GRADUATE CATALOG

Ypsilanti, Michigan 48197

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Statement of Mailing Privileges

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DIRECTIONS FOR CORRESPONDENCE

Please address specific inquiries to the following offices:

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

Dean of Records and Teacher Certification:
Certification requirements and transcripts
5 Pierce Hall 487-4200

Dean of Summer and Evening Sessions:
All information concerning the summer or evening sessions
227 Pierce Hall 487-3234

Receivables and Billing Office:
University fees and financial aids
Briggs Hall 487-3335

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

Director of Field Services:
In-service and correspondence courses; speakers for special occasions; adult education; consultation services to schools
113 Sherzer 487-0407

Director of On-Campus Housing:
Basement-Dining 487-1300
Commons #1

Coordinator of Off-Campus Housing:
Student living accommodations
Basement-Dining 487-1300
Commons #1

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

Foreign Student Adviser:
Information and counseling for foreign students
103 Pierce Hall 487-3117

Graduate School Office
Location: Rooms 116, 122 and 134 Pierce Hall
Office Hours: 8:00 a.m. - 5:00 p.m. - Monday through Friday (September - June)
Closed on Saturday
7:30 a.m. - 4:30 p.m. - Monday through Friday (June - September)
Closed on Saturday

Telephone Numbers: Dr. Omer Robbins, Jr.
Dean of the Graduate School 487-0042
Graduate Admissions 487-3400
Graduate Records 487-0093
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THE ACADEMIC YEAR

The academic 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 as well as workshops of one to three weeks duration. Students who have satisfied admission requirements may enroll at the beginning of any semester or session.

GRADUATE SCHOOL CALENDAR

**Fall Semester, 1971**

- Last day for filing Application for Admission for fall semester: July 30, 1971
- Registration by mail: July 1 through July 31, 1971
- Last official registration day: August 30, 1971
- Classes begin: August 30, 1971
- Application for Admission to Candidacy: August 30, 1971
- Last day for filing a Diploma Application for December graduation: September 1, 1971
- Last day for Program Adjustment: September 3, 1971
- Labor Day Recess: September 6, 1971
- Last day to drop a class without the approval of the dean of the graduate school: October 4, 1971
- Thanksgiving Recess: November 24, 25, 26, 27, 1971 (Wednesday - 12:00 noon)
- Final Examinations: December 12, 1971
- Mid-year Commencement: December 17, 1971

**Winter Semester, 1972**

- Deadline for filing Application for Admission for winter semester: December 3, 1971
- Registration Information: (Consult Winter Class Schedule)
- Last day for filing a Diploma Application for April graduation: January 3, 1972
- Last official registration day: January 4, 1972
- Classes begin: January 4, 1972
- Application for Admission to Candidacy: January 4, 1972
- Last day to drop a class without the approval of the dean of the graduate school: February 8, 1972
- Easter Recess: March 31, 1972
- Classes resume: April 3, 1972
- Final Examinations
Commencement ................................................. April 16, 1972
Second Semester closes ........................... April 21, 1972

**Spring Session, 1972**

Classes begin .................................................. May 1, 1972
Memorial Day ................................................... May 29, 1972
Classes end ....................................................... June 21, 1972
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>
<thead>
<tr>
<th>Residence</th>
<th>Name and Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monroe</td>
<td>Edward J. McCormick, Chairman and Presiding Officer</td>
</tr>
<tr>
<td>Wyandotte</td>
<td>Virginia Allen</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>Veda Anderson</td>
</tr>
<tr>
<td>Mt. Pleasant</td>
<td>Charles Anspach</td>
</tr>
<tr>
<td>Ypsilanti</td>
<td>Lawrence R. Husse</td>
</tr>
<tr>
<td>Ypsilanti</td>
<td>Richard N. Robb</td>
</tr>
<tr>
<td>Flint</td>
<td>Mildred Beatty Smith</td>
</tr>
<tr>
<td>Ypsilanti</td>
<td>George Stripp</td>
</tr>
<tr>
<td></td>
<td>Gary D. Hawks, Secretary</td>
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<tr>
<td></td>
<td>Lewis E. Profit, Treasurer</td>
</tr>
</tbody>
</table>

EXECUTIVE OFFICERS

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
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<tbody>
<tr>
<td>President</td>
<td>Harold E. Sponberg</td>
</tr>
<tr>
<td>Vice President for Instruction</td>
<td>Bruce K. Nelson</td>
</tr>
<tr>
<td>Vice President for Business and Finance</td>
<td>Lewis E. Profit</td>
</tr>
<tr>
<td>Vice President for Student Affairs</td>
<td>James Campbell</td>
</tr>
<tr>
<td>Executive Director, University Relations</td>
<td>Gary Hawks</td>
</tr>
</tbody>
</table>

