique and composition.

* PED 575 Workshop in Physical Education. Two sem hours
A specialized workshop in the area of physical education, with the central theme to be announced.

* PED 576 Workshop in Gymnastics. Two sem hours
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 577 Workshop in Movement Education. Two sem hours
A period of concentrated study, observation and actual participation in methods and content areas in movement education for both elementary and secondary schools; of value to all elementary and secondary generalists or specialists interested in motor development.

* 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 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 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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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 663 Seminar in Current Literature Analysis. Two sem hours
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 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 made in order to help the teacher-coach be more effective.

PED 668 Seminar in Physical Fitness. Two sem hours
A study of the literature and materials pertinent to the teaching of fitness. Particular attention is given to the implementation of programs of fitness within the school and community.

PED 670 Current Problems in Physical Education. Two sem hours
Identification, discussion and analysis of current problems and issues which confront the physical educator.

PED 678 Seminar in Motor Skills. Two sem hours
An investigation of factors having a significant effect upon the acquisition of motor skills. Attention is directed in turn to the learner, the educational setting and the teacher.

PED 680 Seminar in International Physical Education. Two sem hours
A continuation of PED 678, studying additional selected countries. A comparative

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
analysis of physical education, recreation and sports of each country in depth, using the seminar approach.

Prereq: PED 580 Comparative Physical Education.

VI. RESEARCH COURSES

PED 592 Research Techniques. Two sem hours
Research in a variety of settings; reviewing published research, participating in research, presenting a plan for a research problem.

PED 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem under the direction of a University faculty member.

Prereq: PED 592 Research Techniques or equivalent.

SOCIAL FOUNDATIONS DIVISION

The master's program in the social foundations of education is designed to complement the education a teacher receives at the undergraduate level. It is comprised of a series of courses giving fuller understanding of the society and culture in which the school operates. It is a basic objective of this program to provide a deeper understanding of the social forces conditioning the individual in his relationship with others. In the strict sense, this is not a program preparing the student for a specific position; it is intended to provide the student with a broader experience in the major areas of anthropology of education, comparative education, history of education, philosophy of education and sociology of education.

Admission to the program requires that the applicant hold a baccalaureate degree from an accredited institution and valid teaching certificate, and has been granted admission to the Graduate School of Eastern Michigan University. Occasionally, graduate students who are not and do not intend to become teachers decide they want to seek the master's degree in social foundations. When such intentions are based on an accurate understanding of the program's nature, such students are admitted and the teaching certificate requirement is waived. In a few instances, too, some graduate students are enrolled in the master's program in social foundations while they are seeking their initial teaching certificates.

Emphasis is placed upon developing an individual course of study for each student within a general framework which calls for earning a minimum of 30 semester hours of graduate credit. The course work, in general, will be distributed to provide for four hours of study in foundations courses in other areas of education. At least sixteen hours will be distributed among courses in social foundations of education; in some instances, these hours may include relevant courses from the social sciences. The remaining ten hours of credit are elective. Of the total thirty hours, at least six semester hours must be earned outside of education. Eight hours of credit in social foundations courses must be completed during the first twelve to sixteen hours of study for the master's degree.
The Graduate Committee of Social Foundations will adjudicate all student appeals for exception from program policies or faculty interpretations of those policies when requested in writing by the student. The adviser's recommendations concerning admission and the proposed course of study will be reviewed and acted upon by the full faculty of the Social Foundations Division.

Inquiries about the program should be directed to Dr. Calvin B. Michael, chairman, Social Foundations Division, Education Department, Eastern Michigan University.

*SFD 520 Education in Europe and U.S.S.R. Two sem hours
A comparative analysis of selected educational systems in Europe including the U.S.S.R. Patterns, trends and problems of various phases of education such as foundation, administration, organization and curriculum are examined.

*SFD 523 Education in New Nations. Two sem hours
This is a comparative analysis of the educational systems of emerging societies. The role of education in emerging societies as well as the influence of Western educational thought and practices in non-Western societies are examined.

*SFD 524 The Development of European Education. Two sem hours
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.

*SFD 525 Philosophy of Education. Two sem hours
Through a study of the development of educational thought, the student is enabled to find his way through the maze of conflicting current opinions. The course should help him to find a tenable and satisfying philosophy to guide his own educational thinking.

*SFD 526 History of American Education. Two sem hours
A sound historical foundation upon which to base judgments about our present educational practice in the United States.

*SFD 527 Juvenile Delinquency. Two sem hours
Nature, meaning, basic 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 354 Juvenile Delinquency.

*SFD 528 Progressivism in American Education. Two sem hours
The genesis and development of pragmatism; the special contributions of Pierce, James, Mead, and Dewey; the educational theories and practices of the Progressivists Bode, Kilpatrick, Counts; present thought and new influences.

*SFD 529 Sociology of Education. Two sem hours
Examined here are selected points of view and empirical studies on social

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
organization, social change, policymaking, power and authority structures, social class system and social movements in relation to the school as an institution.

**SFD 546 Education in India and the Philippines. Four sem hours**
An eight week program conducted in India and the Philippines in cooperation with Punjab University in India and the Philippine Women’s University. Selected aspects of the education and society of the areas are examined and periods of residence are spent in India and the Philippines. The course will include lectures as well as visits to primary and secondary schools and colleges of education. Brief visits in Honolulu, Hong Kong and Bangkok are included.

**SFD 547 Education in Scandinavia. Four sem hours**
Deals with education and the political, social and cultural systems which influence Scandinavia. Includes lectures and discussion about the types and levels of education, curriculum, administration, teaching methods. A summer program conducted annually at the University of Copenhagen in cooperation with Denmark’s International Student Committee.

**SFD 548 British Education. Four sem hours**
British education in its social and cultural setting. Taught at Reading, England, in cooperation with Reading University.

* **SFD 562 Cultural Determinants of Learning. Two sem hours**
The educational theories and practices in literate and preliterate 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.

**SFD 593 International Understanding. Two sem hours**
This course deals with available local and national resources for promoting international understanding in the classroom. Also examined are selected issues in international understanding and sample school projects and programs. Resource persons will be invited to participate.

**SFD 594 The Negro in America. Two sem hours**
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 the elementary and secondary levels.

**SFD 595 Workshop India: Its Culture and Education. Two sem hours**
The critical issues affecting education in selected areas of the Indian subcontinent; a sociological, political, historical and economic perspective focused on the allocation of educational resources, the reconciliation of tradition and technical education, social change and the balance between nationalism and internationalism.

**SFD 595 Workshop in Group Leadership. Two sem hours**
An experiential workshop in group process; analysis of group processes, func-

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*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
tions of leadership, interpersonal relations and personal styles as influences on group development.

SFD 596 Seminar in Social Foundations. Two sem hours
An intensive study of problems in social foundations.

SFD 597, 598, 599 Independent study. One, two and three sem hours
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 permission.

SFD 612 The Logic of Teaching. Two sem hours
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”.

SFD 620 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.

SFD 621 Existentialism and Education. Two sem hours
An historical and comparative analysis of the relationship of pragmatism to existentialism; factors which affect theories and practices of American education.

SFD 622 Pragmatism and Education. Two sem hours
Consideration of pragmatists’ psychology, sociology, ethics, social philosophy and their influence upon educational philosophy and practices.

SFD 625 History of Educational Thought. Two sem hours
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 525 Philosophy of Education.

SFD 648 East African Education. Four sem hours
A study of education in its social and cultural setting. Taught at Nairobi, Kenya, in cooperation with University College Nairobi and at Mogadiscio, Republic of Somalia, in cooperation with the National Teacher Education Center. Summers only.

OTHER COURSES:

The following course may also be elected for graduate credit and a course description may be found in the undergraduate catalog.

354 Juvenile Delinquency (3)
SPECIAL EDUCATION

The Graduate School at Eastern Michigan University offers a program leading to a master's degree, specialist's degree or state certification in most fields of specialization. Persons participating in this program may utilize a variety of approaches and experiences in fulfilling the needed requirements. These avenues of learning may include course work, field studies, workshops, independent studies, internships, seminars and/or research projects.

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 student's knowledge of diagnostic procedures, enabling him 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 techniques and meet state requirements for certification for teaching in a chosen area of special education.

Master's degree students wishing to qualify for teaching in an area of special education (i.e., mentally retarded, orthopedically handicapped, deaf and hard of hearing, emotionally disturbed, visually handicapped or speech correction) and who already hold a state teaching certificate, may pursue a certification program on the graduate's 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.

Applications for graduate studies in special education, on a master's degree level, require that the student be admitted to the University Graduate School. Applications for admission to the Graduate School may be obtained from the Graduate School or the Department of Special Education. Upon admission the student should contact the Special Education Department for general advising, programming and assignment to an academic adviser in his preferred area. The program of each student is individually suited to his particular needs.

The specialist's program is open to qualified students who have met certification standards, have teaching experience and possess a master's degree. Three general areas are emphasized at this level of study: administration and supervision, curriculum development and individualized instruction. 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 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 Department of Psychology and Educational Psychology to prepare people to be school psychologists. This special program is described more completely under "Psychology."

Speech pathology and audiology majors pursuing a graduate program must enroll in full-time graduate study. Their program must be worked out in con-
sultation with one of the graduate advisers in speech pathology and audiology. Basically it involves taking a number of undergraduate courses in which the student is deficient. The exact number will vary according to the amount of undergraduate credit used to fulfill requirements, and the sequencing usually necessitates a two-year and one summer time period to complete a graduate degree and certification. All graduate students in speech and audiology must complete an acceptable paper.

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.

For further information, contact the graduate adviser, Department of Special Education, 487-3302.

A. 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 emotionally disturbed and the delinquent. Not open to students who have credit in 251 Education of Exceptional Children.

SGN 513 The Slow-Learner in the Classroom. Two sem hours
Adjusting the curriculum for slow-learning children; problems of indentification, methods and materials, curriculum modifications and remedial techniques. Not an equivalent of or a substitute for SMH 558 Education of the Mentally Handicapped I and SMH 559 Education of the Mentally Handicapped II.

SGN 514 Measurement and Diagnosis in Special Education. Two 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 515 Social Psychology of the Handicapped. Two sem hours
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 519 Administration and Supervision of Special Education. Two sem hours
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 520 Family-School Relationship in Special Education. Two sem hours
Discovering and analyzing the home problems which have educational implications for the child.

SGN 561 Education of Gifted Children. Two sem hours
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.

SGN 569 Occupational Information in Special Education. Two sem hours
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 594 Internship for Master's Students in Special Education. Two sem hours
Internship for graduate students in the department to explore in depth one or more areas of exceptionality as related to curriculum and classroom management. Students will be directly supervised and guided by one or more faculty members in the area of exceptionality chosen.
Prereq: Permission of the department.

SGN 595 Education of the Disadvantaged Child. Two sem hours
Problems and techniques related to the education of disadvantaged children. An overview of the sociological, medical and psychological problems as they relate to the deprived child in both metropolitan and rural areas.

SGN 596 Seminar Special Education I. Two sem hours
Prereq: Permission of the department.

SGN 596 Seminar Special Education II. Two sem hours
Open only to students who have completed SLD 595 Diagnostic Practicum. Follow-up of cases from diagnostic practicum.
Prereq: Permission of the department.

SGN 597, 598, 599 Independent Studies: One, two and three sem hours
An intensive study of a problem of group of problems under the direction of a University faculty member.
Prereq: Permission of the department.

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 694 Internships.  
Prereq: Permission of the department.