ADMINISTRATIVE OFFICES

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean, Graduate School</td>
<td>Omer Robbins, Jr.</td>
</tr>
<tr>
<td>Dean, College of Arts and Sciences</td>
<td>Donald Drummond</td>
</tr>
<tr>
<td>Dean, College of Business</td>
<td>Earl A. Roth</td>
</tr>
<tr>
<td>Dean, College of Education</td>
<td>Allen Myers</td>
</tr>
<tr>
<td>Dean, International Studies</td>
<td>R. Stanley Gex</td>
</tr>
<tr>
<td>Dean, Admission and Financial Aids</td>
<td>Ralph L. Gilden</td>
</tr>
<tr>
<td>Dean, Records and Teacher Certification</td>
<td>Everett L. Marshall</td>
</tr>
</tbody>
</table>
DEPARTMENT HEADS

College of Arts and Sciences

Art ........................................... Kingsley M. Calkins
Biology ........................................ Richard A. Giles
Chemistry ...................................... Clark G. Spike
Economics .................................... Young-Iob Chung
English Language and Literature .......... Milton P. Foster
Foreign Languages and Literature ........ J. Henry Owens
Geography and Geology ...................... Ross N. Pearson
History and Social Sciences ............... R. Neil McLarty
Mathematics .................................... Robert S. Pate
Music .......................................... Appointment Pending
Physics and Astronomy ....................... James M. Barnes
Political Science .............................. Appointment Pending
Psychology ..................................... Samuel Karson
Sociology ........................................ Edward Green
Speech and Dramatic Arts .................. Appointment Pending

College of Business

Accounting and Finance ........................ William Kimball
Business Education ............................ Charles H. Duncan
General Business ............................. Roger Hawkins
Management .................................... Claude I. Shell
Marketing ..................................... Robert J. Williams
Bureau of Business Services and Research .... M. Godfrey Parsons

College of Education

Curriculum and Instruction .................. W. Scott Westerman, Jr.
Educational Leadership ...................... George Brower
Educational Psychology ........................ Wilbur A. Williams
Guidance and Counseling .................... John G. Pappas
Health, Physical Education and Recreation .... Patric L. Cavanaugh
Special Education and Occupational Therapy .... Frank Wawrzaszek

Divisions of:

   Educational Media
   Social Foundations
The University

Applied Science Departments

Home Economics .................................. Anita L. Fielder
Industrial Education .............................. Raymond A. LaBounty

GRADUATE COUNCIL

Angelocci, Angelo A. ...................................... College of Education
Bajwa, Ranjit S. ........................................... College of Education
Barrington, Loretta F. ..................................... graduate student
Bensen, Alice R. ........................................... College of Arts and Sciences
Duncan, Charles H. ........................................ College of Business
Fensch, Charles ........................................... College of Arts and Sciences
Fox, Donald R. ............................................ College of Education
Giles, Richard A. .......................................... College of Arts and Sciences
Grinstead, Kenneth L. ..................................... College of Education
Haraf, Steve ................................................. graduate student
King, H. Roger ............................................. College of Arts and Sciences
Klatt, Lawrence A. ......................................... College of Business
Kluska, Dale .................................................. graduate student
Marshall, Albert P. ......................................... Director, University Library
Robbins, Omer, Jr. ......................................... Dean, Chairman
Rokusek, H. James .......................... Applied Science Departments
Shell, Claude I. ........................................... College of Business
Steig, Peggy .................................................. College of Education
Tothill, Herbert O. ......................................... College of Education
Yamauchi, Masanobu .................................... College of Arts and Sciences
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. It was not until 1953 that the first Master of Arts degree was awarded by this University. The Master of Science degree was approved in 1959 and the Specialist in Arts degree authorized in 1964.

Eastern Michigan University continues to establish new graduate programs whenever a demonstrated need exists. Currently the Graduate School offers nearly thirty-five 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 five areas to provide advanced graduate study for persons seeking professional careers in educational institutions.

Eastern Michigan University is located in Ypsilanti, a suburban community with a population of 50,000. 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 numbering almost 900 provides excellent classroom instruction. On-campus housing for almost 5,800 persons is provided in residence halls and in 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

In keeping with the overall purposes of the University to offer fifth year (master's) and sixth year (specialist) programs, the Graduate School aspires:

To encourage all students to acquire knowledge, to seek truth and to supply their wisdom to the solution of human problems.

To develop within the student a fundamental understanding and mastery of his academic field.

To prepare students for successful professional careers in education; social and physical sciences; business, industry and government; and in the arts.