SGN 696 Interdisciplinary Seminar in Special Education.  
Two sem hours  
An intensive study of selected problems in special education. Open only to majors in special education.

SGN 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.

B. MENTALLY HANDICAPPED

SMH 507 Contemporary Problems in Mental Retardation.  
Two sem hours  
Contemporary issues and problems relating to the mentally retarded; institutionalization, sterilization, euthanasia, the parent movement, federal legislation, demonstration project and current research.

SMH 555 Physical Education and Recreation for the Mentally Handicapped. Two sem hours  
Physical education programming and curriculum for the retarded. Physical training and its relation to learning.  
Prereq: SGN 506 Education of Exceptional Children

SMH 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.

* SMH 558 Education of the Mentally Handicapped I. Two sem hours  
Selection and preparation of curriculum materials for mentally handicapped children; the methods and devices used in presenting this materials. Opportunities provided for functional experiences.  
Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 357 Education of the Mentally Handicapped I.

* SMH 559 Education of the Mentally Handicapped II. Two sem hours  
Educating the mentally handicapped in the intermediate program, and the techniques and methods in preparing and utilizing a curriculum adapted to the child's needs and abilities.  
Prereq: SMH 558 Education of the Mentally Handicapped or taken concurrently. Not open to students who have credit in 358 Education of the Mentally Handicapped.

SMH 565 Habilitation of the Trainable Mentally Retarded Child.  
Two sem hours  
Habilitation and education of the trainable retarded child; philosophy and ob-

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Objectives, classroom management and procedures, program coordination and evaluation, parent counseling, professional personnel, legislation, housing, transportation, sheltered workshop and other ancillary services.

**Prereq:** SMH 557 Mental Deficiency.

**SMH 568 Secondary Education of the Mentally Handicapped. Two sem hours**

A program of functional education for mentally handicapped children in the junior-senior high school age group; vocational, occupational and terminal education.

**Prereq:** SGN 506 Education of Exceptional Children.

**SMH 595 Pre-School Culturally Deprived Mentally Handicapped Child. Two sem hours**

A study of developmental programs for the pre-school mentally handicapped who is culturally deprived. Includes enrichment of experiences, parent education and cooperation, identifying special problems, such as speech, hearing, health. Evolving a program that best prepares the child for school entry.

**Prereq:** SGN 506 Education of Exceptional Child.

**SMH 596 Seminar in Mental Retardation. Two sem hours**

Focuses on the various problems related to mental retardation 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.

**C. 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 in students who have credit in 468 Education of Children with Learning Disabilities.

**SLD 593 Diagnostic Practicum Learning Disabilities. Six sem hours**

Intensive study of children referred for educational diagnosis. Study results in precise educational prescription to be implemented in child's school. Must elect SLD 595 Diagnostic Procedures immediately prior to or following this course.

**Prereq:** SGN 596 Seminar Special Education I and department permission.

**SLD 595 Workshop in Diagnostic Procedures in Learning Disabilities. Two sem hours**

Review and selection of tests, materials and procedures to be used in the diagnosis of educational problems of the learning disabled child. Must be elected prior to or immediately following SLD 593 Diagnostic Practicum.

**Prereq:** SGN 596 Seminar Special Education I and department permission.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
D. EMOTIONALLY DISTURBED

*SED 511 Methods and Curriculum for Emotionally Disturbed.

Two sem hours
Curriculum materials, methods and techniques for educating the emotionally disturbed child.
Prereq: SED 519 Emotionally Disturbed Children. Not open to students who have credit in 401 Methods and Curriculum for Emotionally Disturbed Children.

* SED 512 Organization of Programs for the Emotionally Disturbed.

Two sem hours
Program variations and their adaptations for the education of emotionally disturbed children; the theoretical and philosophical foundations of programs; behavior management techniques, teacher role and professional relationships.
Prereq: SED 519 Emotionally Disturbed Children. Not open to students who have credit in 402 Organization of Programs for the Emotionally Disturbed.

* SED 519 Emotionally Disturbed 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 301 Emotionally Disturbed Children.

SED 563 The Emotionally Disturbed Child in the Regular Classroom.

Two sem hours
For regular classroom teachers who do not have training in dealing with the emotionally handicapped child. The behavior of disturbed 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 handicapped children in special educational programs.
Prereq: Regular classroom teacher. Others with department permission.

SED 583 Preclinical Experiences
Provides 120 clock hours of contact with emotionally disturbed, but those who have worked with disturbed children may have this requirement waived by presenting a statement from a supervisor. Arrangements for this requirement are made through Prof. Caputo's office.

SED 596 Seminar in the Emotionally Disturbed Child. Two sem hours
All recipients of fellowships, as well as other graduate majors in the program for teachers of the emotionally disturbed, 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 disturbed, 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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SED 603 Therapeutic Management of Emotionally Disturbed Children. Two sem hours
Techniques in dealing with emotionally disturbed children; surface manipulation of behavior and life space interview.
Prereq: SED 519 Emotionally Disturbed Children and presently working with children.

SED 696 Psychological and Educational Techniques for Emotionally Disturbed. Two sem hours
Advanced course for graduate students in the area of emotionally disturbed. Variations in educational programming for the disturbed and socially maladjusted are discussed. Each student is required to work individually with a disturbed 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: SED 511 Methods and Curriculum for Emotionally Disturbed and SED 512 Organization of Programs for the Emotionally Disturbed.

E. PHYSICALLY HANDICAPPED

SPH 510 Education and Treatment of Cerebral Palsied Children. Two sem hours
An interpretation of the cerebral palsied child; types of cerebral palsy. The problems of education and treatment; opportunity is provided to observe children in the classroom and treatment room.
Prereq: SGN 506 Education of Exceptional Children.

SPH 536 Methods of Teaching Physically Handicapped Children. Two sem hours
Educational and psychological needs of crippled children; teaching techniques to meet these needs, and problems that arise in group adjustment. Observation and laboratory are required.

SPH 537 Pathology of the Physically Handicapped. 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.

SPH 538 Therapeutic Care of the Physically Handicapped Child. Two sem hours
Medical and surgical aspects of the orthopedic and other handicapped conditions of children; therapies and services used in their rehabilitation. Opportunity for observation of children is available.
Prereq: SGN 506 Education of Exceptional Children.

F. SPEECH AND LANGUAGE IMPAIRED

SPA 500 Introduction to Speech Correction. Two sem hours
The more important problems of speech, 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 Correction. Graduate credit to non-majors only.

SPA 508 Black Language in the Educational Process. Three sem hours Survey of black language and culture from historically descriptive and practical perspectives, and the implications in education.

SPA 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: SPA 478 Audiometric Testing.

SPA 538 Clinical Practice in Hearing Therapy. Two sem hours Supervised practice in auditory training and lip-reading with children and adults.
Prereq: SDH 554 Auditory Training and Speech Reading for the Deaf and Hard of Hearing.

SPA 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 correction.

*SPA 552 Voice. Two sem hours
A study of the etiology, diagnosis and treatment of functional and organic voice disorders. Defects of loudness, pitch and quality will be considered.
Prereq: Undergraduate major in speech correction.

*SPA 554 Stuttering. Two sem hours
Causation, symptomatology and remedial procedures of stuttering; specific therapy procedures in the clinic, the school and the home.
Prereq: Undergraduate major in speech correction.

SPA 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: SPA 504 Anatomy of the Speech and Hearing Mechanisms or equivalent.
Undergraduate major in speech correction.

SPA 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 correction.

SPA 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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SPA 594 Public School Internship in Speech Correction. Four sem hours
Supervised clinical practice with speech handicapped persons. The first internship is completed in a public school setting.
Prereq: Undergraduate major in speech correction and concurrent enrollment in SPA 596 Seminar in Public School Speech Correction.

SPA 596 Seminar in Public School Speech Correction. Two sem hours
Emphasizes professional ethics, organization and administration of speech correction programs in all settings. Includes state laws governing special education, professional growth and development and employment practices and procedures.
Prereq: Concurrent enrollment in SPA 594 Public School Internship in Speech Correction.

SPA 597, 598, 599 Independent Studies. One, two and three sem hours
Intensive study in speech pathology and / or audiology, which may or may not include research oriented tasks. To be taken at a master's level only. Resultant paper must be worthy of publication.
Prereq: Undergraduate major in speech pathology and audiology and department permission.

SPA 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 correction.

SPA 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 correction.

SPA 614 Aphasia. Two 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 correction.

SPA 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.

SPA 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 correction.
SPA 620 Diagnostic methods in Speech, Language and Hearing. Three sem hours

The course will cover the diagnostic procedures and routines used in evaluation and diagnosis of speech and language disorders. Emphasis will be placed on the clinical approach to diagnosis as opposed to the public school approach. Consideration will be given to case interview, parental counseling, report writing and case referral.

Prereq: Undergraduate major in speech correction.

SPA 694 Clinical Internship in Speech Correction. Two sem hours

Opportunity for experience to practice speech correction in a clinical setting. Experience with children and adults with multiple handicaps will be provided, as well as an opportunity to work as a part of a professional team in rehabilitation procedures.

Prereq: Undergraduate major in speech correction.

SPA 696 Seminar in Speech Pathology. Two sem hours

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 correction.

SPA 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. Permission of the Department.

G. HEARING IMPAIRED

SDH 510 Survey of Education and Guidance for the Deaf. Two sem hours

A survey course covering the history of the education of the deaf; current educational programming; counseling, guidance and vocational habilitation.

SDH 514 Speech for the Deaf I. Two sem hours

Analysis of the particular problems of speech for the deaf; methods of analyzing and transcribing speech; techniques for the development for the young deaf child.

SDH 518 Speech for the Deaf II. Two sem hours

Speech development and improvement for the older deaf child. Includes supervised speech tutoring.

Prereq: SDH 514 Speech for the Deaf I.

SDH 522 Language for the Deaf. 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.


SDH 530 School Subjects for the Deaf. Four sem hours.

Principles and methods of teaching reading and school subjects to the deaf and the adaptation of regular curriculums and materials to meet the needs of the deaf.
SDH 554 Auditory Training and Speechreading for the Deaf and Hard of Hearing. Two 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.

SDH 593 Auditory Training and Speechreading Practicum. Two sem hours
Sixty clock hours of directed observation and practical work in the classroom with deaf children.
Prereq: SDH 554 Auditory Training and Speechreading.

SDH 594 Public School Internship. Four sem hours
Supervised teaching with deaf handicapped persons.
Prereq: Undergraduate major in deaf education.

SDH 596 Seminar Deaf Education. Two sem hours
A comparative study of the varying curriculums of deaf education programs in Michigan. Includes educational programming, school organization, use of community resources and parent counseling.
Prereq: Concurrent enrollment in SDH Public School Internship.

SDH 626 Visual Communication for the Deaf. Two sem hours
A study of the rationale for manual communication systems with the deaf 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.

SDH 682 Evaluation and Training of Deaf Infants. Two sem hours
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.

SDH 686 Secondary School Subjects for the Deaf. Four sem hours
Principles and methods of teaching secondary school subjects to the deaf; 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 deaf.
Prereq: Undergraduate major in deaf and hard of hearing.

SDH 688 Advanced Speech for the Deaf and Hard of Hearing. Two sem hours
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.

SDH 694 Clinical Internship in Deaf Education. Four sem hours
Opportunity for experience to practice deaf education in a clinical setting. Experience with children and adults with multiple handicaps 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.*

**WORKSHOPS**

SGN 595 Sensory Training for Perceptually Handicapped Children  
Two sem hours

SGN 595 Rehabilitation in Special Education. Two sem hours

SGN 595 Parent-Child Counseling in Special Education. Two sem hours

SGN 595 The Application of New Materials in Teaching Special Education. Two sem hours

SGN 595 Workshop on the Gifted. Two sem hours

SLD 595 Language Problems of Neurologically Impaired Child.  
Two sem hours

SLD 595 Sensory Training for Perceptually Handicapped Children.  
Two sem hours

SMH 595 Physical Education and Recreation for the Mentally Handicapped. Two sem hours

SLD 595 Workshop in Diagnostic Procedures in Learning Disabilities.  
Two sem hours

SMH 595 Pre-School Culturally Deprived Mentally Handicapped Child.  
Two sem hours

SMH 595 Physical Education and Recreation for the Mentally Handicapped. Two sem hours

SVH 595 Workshop in Mathematics for the Visually Handicapped.  
Two sem hours

SPA 595 Workshop in Stuttering. Two sem hours

SPA 595 Workshop in Language Development. Two sem hours

**OTHER COURSES**

The following undergraduate courses in the Special Education Department may be taken for graduate credit, with the approval of their adviser:

390 Measurement and Diagnosis in Special Education (2)

468 Children with Learning Disabilities (2)

350 Mental Deficiency (2)

357 Education of Mentally Handicapped I (2)

358 Education of Mentally Handicapped II (2)

301 Emotionally Disturbed Child (4)
401 Methods and Curriculum Emotionally Disturbed (2)
402 Programs Emotionally Disturbed Child (2)
310 Developmental Aspects of Teaching Physically Handicapped Children (5)
312 Applied Aspects Teaching Physically Handicapped Children (6)
364 Methods Teaching Blind (2)
365 Braille (2)
366 Hygiene and Anatomy of the Eye (2)
367 Education of Children with Impaired Vision (2)
368 Mobility Train for Blind (2)
444 Seminar in Mental Retardation (2)
446 Sensitivity Train Physically Handicapped (2)
448 Seminar in Emotionally Disturbed (2)
450 Seminar in Visually Handicapped (2)
APPLIED SCIENCE DEPARTMENTS

DEPARTMENTS

Home Economics
Industrial Education
HOME ECONOMICS

OBJECTIVES OF A PROGRAM LEADING TO A MASTER'S DEGREE

A program in home economics is designed to:

1. provide additional preparation in professional and cognate areas
2. increase competences in the various areas of home economics for teaching the secondary program
3. enable the student to specialize in an area to prepare for college teaching, business and extension services.

MASTER'S PROGRAMS AVAILABLE IN HOME ECONOMICS

A master's degree may be earned in:

1. general home economics
   a. minimum of 24 hours in home economics (four-eight hours in four major areas of home economics)
   b. minimum of six hours of cognate courses (outside home economics)
   c. minimum of 30 hours required for the master's degree
   d. recommended for the applicant who has a minimum of a minor in general home economics

2. specialized area of home economics
   a. minimum of 24 hours in a specialized area
   b. minimum of six hours of cognate courses (outside home economics)
   c. minimum of 30 hours required for the master's degree
   d. specializations available in clothing, textiles and related arts; family life and child development; foods and nutrition; consumer management; home economics education
   e. recommended for the applicant who has a minimum of a minor in general home economics or the specialized area in home economics or can meet the pre-requisite requirements of courses within the graduate program.

REQUIREMENTS FOR ADMISSION TO A PROGRAM LEADING TO A MASTER'S DEGREE

An applicant for admission must:

1. be admitted to the Graduate School of the University
2. have completed the minimum number of hours or pre-requisites for the general or specialization program
3. maintain a 5.0 (B) average for the first twelve hours of graduate study on the program
4. receive the recommendation of the graduate adviser in the Department of Home Economics.

For further information about the program, contact Dr. Ruby L. Meis, coordinator of graduate advising of the Department of Home Economics.
*HEC 500 The Disadvantaged Family. Two sem hours
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 501 Women in the Modern World. Two sem hours
The dynamics of the past half century with implications for the American woman. Opportunities and conflicts represented by the emerging multiple roles for women; opportunities through counseling, continuing education and mass media.

HEC 502 Family in Crisis. Two sem hours
Social, psychological and interpersonal aspects of crisis situations in the family; educational preparation to face difficult situations in constructive ways. Educational, community and legal resources available to families in trouble.

HEC 503 Problems in Family Finance. Two sem hours
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 504 Parent Education. Two sem hours
Discovering and analyzing situations and influences in the home which have educational implications for the child; methods and techniques for providing parent education.

HEC 505 Social and Economic Problems in Housing. Two sem hours
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 506 Foods in the Cultures of the World. Two sem hours
An interdisciplinary approach to the study of cultures and food habits; the influence of attitudes and values in good selection.

HEC 507 Leisure and the Family. Two sem hours
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 508 Nutrition Problems of Low-Income Groups. Two sem hours
Social, cultural and economic factors relative to dietary intakes of low-income families and groups. Survey of legislation and governmental food programs available to these groups.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* HEC 509 Family Clothing Management. Two sem hours
Clothing and textile for each individual in the family; the relationship of garment design, garment construction, fiber content, fabric construction and finish to the acceptability of the garment. Not open to students with credit in 114 Clothing for Consumers without instructor's permission.

* HEC 510 Youth, the Family and the Drug Scene. Two sem hours
A research and discussion based seminar providing a positive examination of the extent to which families can be involved in remedial and preventative effects of drug education treatment.

HEC 511 Curriculum Development in Home Economics Education. Two sem hours
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: 371 Methods and Materials in Homemaking Education.

HEC 512 Current Programs in Family Life Education. Two sem hours
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 513 Methods and Materials in the Teaching of Foods and Nutrition. Two sem hours
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 516 Cooperative Field Service in Occupational Home Economics. Two sem hours
Emphasis placed on developing curriculum for occupational related home economics programs. Work experience will be arranged by the student to provide contact with all aspects of the related occupation. 
Prereq: Provisional vocational certificate.

HEC 518 Special Problems in Home Economics Education. Two sem hours
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: 371 Methods and Materials in Homemaking Education or the equivalent.

HEC 530 Family Economics and Home Management. Two sem hours
Management problems and consumer needs of American families; analysis of consumer aids and buying-selling practices. 
Prereq: 204 Home Management and Family Economics or equivalent.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
HEC 531 Recent Developments in Home Equipment. Two sem hours
Current models of household appliances; mechanical principles involved in construction, use and methods of testing. Cost-quality factors and consumer information.
Prereq: 271 Household Equipment.

* HEC 539 Special Topics in Home Economics. Two sem hours
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 540 Family Development. Two sem hours
Family growth patterns through predictable stages of development; processes of interaction and cooperation. Current research related to stages of development.

* HEC 541 Child Guidance in the Family. Two sem hours
Dynamics of the family with children at various developmental stages. Analysis, evaluation, practical application of various philosophies of child development and child rearing as they relate to family living.

HEC 544 Preparation for the Later Years. Two sem hours
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.

HEC 545 Laws Affecting the Family. Two sem hours
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 560 Tailoring. Two sem hours
Fundamental construction processes and special techniques applied to the construction of tailored garments; alterations and adaptations.
Prereq: Six hours of credit in clothing and/or textiles; or permission of the department.

* HEC 561 Consumer Problems in Clothing and Textiles. Two sem hours
Investigation of the sociological, psychological, legal and technical facts involved in the selection and use of textiles and clothing.
Prereq: 302 Experimental Clothing, 235 Textiles for Consumers or permission of the department.

* HEC 562 History of Costume. Two sem hours
The costume (through ages) from ancient times to present day; major characteristics; social, economic and aesthetic influences; recurring styles; influence on present fashion.
Prereq: History 101 or 102 History of Civilization or equivalent.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
HEC 563 History of Furniture and Contemporary Trends.  
Two sem hours  
A study of furniture of various periods of history and their relationships to contemporary styles.

HEC 564 Fabric Design for the Home. Two sem hours  
Advanced work in experimental design of fabrics with emphasis on use in the home.  
Prereq: Permission of the department.

HEC 565 Clothing Design and Construction. Two sem hours  
Principles of pattern design, with application to a variety of styles and fabrics.  
Special problems in fitting, adaptations of design and processes of construction.  
Prereq: 302 Experimental Clothing, 235 Textiles for Consumers or permission of the department.

HEC 566 Consumer Problems in Home Furnishings. Two sem hours  
Characteristics, cost, construction and range in quality of furniture, china, silver, glassware, wall coverings, rugs and carpets, flooring, woods and fabrics.  
Field trips. Purchasing problems are analyzed.  
Prereq: 204 Home Management and Family Economics; 309 Home Decoration or the equivalent.

* HEC 568 The Fashion Field. Two sem hours  
The nature of the fashion cycle, the psychology of fashion, general definitions and background, fashion movements, the relation of art to fashion, the fashion world, the fashion centers, fashion trends and the major fashion designers.

HEC 569 Problems in Interior Design. Two sem hours  
Analyzing and solving problems of interiors with regard to social, psychological and economic concerns of families.  
Prereq: Permission of the department.

HEC 570 Methods and Materials in Teaching Clothing and Textiles.  
Two sem hours  
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 instructor's permission.

HEC 571 Methods and Materials in Teaching Related Arts.  
Two sem hours  
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 580 Recent Developments in Foods. Two sem hours  
Survey of recent research in food science, including the production, preservation, processing and distribution of food.  
Prereq: 211 Advanced Foods or the equivalent.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
HEC 581 Special Problems in Meal Management. Two sem hours
Management problems dealing with cost in time, money and energy for family meals; special occasions, simple catering and special marketing problems.
Prereq: 116 Food for the Family; 251 Meal Management or equivalent.

HEC 582 Experimental Foods. Two sem hours
Investigation of research methods used to study the chemical nature of foods; development of an individual problem.
Prereq: Six hours of credit in foods; inorganic and organic chemistry.

HEC 584 Advanced Nutrition. Two sem hours
The latest research in nutrition and emphasis on it as a world-wide problem. Problems related to nutritional deficiencies and special diet needs.
Prereq: 201 Nutrition of the Family or the equivalent, biochemistry or physiological chemistry recommended.

HEC 592 Research Methods for Home Economics. Two sem hours
Orientation to the nature of 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. Required on all master's programs. Designed to be taken early in the master's program.

HEC 596 Seminar in Home Economics. Two sem hours
Consideration and investigation of special problems in the specialization areas of study in home economics.
Prereq: Department permission.

HEC 597, 598, 599 Independent Studies in Home Economics.
One, two and three sem hours
An intensive study of a selected professional problem under the direction of a staff adviser.
Prereq: Department permission.

HEC 611 Evaluation in Home Economics Education. Two sem hours
Experience in analyzing progress toward important objectives in homemaking education. Development of classroom tests and evaluation materials. Evaluation instruments and statistical techniques useful to home economics.
Prereq: 371 Methods and Materials in Homemaking Education.

HEC 613 Supervision in Home Economics Education. Two sem hours
Responsibilities, services and professional techniques for supervisors of homemaking teachers at local, state and national levels; in-service and preservice programs.
Prereq: A provisional certificate in vocational homemaking education and one year of teaching experience.

Two sem hours
The principles of home management for the disabled homemaker or for the homemaker who has the care of a handicapped person in the home. For home
economists who deal in adult education, social service, equipment and mass media.
Prereq: 204 Home Management and Family Economics or the equivalent.

HEC 660 Recent Developments in Textiles. Two sem hours
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. Organic chemistry or instructor's permission.

HEC 661 Textile Analysis. Two sem hours
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 660 Recent Developments in Textiles or department permission.