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:

A. College of Education

Master's

Curriculum (Secondary)  
Educational Administration  
Elementary Education  
Guidance and Counseling  
Junior High School Education  
Physical Education  
Reading  
Senior High School Education  
Social Foundations  
Special Education
Specialist
   Educational Administration
   Guidance and Counseling
   Special Education

B. College of Arts and Sciences (master’s only)
   Art Education
   Biology
   Chemistry
   Chemistry Education
   Economics
   Fine Arts
   French
   General Science
   Geography
   History
   Literature
   Mathematics
   Music
   Physics
   Psychology
   Social Studies
   Sociology
   Spanish
   Speech and Dramatic Arts

C. College of Business (master’s only)
   Business Administration
   Business Education

D. Applied Science Departments (master’s only)
   Home Economics
   Industrial 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,

   has a minimum undergraduate grade point average of 2.00 (C grade) or better, and

   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.

A student enrolling for graduate work for the first time at Eastern Michigan University, on- or off-campus, must:

   complete an Application for Admission form
submit official transcripts of undergraduate and graduate credits earned at other institutions, and

present official scores in any standardized test, if required in a degree program.

This information must be submitted to the Graduate School Office no later than thirty days prior to the beginning of the semester or session in which enrollment is contemplated.

Types of Admission

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

Complete application papers must be received by the Graduate School Office no later than 30 days prior to the beginning of the semester or session in which enrollment is contemplated.

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

- wishes to qualify for a Provisional or Permanent Teaching Certificate,
- does not seek or does not qualify for Degree Admission, or
- wishes to take graduate courses for self-improvement.

Complete application papers must be received by the Graduate School Office no later than 30 days prior to the beginning of the semester or session in which enrollment is contemplated.

**Guest Admission:** This admission status 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 and is valid for only one enrollment period. A guest student can earn up to six 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.

Complete application papers endorsed by the parent institution must be received by the Graduate School Office no later than 15 days prior to the beginning of the semester or session in which enrollment is contemplated.
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 a degree program.

The Graduate School requires that all foreign students applying for admission and residing either 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 obtaining a certificate awarded by the English Language Institute of the University of Michigan. 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 latter certificate, contact:

English Language Institute
University of Michigan
Ann Arbor, Michigan 48104

The scores received on the TOEFL test or the certificate awarded by the Institute must be submitted to the Graduate School Office before consideration can be given to the student’s application.

GRADUATION REQUIREMENTS

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

Petition for Candidacy

The student’s request for candidacy status provides the department with the opportunity to review academic performance and to determine whether or not that student should be permitted to continue in the degree program.

All Petitions for Candidacy to Degree must be approved by the
department 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 complete successfully more advanced study. The completion of twelve graduate credits in a degree program does not guarantee admission to candidacy.

A student is eligible to petition for candidacy in a degree program who:

- has completed twelve semester hours of graduate work on the program, with at least six hours of which are in courses taken at Eastern Michigan University,
- has a cumulative grade point average of 5.00 (B grade) in courses taken at this University,
- has met any special requirements for candidacy status established by the College and/or the Degree Program Area.

Application for Graduation

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

Diploma Applications must be received in the Graduate School Office not later than:

- September 1 for December graduation
- January 1 for April graduation
- June 1 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 or specialist degree unless he has achieved a grade point of 5.0 (B grade) or higher as required by his degree program. The grade point average requirement for graduation applies to:

- all graduate credit earned at Eastern Michigan University,
- all courses included in the graduate study program,
- 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 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 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

All requirements for an advanced degree are expected to be completed within six calendar years from the time of first enrollment in the degree program. Graduate credit earned more than six years prior to the date in which the degree is to be granted may not as a rule be applied to meet graduation requirements. It is possible, however, that four hours of out-of-date credits may be applied to a degree depending upon the requirements of the program, the recommendations of the adviser and the approval of the Graduate School Office.

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 the evaluation of the student's progress when applying for admission to candidacy for degree 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.

Non-degree students who are interested in completing a provisional or permanent certificate should contact the Office of 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 Graduate Advising by Program Area