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.
Prereq: Approval by the department.

HEC 696 Advanced Seminar in Home Economics. Two sem hours
An intensive study of selected problems in home economics.
Prereq: Approval by the department.

UPPER DIVISION COURSES OPEN TO GRADUATE STUDENTS
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.

302 Experimental Clothing (3)
402 Nutrient Metabolism (3)
410 Home Management Seminar (3)
412 Nutrition of the Life Cycle (3)
415 Diet and Disease (3)

INDUSTRIAL EDUCATION

OBJECTIVES OF A PROGRAM LEADING TO A MASTER'S DEGREE
A 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 foundation areas of industry and technology, history and philosophy, curriculum and instruction, research and psychology
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 in-
dustrial education programs
5. provide some measure of 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 further
graduate study.

REQUIREMENTS FOR ADMISSION TO A PROGRAM LEADING TO
A MASTER’S DEGREE

An applicant for admission must:
1. be admitted to the Graduate School of the University
2. hold a valid teaching certificate
3. have completed a minimum of 30 hours in industrial education
4. have a 2.25 undergraduate grade point average
5. receive the recommendation of the Graduate Committee in the Department
of Industrial Education.

REQUIREMENTS FOR COMPLETION OF THE MASTER’S
DEGREE 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 5.0 (B) average grade in
industrial education courses.
3. hold a 5.0 (B) grade point average for all graduate credit applicable to the
master’s degree program.
4. have earned a minimum of six semester hours in cognate courses.
5. have earned a minimum of twelve semester hours of coursework in the
Foundations of Industrial Education, including two hours in industry and
technology, four hours in history and philosophy, four hours in curriculum
and instruction and two hours in research.
6. receive the recommendation of his adviser, the Graduate Committee in the
Department of Industrial Education and the Graduate School of the
University.

PROGRAM

The program leading to a Master of Arts degree in industrial education must
contain a minimum of 30 semester hours of graduate credit which is subdivided
into foundations of industrial education, areas of special concentration in in-
dustrial education, a required cognate area in the psychological foundations,
elective cognates, and free electives. In terms of semester hours of graduate
credit, the hours are distributed as follows: 12 hours (minimum) in the foun-
dations of industrial education, eight hours (maximum) in the areas of special
concentration, two hours (minimum) in psychological foundations, four hours
(maximum) in free electives.
I. COURSES FOR NONMAJORS

* IED 500 Crafts I. Two sem hours
The selection and use of industrial materials, devices and machines in the home, the school and in business and industry. Opportunities are provided for laboratory experience. Not open to majors in industrial education.

* IED 501 Crafts II. Two sem hours
The selection and use of industrial materials, devices and machines in the home, the school and in business and industry. Opportunities are provided for laboratory experience. Not open to majors in industrial education.

* IED 502 Career Education for the Elementary Child. Two sem hours
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.

* IED 503 Teaching Aids in Secondary School Studies. Two sem hours
Selection, design and construction of three-dimensional teaching aids. Materials and procedures for making models, mock-ups, educational displays, dioramas and specialized learning equipment for social studies, science, mathematics, language arts and other subject areas. Principles and use of educational exhibits in junior and senior high school.

* IED 504 Graphic Representation. Two sem hours
Illustrations of ideas, plans and proposals presented graphically. Production of examples of graphs, charts and similar representations used by teachers and administrators.

* IED 505 Graphic Arts. Two sem hours
General graphic arts including: letterpress, lithography, gravure and silk-screen printing; linoleum-block, photography and rubber-stamp making.

II. COMMUNICATION

* IED 510 Electricity-Electronics. Two sem hours
An investigation of direct and alternating current theories combined with laboratory experiences and practical applications of test equipment. Prereq: Algebra or trigonometry.

* IED 513 Drafting Technology. Two sem hours
Drafting methods and materials; theory and application of pictorial and orthographic projection, primary and secondary auxiliary views, perspective shades and shadows and topographical drawing.

* IED 515 Product Design. Two sem hours
Elements and principles of product design; theory and application of design principles in planning and processing industrial products.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* IED 516 Architectural Drafting and Design. Two sem hours
Contemporary architectural drafting and design; methods of presentation, site planning, perspective, rendering and recent developments in drafting media.
Prereq: Four hours in drawing.

* IED 517 Visual Communication. Two sem hours
Theory and application of design, composition, photomechanics, image transfer and finishing operations.

IED 610 Electronics Circuitry. Two sem hours
Electronic theories related to vacuum tube principles, basic circuits and the application of solid state equipment.
Prereq: 200 Electricity and Electronics I, 214 Electricity and Electronics II or IED 510 Electricity-Electronics.

III. TRANSPORTATION
* IED 520 Power Systems. Two sem hours
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.

IV. MATERIALS PROCESSING
* IED 530 Forest Products Industry. Two sem hours
Processes and procedures involved in the derivation of chemical and physical products of the tree; materials and production of the primary and secondary woods industries, wood structure and analysis.

* IED 533 Plastics Technology. Two sem hours
Sources and properties of plastics materials; testing, chemical production, molding and forming processes, the fabricating and finishing industry.

* IED 536 Metals Technology. Two sem hours
A study of the metals industry; sources, characteristics and refining of metals, testing procedures, machining and processing applications, production methods.

V. INDUSTRY AND TECHNOLOGY
* IED 540 Contemporary American Industry. Two sem hours
The structure of the industrial institution in American society: formal organization, production, financial structure, research and development, union organization, legal structure, industrial relations and informal relations in industry.

* IED 541 Materials of Industry. Two sem hours
Selected industrial materials; sources, properties, characteristics, analysis and testing. Implications for designing learning experiences in industrial education.

*Open to graduate students and qualified seniors—see "Enrollement in Graduate Courses by Seniors."
* IED 640 Recent Technological Developments. Two sem hours
Innovations in materials and processes and their implications for programs of industrial education; industrial visitation.

VI. HISTORY AND PHILOSOPHY

* IED 550 Development of Industrial Education. Two sem hours
Contributing factors in the historical development of industrial education programs; the influence of industry, institutions, movements and leaders in the field.

* IED 551 Philosophy of Industrial Education. Two sem hours
Philosophical viewpoints concerning industrial arts, vocational and technical education; historical development and philosophical justification of modern programs.

* IED 552 Principles of Vocational and Technical Education. Two sem hours
Vocational and technical education as a phase of the program of education in the United States; philosophy, principles, practices and current trends in a modern program of vocational and technical education.

IED 650 Industrial Education in Colleges and Universities. Two sem hours
The philosophy, history and development of programs for teachers of industrial education; current trends in selected institutions.

IED 652 Technical Programs in Community Colleges. Two sem hours
Nature, scope and functions of vocational and technical programs in community colleges; recent developments.

VII. CURRICULUM AND INSTRUCTION

* IED 560 Content and Method of Industrial Education. Two sem hours
Methods of teaching, the identification of student and teacher behavior, principles of learning and teaching, analysis of the strategy or tactics for methods, developing criteria for making value judgments regarding methods of teaching in industrial education.

IED 660 Curriculum Planning in Industrial Education. Two sem hours
Development and current status of curriculum in industrial education; principles of curriculum development, criteria for content selection, contemporary curriculum patterns, factors involved in curriculum change.

* IED 661 Evaluation in Industrial Education. Two sem hours
Principles and methods of evaluation in industrial education; experience in development and construction of effective devices evaluation.

IED 662 Cooperative Programs in Industrial Education. Two sem hours
Cooperative vocational programs in the secondary school; organization and

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
procedures for apprenticeship training, trades and industries, distributive education and diversified occupations.

IED 663 Instructional Media in Industrial Education. Two sem hours
Recent developments in instructional media and technology; the relationship of media to the psychology of learning. Implications for programs of industrial education.

VIII. ORGANIZATION AND MANAGEMENT

IED 670 Laboratory Planning. Two sem hours
Space and equipment in school laboratories, drawing rooms and related facilities for industrial education; safety, efficiency, design, location, selection, installation, care, standards, specifications.

IX. ADMINISTRATION AND SUPERVISION

IED 680 Supervision of Industrial Education. Two sem hours
Principles and problems involved in the methods of improving instruction in industrial education. Open to majors in industrial education and to majors in administration.

X. RESEARCH

* IED 592 Research in Industrial Education. Two sem hours
Basic research types, methods and procedures, extent and sources of studies, the development of investigations, consumption of report studies and the role played in the improvement of industrial education programs.

IED 597, 598, 599 Independent Studies. One, two and three sem hours
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.
Prereq: Department permission and IED 592 Research in Industrial Education.

IED 593 Practicum in Industrial Education. Two sem hours
An examination and evaluation of a variety of instructional methods. Direct experiences are provided in developing and utilizing instructional materials.

IED 594 Structured Internship in Industrial Education. Two sem hours
A supervised teaching experience under the direction of a University faculty member. Opportunities are provided for directing a variety of teaching-learning experiences.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors.'"
IED 595 Workshops in Selected Areas. Two sem hours

IED 596 Seminar in Industrial Education. Two sem hours
A discussion of problems and issues in industrial education with emphasis on literature review and appraisal.

IED 696 Seminar in Industrial Education. Two sem hours
Explores research proposals in industrial education and required acquaintance with research literature and methods. Opportunities are provided for the development and refinement of a research proposal.
Prereq: IED 592 Research in Industrial Education, admission to candidacy, Specialist in Arts.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
GRADUATE FACULTY
ACCOUNTING AND FINANCE

Bryan, William C. (1960) ............................................ Associate Professor
B.S., Oklahoma State University; M.B.A., University of Michigan; C.F.A.

Keros, John W. (1965) .................................................. Associate Professor
B.B.A., M.B.A., University of Michigan; C.P.A., State of Indiana

Kimball, William (1970) .................................................. Professor
Department Head
B.S., Marquette University; M.B.A., University of Wisconsin; Ph.D., Northwestern University; C.P.A., State of Wisconsin

Stark, Maurice E. (1971) .............................................. Associate Professor
B.S., M.S., Kansas State University; Ph.D., University of Missouri

Stoffels, John D. (1972) .................................................. Associate Professor
B.A., M.B.A., Northwestern University; Ph.D., Michigan State University

ART

Avedon, Barry (1966) .................................................. Associate Professor
B.F.A., M.F.A., Rochester Institute of Technology

Calkins, Kingsley M. (1950) ............................................ Professor
Department Head
B.S., Eastern Michigan University; M.A., University of Michigan

Fairfield, Richard T. (1963) ............................................ Professor
B.F.A., Bradley University; M.F.A., University of Illinois

Fensch, Charles (1966) .................................................. Associate Professor
B.A., Kent State University; M.A., Wayne State University

Field, Jan M. (1965) .................................................... Assistant Professor
B.F.A., M.F.A., School of the Art Institute of Chicago

Hunter, Fredrick C. (1967) ............................................ Assistant Professor
B.S., Wisconsin State University; M.F.A., University of Wisconsin

Lamming, Dorothy (1947) ............................................ Professor
B.A., North Dakota State Teachers College; M.F.A., University of Washington

Loree, John (1962) .................................................... Professor
B.S., Fordham University; M.F.A., Alfred University

Mayer, Roger R. (1967) .................................................. Associate Professor
B.F.A., Rhode Island School of Design; M.F.A., Syracuse University

Pappas, John N. (1962) .................................................. Professor
B.F.A., M.A., Wayne State University

Rich, Sharon (1969) .................................................... Associate Professor
B.S., University of Michigan; M.F.A., Cranbrook Academy of Art; M.A., New York University

Sharp, David W. (1962) .................................................. Associate Professor
B.A., Arizona State University; M.F.A., State University of Iowa

Stephenson, Susanne G. (1963) ........................................ Associate Professor
B.F.A., Carnegie Institute of Fine Arts; M.F.A., Cranbrook Academy of Art
Tammany, David D. (1966) ......................... Associate Professor
B.F.A., University of Wichita; M.F.A., Tulane University

VanHaren, John E. (1960) ............................ Professor
B.S., M.A., University of Wisconsin

Yager, Jay (1968) ............................................ Assistant Professor
B.S., S.U.N.Y. College of Education, Buffalo, New York; M.F.A., M.S., University of Wisconsin

BIOLOGY

Begres, Forrest M. (1971) ......................... Assistant Professor
B.S., M.S., Eastern Michigan University; Ph.D., Iowa State University

Belcher, Robert O. (1946) ............................ Professor
B.A., Berea College; M.S., Ph.D., University of Michigan

Brown, Donald F.M. (1956) ....................... Professor
B.A., M.S., Ph.D., University of Michigan

Caswell, Herbert H., Jr. (1955) ..................... Professor
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

Giles, Richard A. (1947) ............................ Professor
B.S., Massachusetts State College; M.S., Ph.D., Michigan State University

Jackson, Dennis C. (1967) ......................... Associate Professor
B.S., Arizona State University; M.S., Ph.D., Michigan State University

Johnson, Bert M. (1951) ............................. Professor
B.S., M.A., Ph.D., University of Michigan

Liu, Stephen C. (1965) .............................. Associate Professor
B.S., M.S., National Taiwan University; Ph.D., University of Minnesota

Minnick, Merlyn (1966) .............................. Associate Professor
B.S., Eastern Michigan University; M.S., University of Michigan; Ph.D., Wayne State University

Richards, Lawrence P. (1965) ..................... Associate Professor
B.A., University of California at Berkeley; Ph.D., University of Illinois

Volz, Paul A. (1969) ................................. Associate Professor
B.A., Heidelberg College; M.S., Ph.D., Michigan State University

Waffle, Elizabeth L. (1968) ....................... Assistant Professor
B.A., Cornell College; M.S., State University of Iowa; Ph.D., Iowa State University
### BUSINESS EDUCATION

**Wallace, Dale C. (1969)**  
Associate Professor  
B.A., Western Washington College; M.A., Colorado College; Ph.D., Cornell University  

**Yu, Shih-An (1967)**  
Associate Professor  
B.S., National Taiwan University; M.S., Ph.D., University of New Hampshire

### CHEMISTRY

**Brewer, Stephen (1969)**  
Associate Professor  
B.S., University of Florida; Ph.D., University of Wisconsin  

**Collins, Ronald W. (1965)**  
Professor  
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)**  
Associate Professor  
B.A., Swarthmore College; M.S., Ph.D., University of Louisville  

**Hicks, Kenneth (1970)**  
Assistant Professor  
B.A., M.S., Miami University; Ph.D., Howard University  

**Moore, John W. (1971)**  
Associate Professor  
B.S., Franklin and Marshall College; Ph.D., Northwestern University  

**Powell, Ralph R. (1966)**  
Assistant Professor  
B.S., Marian College; Ph.D., Purdue University  

**Ramsay, O. Bertrand (1965)**  
Associate Professor  
B.S., Washington and Lee University; Ph.D., University of Pennsylvania  

**Rengan, Krishnaswamy (1970)**  
Assistant Professor  
B.S., University College Trivandrum; Ph.D., University of Michigan  

**Robbins, Omer Jr. (1961)**  
Professor  
B.S., M.S., Ph.D., University of Michigan  

**Schullery, Stephen E. (1970)**  
Assistant 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. (1955) .......................... Professor
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 R. (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

CURRICULUM AND INSTRUCTION

Adams, Leah (1969) .......................... Assistant Professor
B.S., Ohio State University; M.A., Wayne State University; Ph.D., University of Michigan

Allen, Irene (1968) .......................... Associate Professor
B.S., Johnson Teachers College; M.A., Ed.D., Ball State University

Bajwa, Ranjit S. (1963) .......................... Professor
B.A., B.T., Punjab University; Ed.D., Wayne State University

Bartin, Norma Gladys (1970) .......................... Assistant Professor
B.A., State University of New York at Fredonia; Ed.D., State University of New York at Buffalo

Belt, Gordon (1968) .......................... Assistant Professor
B.S., Central Michigan University; M.A., Michigan State University; Ed.D., Wayne State University

Birleson, Clifford (1951) .......................... Associate Professor
B.A., Western Michigan University; M.A., University of Michigan

Borusch, Barbara J. (1950) .......................... Professor
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Fielder, Gordon W. (1954) .......................... Professor
B.S., University of Kansas; M.S., M.Ed., Ed.D., University of Illinois

Fisher, Robert J. (1955) .......................... Professor
B.A., M.A., Ed.D., Stanford University

Goldsmith, William E. (1962) .......................... Assistant Professor
B.A., M.A., Michigan State University; Ed.D., Wayne State University

Greene, Bert I. (1963) .......................... Professor
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Hoexter, Robert (1964) .......................... Associate Professor
B.S., M.A., University of Michigan; Ph.D., Michigan State 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

Moore, N. Samuel (1965) .............................. Associate Professor
B.A., Central Michigan University; M.A., University of Michigan; Ed.D., Wayne State University

Porretta, Louis P. (1959) .............................. Professor
B.A., Eastern Michigan University; M.Ed., Ed.D., Wayne State University

Russell, Wilma I. (1958) .............................. Professor
B.S., Southwest Missouri State College; M.A., New York University; Ph.D., University of Michigan

Street, Scott (1961) .............................. Professor
B.S., Bowling Green State University; M.A., Ed.D., Wayne State University

Weiser, Jerome A. (1967) .............................. Associate Professor
B.S., M.Ed., Ed.D., Wayne State University

Westerman, W. Scott, Jr. (1971) .............................. Professor
Department Head
B.S., Northwestern University; M.A., Ph.D., University of Michigan

Wilmoth, Juanita M. (1968) .............................. Associate Professor
B.A., M.A., Marshall University; Ed.D., University of Missouri

Ylisto, Ingrid P. (1953) .............................. Professor
B.A., Northern Michigan University; M.A., State University of Iowa; Ph.D., University of Michigan

Zambito, Stephen (1963) .............................. Associate Professor
B.F.A., Cooper Union; B.S., M.A., Eastern Michigan University; Ph.D., University of Michigan

**ECONOMICS**

Anderson, Thomas C. (1972) .............................. Assistant Professor
B.S., M.S., Utah State University; Ph.D., University of California at Berkeley

Chung, Young-iob (1966) .............................. Professor
Department Head
B.S., University of California at Los Angeles; M.A., Ph.D., Columbia University

El-Safty, Ahmed E. (1971) .............................. Assistant Professor
B.Sc., Alexandria, U.A.R.; M.A., Wayne State University; Ph.D., Massachusetts Institute of Technology

Fountain, Gwen A. (1971) .............................. Assistant Professor
B.A., Kalamazoo College; M.A., Ph.D., University of Michigan

Gibbons, James (1967) .............................. Associate Professor
B.S., M.S., University of Illinois, Ph.D., Iowa State University
Helppie, Charles E. (1965) ................................................................. Professor
  B.S., Eastern Michigan University; Ph.D., Ohio State University

Pearson, Donald W. (1969) .................................................. Associate Professor
  B.A., Tulane University; M.A., Ph.D., University of Texas

Simpson, John W. (1948) ............................................................... Professor
  B.A., M.A., Ph.D., Ohio State University

Snyder, Carl Dean (1957) ............................................................. Professor
  B.S., Heidelberg College; M.A., Miami University; D.S.S., Syracuse University

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
  Associate Dean, College of Education
  B.S., M.A., Ed.D., Wayne State University

Duvall, Elven E. (1968) ................................................................. Professor
  B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., Columbia University

Fox, Donald R. (1966) ................................................................. Associate Professor
  B.S., M.A., Central Michigan University; Ph.D., University of Michigan

Grinstead, Kenneth L. (1964) ........................................................ Professor
  B.A., Iowa Wesleyan College; M.A., Ph.D., University of Iowa

Kilanski, Doris M. (1970) ............................................................ Assistant Professor
  B.A., Mount Mary College; M.A., Sp.A., Eastern Michigan University; Ph.D., University of Michigan

Kromer, William F. (1971) ............................................................ Assistant Professor
  B.A., Central Michigan University; M.A., Ph.D., University of Michigan

LeTarte, Clyde (1969) ................................................................. Assistant Professor
  Associate Dean, Graduate School
  B.A., Hope College; M.A., Ed.D., Michigan State University

Minzey, Jack D. (1968) ................................................................. Associate Professor
  B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., Michigan State University

EDUCATIONAL MEDIA

Peterson, Ralph G. (1946) .................................................. Associate Professor
  B.S., Northern Michigan University; M.A., University of Michigan

Weber, LaVerne W. (1961) .......................................................... Assistant Professor
  Associate Director, Library
  B.A., M.A., Ph.D., University of Michigan

EDUCATIONAL PSYCHOLOGY

Blair, John (1970) ................................................................. Assistant Professor
  B.S., M.S., Indiana University; Ph.D., University of Michigan
Brenner, Anton (1968) ........................................... Professor
B.S., University of Munich; Ph.D., University of Tuebingen

Bushey, James T. (1969) ........................................... Assistant Professor
Ph.B., M.A., University of Detroit; Ed.D., Wayne State University

Dellas, Marie (1970) ........................................... Associate Professor
B.S., M.Ed., Ph.D., State University College of New York at Buffalo

Haddon, Eugene E. (1965) ........................................... Professor
B.A., M.A., Ed.D., North Texas State College

Jernigan, Louise F. (1970) ........................................... Assistant Professor
B.A., Valparaiso University; M.Ed., Ph.D., Kent State University

Kaminsky, Mildred (1970) ........................................... Assistant Professor
B.B.A., City College of New York; M.Ed., Ph.D., Wayne State University

Lederman, Edward (1970) ........................................... Assistant Professor
B.S., Long Island University; M.A., Ph.D., Teachers College, Columbia University

McKee, Judy A. (1971) ........................................... Assistant Professor
B.A., Central Michigan University; M.A., Ph.D., Columbia University

Marshall, Everett L. (1938) ........................................... Professor
Dean, Academic Records and Teacher Certification
B.Ed., Northern Illinois University; M.A., Ph.D., University of Iowa

Melter, John W. (1964) ........................................... Associate Professor
B.A., University of Western Ontario; B.D., Emmanuel College Victoria University; M.A., Union Theological Seminary; Ed.D., Teachers College, Columbia University

Skore, Marvin L. (1968) ........................................... Associate Professor
B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D., Wayne State University

Skully, Marilyn J. (1969) ........................................... Assistant Professor
B.A., Hardin-Simmons University; M.A., Michigan State University; Ph.D., Wayne State University

Wahi, Kishor (1961) ........................................... Associate Professor
B.A., Punjab 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

Andrews, Naomi Madgett (1968) ........................................... Professor
A.B., Virginia State College; M.Ed., Wayne State University
Bensen, Alice R. (1947) .................................................... Professor
B.A., M.A., Washington University; Ph.D., University of Chicago

Brylowski, Walter M. (1955) .................................................... Professor
B.A., Kalamazoo College; M.A., University of Connecticut; Ph.D., Michigan State University

Cross, B. Gilbert (1966) .................................................... Assistant Professor
B.A., Manchester University (England); Certificate of Education, London University; M.A., University of Louisville; Ph.D., University of Michigan

Dune, Thomas L. (1957) .................................................... Professor
B.A., University of Michigan; M.A., Columbia University; Ph.D., Temple University

Duncan, Jeffrey L. (1971) .................................................... Associate Professor
A.B., Long Beach State College; M.A., University of Virginia; Ph.D., University of Virginia

Evenhuis, Francis D. (1969) .................................................... Professor
B.A., Western Michigan University; M.A., Ph.D., University of Iowa

Foster, Milton P. (1947) .................................................... Professor
Department Head
B.A., Waynesburg College; M.A., University of Pittsburgh; Ph.D., University of Michigan

Gohn, Ernest S. (1958) .................................................... Professor
B.A., Ph.D., Johns Hopkins University

Harris, Arthur J. (1967) .................................................... Associate 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

Hebert, Catherine A. (1947) .................................................... Professor
B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

Ingram, Betty J. (1967) .................................................... Assistant Professor
B.A., M.A., University of Western Ontario; Ph.D., University of Pennsylvania

Jernigan, E. Jay (1965) .................................................... Associate Professor
B.S., B.A., Kansas State Teacher's College; M.S., Ph.D., Kansas State University

Jordan, Hoover H. (1939) .................................................... Professor
B.A., Yale University; M.A., Ph.D., Cornell University

Kornbluth, Martin (1966) .................................................... Professor
B.A., M.A., University of Missouri, Ph.D., Pennsylvania State University

Lawnczak, Donald A. (1967) .................................................... Associate Professor
B.A., M.A., University of Toledo; Ph.D., Kent State University

McGlynn, Paul D. (1964) .................................................... Associate Professor
Ph.B., M.A., University of Detroit; Ph.D., Rice University

Miller, Marjorie M. (1946) .................................................... Professor
B.A., Nebraska State Teachers College; M.A., University of Michigan
Mohl, Ronald A. (1968) ............................................ Associate Professor
B.A., M.A., University of Nebraska; Ph.D., University of Connecticut

Nelson, Alfred L. (1970) ............................................ Professor
A.B., A.M., Wayne State University; Ph.D., George Washington University

Perkins, George B. (1967) ............................................ Professor
B.A., Tufts College; M.A., Duke University; Ph.D., Cornell University

Pillsbury, Paul W. (1969) ............................................ Professor
B.A., Dartmouth College; M.A., Ph.D., University of Michigan

Potter, Edward E. (1950) ............................................ Professor
B.A., Saint Ambrose College; M.A., University of Notre Dame; Ph.D., University of Michigan

Schreiber, O. Ivan (1950) ............................................ Professor
B.A., Wittenberg College; M.A., Ohio State University

Shuter, William F. (1968) ............................................ Associate Professor
B.A., Brooklyn College; M.A., Columbia University; Ph.D., University of Wisconsin

Trowbridge, Ronald I. (1965) ............................................ Associate Professor
B.A., M.A., Ph.D., University of Michigan

White, Patrick T. (1967) ............................................ Associate Professor
B.S., M.A., George Washington University; Ph.D., University of Michigan

FOREIGN LANGUAGES AND LITERATURE

Bidwell, Jean S. (1962) ............................................ Associate Professor
B.A., Brown University; M.A., University of Michigan; M.A., Eastern Michigan University; Ph.D., University of Michigan

Cline, William (1970) ............................................ Assistant Professor
B.A., University of California; M.A., Ph.D., State University of New York at Buffalo

Gibson, Eugene M. (1956) ............................................ Professor
B.A., M.A., University of Oklahoma; Ph.D., University of California

Hubbard, John (1970) ............................................ Assistant Professor
B.A., Hope College; M.A., Ph.D., Michigan State University

McCoy, Ana Maria (1966) ............................................ Assistant Professor
Licenciado en Filosofía y Letras, University of Valencia, Spain; M.A., Ph.D., University of Michigan

Muller, Brigitte D. (1967) ............................................ Associate Professor
B.A., Eastern Michigan University; M.A., University of Michigan; Doctorate, University of Aix-Marseille

Owens, J. Henry (1940) ............................................ Professor
Department Head
B.A., Franklin College; M.A., Ph.D., University of Minnesota

Palmer, Benjamin (1970) ............................................ Assistant Professor
B.A., University of Connecticut; M.A., Ph.D., Northwestern University

Villegas, Francisco (1950) ............................................ Professor
B.A., University of Costa Rica; M.A., Ph.D., University of Michigan
GENERAL BUSINESS

Brown, Leland (1964) ................................................................. Professor
  B.A., M.A., Indiana State University

Collins, W. Oscar (1957) .............................................................. Professor
  B.S., Southwest Missouri State College; M. Ed., University of Missouri; Ed.D.,
  Indiana University

Conley, James H. (1969) ............................................................ Associate Professor
  B.A., Otterbein College; B.D., United Theological Seminary; Ph.D., Michigan
  State University

Hawkins, Roger E. (1971) ............................................................. Professor
  Department Head
  B.A., Western Michigan University; M.A., University of Akron; Ph.D., Illinois
  Institute of Technology

Hislop, Robert I. (1970) ............................................................. Professor
  L.L.B., L.L.M, Brooklyn Law School; Ph.D., University of Colorado

Holland, Robert (1972) .............................................................. Assistant Professor
  B.S.I.E., M.S.I.E., Ph.D., Virginia Polytechnic Institute and State University

Judnick, William E. (1971) ............................................................ Assistant Professor
  B.S., M.S., Massachusetts Institute of Technology; Ph.D., University of
  Michigan

Minter, Robert L. (1972) ............................................................. Associate Professor
  A.B., M.A, Miami University; Ph.D., Purdue University

Peppers, Larry C. (1972) ............................................................. Associate Professor
  A.B., Grinnell College; Ph.D., Vanderbilt University

Sauter, John V. (1972) ................................................................. Associate Professor
  A.B., Knox College; A.M., Ph.D., Indiana University

GEOGRAPHY AND GEOLOGY

Buckholts, Paul O. (1961) ............................................................ Professor
  B.A., M.A., Oklahoma University; Ph.D., Harvard University

Ernst, Robert (1970) ................................................................. Assistant Professor
  B.S., M.A., St. Louis University; A.G.W., University of Florida

Howe, George M. (1969) ............................................................. Professor
  B.S., California Institute of Technology; M.A., Oberlin College; Ph.D.,
  Clark University

Jaworski, Eugene (1971) ............................................................. Assistant Professor
  B.S., University of Wisconsin; Ph.D., Louisiana State University

Kureth, Elwood J.C. (1968) .......................................................... Assistant Professor
  B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan
MacMahan, Horace A. (1969) Associate Professor
B.A., University of Maine; M.S., University of Utah; Ed.D., University of Colorado

McDonald, James R. (1965) Professor
B.A., Antioch College; M.A., Ph.D., University of Illinois

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) Assistant Professor
B.A., Kent State University; M.A., Ph.D., University of Georgia

Pearson, Ross N. (1969) Professor
B.Ed., Illinois State Normal University; M.S., University of Wisconsin; Ph.D., University of Michigan

Raphael, C. Nicholas (1967) Associate Professor
B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D., Louisiana State University

Tirtha, Ranjit (1970) Associate Professor
B.A., M.A., Punjab University; Ph.D., University of North Carolina

Turner, Daniel S. (1965) Professor
Ph.B., Ph.M., Ph.D., University of Wisconsin

B.A., Earlham College; M.A., Indiana University; Ph.D., University of Michigan

GUIDANCE AND COUNSELING

Beeler, Kent David (1970) Assistant Professor
B.S., M.A., Ball State University; Ed.D., Indiana University

Kloosterman, Winton A. (1962) Professor
B.A., Beloit College; M.A., Teachers College, Columbia University; Ed.D., Wayne State University

Miller, Gary M. (1969) Assistant Professor
B.S., Slippery Rock State College; M.Ed., Duquesne University; Ph.D., Case Western Reserve University

Nau, Paul A. (1967) Associate Professor
B.S., M.Ed., Ph.D., Kent State University

Pappas, John G. (1966) Professor
Department Head
B.A., University of Akron; M.A., Ohio State University; Ph.D., Kent State University

Stanley, Kenneth W. (1961) Associate Professor
Coordinator of Student Teaching
B.A., Northern Michigan University; M.A., Michigan State University

Thayer, Louis C. (1969) Associate Professor
B.S., M.S., Nebraska State College at Kearney, Ph.D., University of Illinois
Tothill, Herbert (1960) .................................................. Professor
B.A., University of Rochester; M.A., University of Hawaii; Ph.D., Syracuse University

VanRiper, Benjamin W. (1968) ........................................ Associate Professor
B.S., Adrian College; M.A., Ph.D., University of Michigan

Waidley, John W. (1968) ............................................... Assistant Professor
B.A., University of Michigan; M.Ed., Wayne State University; Ed.D., New York University

HEALTH, PHYSICAL EDUCATION AND RECREATION

Adams, John R. (1960) .................................................. Professor
B.S., Eastern Illinois University; M.S., University of Illinois; Ph.D., University of Michigan

Bell, Mary I. (1949) .................................................. Associate Professor
B.S., Eastern Michigan University; M.A., University of Michigan

Cavanaugh, Patrie L. (1968) ......................................... Professor
B.A., Oberlin College; M.S., Ph.D., University of Michigan

Department Head

Ferkacz, F. L. (1966) .................................................. Professor
B.S., Lake Forest; M.S., University of Wisconsin

Director, Athletics

Grills, Marguerite E. (1958) ........................................ Associate Professor
B.S., Ohio State University; M.A., University of Michigan

Johnson Marvin J. (1963) ........................................ Associate 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

Sayegh, Matilda (1971) .............................................. Assistant Professor
B.A., M.A., American University, Beirut; Ph.D., University of Michigan

Sheard, John E. (1963) ............................................. Professor
Chairman, Graduate and Men's Division
B.S., M.S.Ed., Miami University; P.E.D., Indiana University

Steig, Peggy A. (1956) ............................................. Professor
Chairman, Women's Division
B.S., Miami University; M.A., Ph.D., Ohio State University

Williams, Roger L. (1968) ........................................ Associate Professor
B.S., Miami University; M.S., University of Illinois; Ed.D., University of Missouri

Willoughby, Robert J. (1956) ........................................ Associate Professor
B.S., M.A., University of Michigan
Witten, Charles X. (1969) ........................ Associate Professor
B.S., M.A., University of Maryland; Ph.D., Ohio State University

HISTORY AND PHILOSOPHY

Abbot, Richard H. (1966) .................................................... Professor
B.A., Grinnell College; M.A., University of Missouri; Ph.D., University of Wisconsin

Bilsky, Manuel (1960) .................................................... Professor
B.A., M.A., Wayne State University; M.A., Ph.D., University of Michigan

Boyer, Lee R. (1970) .................................................... Assistant Professor
B.A., Mount Union College; M.A., Ph.D., University of Notre Dame

Cassar, George H. (1968) .................................................... Associate Professor
B.A., M.A., University of New Brunswick; Ph.D., McGill University

Disbrow, Donald W. (1956) .................................................... Professor
B.A., Haverford College; Ph.D., University of Rochester

Drummond, Donald F. (1958) .............................................. Professor
B.A., Western Michigan University; M.A., Ph.D., University of Michigan

Earl, David M. (1965) .................................................... Professor
B.A., Oberlin College; M.A., Wayne State University; Ph.D., Columbia University

Fenz, Emanuel G. (1969) .................................................... Assistant Professor
B.A., Walla Walla College; M.A., Andrews University; Ph.D., University of Colorado

Flusche, Della M. (1968) .................................................... Associate Professor
B.A., North Texas State University; M.A., Marquette University; Ph.D., Loyola University

Gimelli, Louis B. (1966) .................................................... Professor
B.S., 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

Green, James E. (1947) .................................................... Associate Professor
B.A., M.A.L.S., M.A., University of Michigan

Hafter, Daryl M. (1969) .................................................... Assistant Professor
B.A., Smith College; M.A., Ph.D., Yale University

Homel, Michael W. (1970) .................................................... Assistant Professor
B.A., Grinnel College; M.A., Ph.D., University of Chicago

King, H. Roger (1967) .................................................... Associate 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) .................................................... Assistant Professor
B.S., Xavier University; Ph.D., Georgetown University
Scherer, Lester B. (1969) .......................... Associate Professor
   B.A., Harvard University; B.D., Garrett Theological Seminary; Ph.D., Northwestern University
Terry, Janice J. (1968) .......................... Associate Professor
   B.A., College of Wooster; M.A., American University, Beirut; Ph.D., University of London
Walker, Dorsey (1970) .......................... Associate Professor
   B.A., Wayne State University; M.A., Atlanta University; Ph.D., University of Michigan
Waltz, James C. (1968) .......................... Associate Professor
   B.A., Michigan State University; B.D., Evangelical Theological Seminary; M.A., Ph.D., Michigan State University
Wheatley, Ira M. (1966) .......................... Professor
   B.A., University of the Pacific; M.Th., Drew Theological Seminary; Ph.D., University of Iowa
Wittke, Reinhard (1956) .......................... Professor
   B.A., M.A., Ph.D., University of Michigan
Zickgraf, P. Louis (1948) .......................... Professor
   B.A., M.A., Indiana University; Ph.D., University of Illinois

HOME ECONOMICS

Bornemeier, Betty L. (1965) .......................... Professor
   B.S., M.A., Ph.D., Texas Woman’s University
Fielder, Anita L. (1963) .......................... Professor
   Department Head
   B.Ed., Eastern Illinois University; M.S., Ed.S., University of Illinois
Found, R. Elaine (1971) .......................... Associate Professor
   B.A., University of Toronto; M.S., Ph.D., University of Wisconsin
Laws, Duane M. (1971) .......................... Professor
   B.A., M.A., Brigham Young University; Ed.D., Columbia University
Meis, Ruby L. (1964) .......................... Professor
   B.S., Central Michigan University; M.A., University of Michigan; Ed.D., Pennsylvania State University

INDUSTRIAL EDUCATION

Griess, Jerald A. (1967) .......................... Associate Professor
   B.A., Wesleyan University, Nebraska; M.S., Oklahoma State University; Ed. D., Pennsylvania State University
Jennings, Gerald L. (1963) .......................... Professor
   B.S., M.A., Ball State University; Ph.D., Michigan State University
Kicklighter, Clois E. (1966) .......................... Associate Professor
   B.S.E., University of Florida; M.S., Indiana State University; Ed.D., University of Maryland
Kielt, Lewis D. (1971) .......................... Assistant Professor
   B.S., M.A., Eastern Michigan University; Ph.D., Ohio State University
Kuwik, Paul (1970) .................................................. Assistant Professor
B.S., M.S., State University of New York at Buffalo; Ph.D., Ohio State University

LaBounty, Raymond A. (1945) ........................................ Professor
B.S., Eastern Michigan University; M.A., Ed.S., University of Michigan

Larsen, Delmar L. (1964) ................................................ Professor
B.A., M.S., State College of Iowa; M.A., Ball State University; Ph.D., Ohio University

Minton, Gene D. (1968) .................................................. Associate Professor
B.A., M.A., Ball State University; Ed.D., University of Maryland

Osborn, Carroll A. (1955) .............................................. Associate Professor
B.A., Ohio Wesleyan; B.S., M.A., Ohio State University

PaDelford, Harold E. (1969) ............................................. Assistant Professor
B.S., Mankato State College; M.A., University of Minnesota

Risk, Norman W. (1949) ................................................ Professor
B.S., Eastern Michigan University; M.A., University of Michigan

Rokusek, Henry J. (1964) ............................................... Professor
B.S., M.S., Stout State University; Ph.D., University of Maryland

Wescott, John T. (1951) .................................................. Associate Professor
B.S., Eastern Michigan University; M.A., Wayne State University

**MANAGEMENT**

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

Deihl, Lincoln W. (1967) ............................................... Professor
B.S., Bowling Green State University; M.S., Indiana University; Ph.D., Ohio State University

McCoy, Robert C. (1972) ................................................Associate Professor
A.B., Albion College; M.A. Wayne State University; Ph.D., Wayne State University

Patrick, Floyd A. (1970) ................................................ Professor
B.S., University of Wisconsin; M.A., Ph.D., University of Iowa

Shell, Claude I. Jr. (1967) ............................................ Professor
B.A., Maryville College; M.S., University of Tennessee; Ph.D., Southern Illinois

Sokkar, Fat-Hi F. (1971) ............................................... Assistant Professor
B. Com., Cairo University; M.B.A, Eastern Michigan University; Ph.D., University of Illinois

**MARKETING**

Braden, Joseph H. (1970) .................................................. Assistant Professor
B.S.C.E., Purdue University; M.B.A., D.B.A., Indiana University

Goodnow, James (1970) .................................................. Assistant Professor
B.A., Albion College; M.B.A., D.B.A., Indiana University
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<th>Name</th>
<th>Year</th>
<th>Position</th>
<th>Education</th>
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<tr>
<td>Hansz, James E.</td>
<td>1966</td>
<td>Assistant Professor</td>
<td>B.A., Albion College; M.B.A., Michigan State University; Ph.D., University of Cincinnati</td>
</tr>
<tr>
<td>Kurtz, David L.</td>
<td>1967</td>
<td>Associate Professor</td>
<td>B.A., Davis and Elkins College; M.B.A., Ph.D., University of Arkansas</td>
</tr>
<tr>
<td>Roth, Earl A.</td>
<td>1954</td>
<td>Professor</td>
<td>B.S., M.A., Ohio State University; Ed.D., Indiana University</td>
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<tr>
<td>Kurtz, David L.</td>
<td>1967</td>
<td>Associate Professor</td>
<td>B.A., Davis and Elkins College; M.B.A., Ph.D., University of Arkansas</td>
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<tr>
<td>Roth, Earl A.</td>
<td>1954</td>
<td>Professor</td>
<td>B.S., M.A., Ohio State University; Ed.D., Indiana University</td>
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<tr>
<td>Williams, Robert J.</td>
<td>1966</td>
<td>Professor</td>
<td>B.S., M.S., Ph.D., Cornell University</td>
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**MATHEMATICS**

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<tr>
<th>Name</th>
<th>Year</th>
<th>Position</th>
<th>Education</th>
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<tr>
<td>Badii, Larry L.</td>
<td>1965</td>
<td>Associate Professor</td>
<td>B.A., M.A., San Jose State College; Ph.D., Oregon State University</td>
</tr>
<tr>
<td>Buckeye, Donald A.</td>
<td>1968</td>
<td>Professor</td>
<td>B.S., Ed., Ashland College; M.A.T., Ed.D., Indiana University</td>
</tr>
<tr>
<td>Cowles, David E.</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.A., Oberlin College; M.A., Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Dempster, Andrew C.</td>
<td>1966</td>
<td>Associate Professor</td>
<td>B.S., M.S., Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Early, Madeline L.</td>
<td>1956</td>
<td>Professor</td>
<td>B.A., Hunter College; M.A., Ph.D., Bryn Mawr College</td>
</tr>
<tr>
<td>Ginther, John L.</td>
<td>1965</td>
<td>Professor</td>
<td>B.Ed., University of Toledo; Ed.M., Ph.D., University of Illinois</td>
</tr>
<tr>
<td>Goosby, Bob L.</td>
<td>1959</td>
<td>Associate Professor</td>
<td>B.S., Montana State University; M.A., Pennsylvania State University; Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Hee, Christopher E.</td>
<td>1969</td>
<td>Assistant Professor</td>
<td>B.Ch.E., University of Detroit; Ph.D., University of Notre Dame</td>
</tr>
<tr>
<td>Heezen, Alan</td>
<td>1967</td>
<td>Assistant Professor</td>
<td>B.A., University of Notre Dame; M.A., Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Hoft, Hartmut</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.A., University of Munster (Germany); M.A., University of Bonn (Germany); Ph.D., University of Houston</td>
</tr>
<tr>
<td>Howard, Paul</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.A., University of Missouri; Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Koo, Delia Z. F.</td>
<td>1965</td>
<td>Associate Professor</td>
<td>B.A., Saint John's University; M.A., Michigan State University; M.A., Ph.D., Radcliffe College</td>
</tr>
<tr>
<td>Lauckner, Kurt F.</td>
<td>1963</td>
<td>Associate Professor</td>
<td>B.S.E., M.S., Ph.D., University of Michigan</td>
</tr>
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</table>
MacDonald, Alan L. (1970) ........................................... Assistant Professor  
B.S., Wayne State University; M.S., Ph.D., University of Michigan

Marshall, Richard W. (1968) ........................................... Assistant Professor  
B.S., University of Pittsburgh; M.A., Ph.D., University of Michigan

Northey, James H. (1957) ........................................... Professor  
B.S., Northern Michigan University; M.S., Ph.D., University of Michigan

Pate, Robert S. (1946) ........................................... Professor  
B.A., Peru State College; M.A., University of Nebraska; Ph.D., University of Illinois

Rafiq, Mohammed (1971) ........................................... Assistant Professor  
B.A., Government College of Rawalpindi; M.S., University of Peshawar; Ph.D., Wayne State University

Rebane, Toomas (1970) ........................................... Assistant Professor  
B.S., M.S., Ph.D., University of Michigan

Remmers, John H. (1971) ........................................... Assistant Professor  
B.A., Harvard University; M.A., Ph.D., University of Michigan

Sanchez, Pedro P. (1972) ........................................... Assistant Professor  
B.A., M.A., University of Florida; Ph.D., University of Michigan

Suryanarayana, Manda (1969) ........................................... Associate Professor  
B.S., P.R., Government College; M.S., University of Poona, M.S., Ph.D., University of Michigan

Tse, Enoch C. (1967) ........................................... Assistant Professor  
B.S., Hong Kong Baptist College; M.A., Wayne State University; Ph.D., University of Michigan

Ullman, Nelly S. (1963) ........................................... Associate Professor  
B.A., Hunter College; M.A., Columbia University; Ph.D., University of Michigan

Vile, Richard C. (1971) ........................................... Assistant Professor  
B.S., Michigan State University; Ph.D., Cornell University

Walter, James C. (1964) ........................................... Assistant Professor  
B.A., Otterbein College; M.A., University of Michigan; Ph.D., Wayne State University

MUSIC

Abramson, Armand (1967) ........................................... Associate Professor  
B.Mus., University of Louisville; M.Mus., Eastman School of Music

Ballard, Blaine (1960) ........................................... Associate Professor  
B.S., M.Ed., Mansfield State Teachers College; M.Mus., Indiana University

Boroff, Edith (1966) ........................................... Professor  
V.M., M.M., American Conservatory of Music; Ph.D., University of Michigan

Dittemore, Edgar (1968) ........................................... Assistant Professor  
B.Mus.Ed., B.M., M.Mus.Ed., University of Kansas; Ph.D., University of Iowa
Eller, Daniel (1966) ........................................ Associate Professor
B.Mus., M.Mus., University of Illinois

Fitch, William D. (1944) .......................................................... Professor
B.S., Kansas State University; M.M., Ph.D., University of Michigan

Goldschmidt, Erich (1955) .................................................. Professor
Swiss Musicpaedagogical Society, Zurich, Basel Conservatory, Schola Cantorum Basiliensis, Basel

Gurt, Joseph (1967) .......................................................... Associate Professor
B.S., M.S., Juilliard School of Music

Harley, Rachel (1969) .................................................. Assistant Professor
B.A., M.A., University of North Carolina; Ph.D., University of Michigan

Hause, James B. (1971) .................................................. Professor
B.M., M.M., Ed.D., University of Michigan
Department Head

Henry, Oscar M. (1968) .................................................. Professor
B.A., Fisk University; M.A., Harvard University; Ph.D., Ohio State University

Howe, Marvin (1966) .................................................. Associate Professor
B.Mus., Oberlin College; M.S., Ithaca College; M.F.A., Ph.D., University of Iowa

Lancy, Maurice (1968) .................................................. Professor
B.A., Albion College; M.Mus., Eastman School of Music; Ph.D., Indiana University

Parris, Arthur (1970) .................................................. Professor
B.S., Juilliard School of Music; M.A., Ph.D., Bryn Mawr College

Pignotti, Alfio (1969) .................................................. Associate Professor
B.Mus., Eastman School of Music; M.Mus., Manhattan School of Music

Plank, Max E. (1968) .................................................. Assistant Professor
B.M.E., M.M., Kansas State Teachers College; D.M.A., University of Michigan

Pyle, Hershal (1945) .................................................. Associate Professor
B.Mus., Saint Louis Institute of Music; M.Mus., M.A., University of Michigan

Riley, Maurice W. (1947) .................................................. Professor
B.A., M.A., Colorado State College; M.Mus., Ph.D., University of Michigan

Sundquist, Jean S. (1958) .................................................. Associate Professor
B.S., Northern Michigan University; M.M., University of Michigan

Szabo, Edward J. (1968) .................................................. Professor
B.M., Cincinnati Conservatory of Music; B.S., M.S., Juilliard School of Music; M.A., Ed.D., Columbia University

Teal, Mary (1965) .................................................. Associate Professor
B.S., Northwestern State College; M.Mus., Ph.D., University of Michigan

Tyra, Thomas (1964) .................................................. Professor
B.Mus. Ed., M.Mus., Northwestern University
Yost, Mary Ida (1968) .............................................. Assistant Professor
B.Mus., University of North Carolina; M.Mus., Ph.D., University of Michigan

PHYSICS AND ASTRONOMY

Barnes, James M. (1955) .............................................. Professor
B.S., Eastern Michigan University; M.S., Ph.D., Michigan State University

Breedlove, Charles B. (1964) .............................................. Professor
B.S., McMurray College; M.S., Southern Methodist University; Ed.D., Wayne 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

Moore, Jean R. (1968) .............................................. Associate Professor
B.S., M.S., Indiana University; M.A., Ph.D., University of Michigan

Parsons, Karl (1950) .............................................. Professor
B.A., Indiana Central College; M.S., State University of Iowa

Porter, James C. (1967) .............................................. Associate Professor
B.S., Ph.D., Purdue University

Roth, Richard (1969) .............................................. Assistant Professor
B.S., Rickhurst College; M.A., Ph.D., Princeton University

Silver, Robert (1966) .............................................. Professor
B.S., Wayne State University; Ph.D., University of California

POLITICAL SCIENCE

Hourani, Benjamin T. (1968) .............................................. Associate Professor
B.A., M.A., American University, Beirut; Ph.D., Michigan State University

Lindenberg, Karen E. (1968) .............................................. Assistant Professor
B.S., Ph.D., University of Oregon

Magee, James S. (1972) .............................................. Professor
B.A., Hamilton College; M.A., Ph.D., Princeton University

Racz, Barnabas A. (1968) .............................................. Associate Professor
J.D., University of Budapest; M.A., Ph.D., University of Michigan

Sabki, Hisham M. (1969) .............................................. Associate Professor
B.S., M.A., Ph.D., Indiana University

Solomon, Samuel R. (1960) .............................................. Professor
B.A., M.A., Ph.D., Syracuse University
PSYCHOLOGY

Anderson, Robert L. (1957) .......................................................... Professor
B.A., Northern Michigan University; M.A., Columbia University; Ph.D.,
New York University

Battle, James (1972) ................................................................. Assistant Professor
B.A., M.A., University of Southern Illinois; Ph.D., University of Alberta

Beecher, Michael D. (1971) ....................................................... Assistant Professor
B.A., Reed College; A.M., Ph.D., Boston University

Canter, Francis M. (1967) ......................................................... Professor
B.A., Ph.D., Washington University

Davis, Gary L. (1972) ................................................................. Assistant Professor
B.A., Michigan State University; M.A., Ph.D., University of Connecticut

Delprato, Dennis J. (1969) ......................................................... Associate Professor
B.A., Washington and Jefferson College; M.S., Ohio University; Ph.D.,
Michigan State University

Fish, Barry (1970) ................................................................. Assistant Professor
B.A., University of Michigan; M.A., Ph.D., Wayne State University

Friedman, Monroe P. (1964) .......................................................... Professor
Director, Contemporary Issues Center
B.S., Brooklyn College; Ph.D., University of Tennessee

Gallatin, Judith E. (1968) .......................................................... Associate Professor
B.A., M.A., Ph.D., University of Michigan

Holmes, Peter A. (1968) .......................................................... Associate Professor
B.A., Franklin and Marshall College; M.A., Bryn Mawr College; Ph.D.,
University of Delaware

Hountras, Peter T. (1970) ........................................................ Adjunct Professor
Dean, Counseling Center
B.A., University of Toledo; M.A., Ph.D., University of Michigan

Jackson, Donald E. (1967) ........................................................ Professor
B.A., M.A., Ph.D., University of Alabama

Karabenick, Stuart A. (1966) .................................................. Associate Professor
B.A., Ph.D., University of Michigan

Karson, Samuel (1966) .......................................................... Professor
Department Head
B.S., Long Island University; Ph.D., Washington University (St. Louis)

Knapp, John R. (1971) .......................................................... Assistant Professor
B.A., Hope College; M.A., Ph.D., University of Denver

Lerner, Richard M. (1969) .................................................... Associate Professor
B.A., M.A., Hunter College of the City University of New York; Ph.D., City
University of New York

Marshall, Joan (1970) .......................................................... Assistant Professor
B.A., M.A., University of Toronto; Ph.D., Western Reserve University

Meisels, Murray (1965) .......................................................... Professor
B.A., Brooklyn University; Ph.D., State University of New York at Buffalo
O'Dell, Jerry W. (1966) .................................................. Associate Professor
B.A., University of Cincinnati; Ph.D., University of Michigan

Orloff, Henry (1970) .................................................. Assistant Professor
B.A., Cornell University; Ph.D., Texas Christian University

Stern, Ferdinand (1968) .................................................. Associate Professor
L.L.D., University of Vienna; Ph.D., University of Washington

Westman, Alida S. (1972) .................................................. Assistant 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

SOCIAL FOUNDATIONS

Gwaltney, Thomas M. (1964) .................................................. Associate Professor
B.S., Southeast Missouri State College; M.S., Ph.D., Southern Illinois University

Leatherman, Roger L. (1963) .................................................. Professor
B.A., M.A., Ohio State University; Ph.D., University of Michigan

Michael, Calvin B. (1956) .................................................. Professor
Chairman, Social Foundations Division
B.A., Albion College; M.A., Ph.D., University of Michigan

Monahan, Thomas (1953) .................................................. Professor
B.S., Willimantic State Teachers College; M.A., University of Connecticut; Ed.D., Columbia University

Muckenhirn, Erma F. (1963) .................................................. Professor
Director, Office of International Studies
B.S., M.A., Ph.D., University of Michigan

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

Smith, Wilfred R. (1964) .................................................. Associate Professor
B.A., Wayne State University; M.A., University of Chicago; Ed.D., Wayne State University

Wells, Phillip G. (1959) .................................................. Professor
B.S., Hampton Institute; M.S.Ed., Ed.D., University of Pennsylvania

SOCIOLOGY

Easto, Patric C. (1970) .................................................. Assistant Professor
B.S., Eastern Michigan University; M.A., Wayne State University; Ph.D., Syracuse University

Ehrlich, Allen S. (1968) .................................................. Associate Professor
B.A., University of Cincinnati; M.A., University of Minnesota; Ph.D., University of Michigan

Einstadter, Werner J. (1967) .................................................. Associate Professor
B.A., M.A., D. Crim., University of California (Berkeley)
Fauman, S. Joseph (1958) .................................................. Professor
B.A., M.A., Ph.D., University of Michigan

Ferman, Patricia R. (1966) .................................................. Associate Professor
B.A., Wayne State University; M.A., Ph.D., University of Michigan

Green, Edward (1963) .................................................. Professor
B.A., M.A., Ph.D., University of Pennsylvania

Kersten, Lawrence K. (1968) .................................................. Associate Professor
B.Arch., M.C.P., University of Michigan; Ph.D., Wayne State University

Moss, Gordon E. (1971) .................................................. Assistant Professor
B.S., Brigham Young University; M.A., Rutgers University; Ph.D., State University of New York at Buffalo

Stupple, David W. (1969) .................................................. Assistant 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

Warren, Bruce L. (1970) .................................................. Associate Professor
B.A., Alma College; M.A., Ph.D., University of Michigan

Wasserman, Ira M. (1969) .................................................. Assistant Professor
B.S., Penn State University; M.S., University of Minnesota; M.A., New School of New York; Ph.D., University of Michigan

Westrum, Ronald M. (1972) .................................................. Assistant Professor
B.A., Harvard University; M.A., Ph.D., University of Chicago

SPECIAL EDUCATION

Angelocci, Angelo A. (1965) .................................................. Professor
B.S., Eastern Michigan University; M.A., University of Michigan; Ph.D., Wayne State University

Barach, George (1969) .................................................. Assistant Professor
B.S., Wayne State University; M.Ed., Boston College; Ph.D., Wayne State University

Fulton, C. Wayne (1956) .................................................. Professor
Audiologist, Rackham School
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

Gottwald, Henry L. (1964) .................................................. Professor
B.S., Eastern Michigan University; M.A., University of Michigan; Ed.D., Wayne State University

Herrick, Frances E. (1950) .................................................. Associate Professor
B.S., Eastern Michigan University; B.A., M.A., University of Michigan
Moses, Gerald (1969) Associate Professor
B.S., Loyola University; M.A., Western Michigan University; Ph.D., Ohio State University

Motto, Joseph (1961) Professor
B.S., Central Michigan University; M.A., University of Detroit; Ph.D., University of Michigan

Myers, Allen (1958) Professor
B.M., M.M., North Texas State College; M.A., Ph.D., State University of Iowa

Navarre, Gary (1970) Assistant Professor
B.S., Eastern Michigan University; M.S., University of Oregon; Ed.D., Wayne State University

Palasek, James (1966) Associate 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) Associate Professor
B.A., M.S.W., Ph.D., University of Michigan

Ufford, Mary S. (1972) Associate Professor
B.A., Marygrove College; M.A., Ph.D., Wayne State University

Wawrzaszek, Frank (1957) Professor
Department Head
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