College of Arts and Sciences

<table>
<thead>
<tr>
<th>Program</th>
<th>Coordinator</th>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Professor Charles Fensch</td>
<td>106 Sill Hall, TeJe. 487-3388</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>Dr. Bert Johnson</td>
<td>324 Jefferson, Tele. 487-0441 or 487-4242</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>Dr. Bruce West</td>
<td>239 E. Jefferson, Tele. 487-0229 or 487-0107</td>
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<tr>
<td>French</td>
<td>Dr. Eugene Gibson</td>
<td>220 Ford Hall, Tele. 487-4081 or 487-0131</td>
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<tr>
<td>General Science</td>
<td>Dr. Charles Breedlove</td>
<td>316 Strong, Tele. 487-4144</td>
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<tr>
<td>Geography</td>
<td>Dr. Paul Buckholts</td>
<td>337 Strong, Tele. 487-0232 or 487-0218</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>Dr. Roger King</td>
<td>701 M Pray-Harrold, Tele. 487-1318 or 487-1018</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>Dr. George Perkins</td>
<td>612 Pray-Harrold, Tele. 487-1358 or 487-4220</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Dr. Robert Pate</td>
<td>601-T Pray-Harrold, Tele. 487-1444</td>
<td></td>
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<tr>
<td>Music</td>
<td>Dr. Maurice Riley</td>
<td>107 Alexander, Tele. 487-2457 or 487-4380</td>
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<tr>
<td>Physics</td>
<td>Dr. Walter Gessert</td>
<td>311 Strong, Tele. 487-4144</td>
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<tr>
<td>Psychology</td>
<td>Dr. Robert L. Anderson</td>
<td>537 Jefferson, Tele. 487-0047 or 487-1155</td>
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<tr>
<td>Sociology</td>
<td>Dr. Werner Einstadter</td>
<td>712 T Pray-Harrold, Tele. 487-4248 or 487-0012</td>
<td></td>
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<tr>
<td>Spanish</td>
<td>Dr. Francisco Villegas</td>
<td>206 Ford Hall, Tele. 487-0178 or 487-0131</td>
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<tr>
<td>Speech and Dramatic Arts</td>
<td>Dr. Parker Zellers</td>
<td>106 Quirk, Tele. 487-0030</td>
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</table>
College of Business

Business Administration  Dr. Robert Hislop
                        517 Pray-Harrold, Tele. 487-4444
Business Education     Dr. Charles H. Duncan
                        511 Pray-Harrold, Tele. 487-3410

College of Education

Educational Leadership Mrs. Doris Kilanski
                        101 C Boone Hall, Tele. 487-0257 or 487-0255
Educational Psychology Dr. Kishor Wahi
                        225 G Boone Hall, Tele. 487-4342
Elementary Education,  Dr. Winton Kloosterman
                        Jr. and Sr. High Education
                        13 Boone Hall, Tele. 487-3455 or 487-3270
Guidance and Counseling Dr. John Sheard
                        229 Warner Gym, Tele. 487-0091
Physical Education     Dr. Robert Krebs
                        328 Pierce Hall, Tele. 487-1160
Reading                Dr. Joseph Motto
                        229 Rackham, Tele. 487-3302 or 487-3300
Special Education      Dr. Henry Gottwald
                        Emotionally Disturbed
                        226 Rackham, Tele. 487-4195
                        Mentally Retarded
                        Professor Frances Herrick
                        Occupational Therapy
                        104 Rackham, Tele. 487-4094
                        Speech Correction
                        Dr. Angelo Angelocci
                        119 Rackham, Tele. 487-4413

Applied Science Departments

Home Economics         Dr. Ruby Meis
                        107 Welch Hall, Tele. 487-2380
Industrial Education   Dr. H. James Rokusek
                        122 Sill Hall, Tele. 487-4331

Registration Information

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

Adviser’s Signature on the Enrollment Plan—Advisers’ signatures are required for students majoring in business, economics, geography, history, industrial education, mathematics and psychology. Other students enrolling in either business or industrial education courses also must obtain departmental adviser’s 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. A program in excess of this must have the approval of the coordinator of advising in the program area and the dean of the Graduate School. 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 must be obtained from the coordinator of advising 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.

Auditing Courses

Graduate students may audit courses not included in their program. Students wishing to audit a course must secure approval from the instructor, 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

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

Policies governing the refund of tuition and fees are to be found in another section of this catalog.

The Summer School time schedule should be consulted for the calendar regulating withdrawals.
From the University:

*First Three Weeks*—Students finding it necessary to withdraw from all course work in which they are enrolled during the first three weeks do so through the Registration Office as a part of the registration adjustment process.

*Fourth and Fifth Weeks*—During this period a student withdrawing from all course work obtains a withdrawal form from the Graduate School Office and returns it to the Graduate School Office. The student will receive a grade of "W" in each of his courses if he officially withdraws from the University during this period.

*Beginning with the Sixth Week*—A student who officially withdraws from the University as a result of extenuating circumstances beyond his/her control, will receive a grade of "W" for each course in which the instructor indicates that he/she is doing passing work at the time of withdrawal. The student presents the withdrawal form signed by his instructor, to the dean of the Graduate School or to his designated agent. The Graduate School is responsible for evaluating the evidence and rendering a decision.

Students who propose to withdraw permanently from graduate study at this University should submit this information to the dean of the Graduate School.

From individual classes:

*First Three Weeks*—Any change in the student's class enrollment occurring during the first three weeks is accomplished through the Registration Office as a part of the registration adjustment process.

*Fourth through Fifth Week*—During this period the student may withdraw from classes without permission. The procedure for withdrawal is as follows:

- obtains a withdrawal form from the Graduate School Office;
- obtains his/her instructor's signature on the withdrawal;
- must return the withdrawal form to the Graduate School Office.

The class withdrawal is indicated with a "W" on the student's record.

*Beginning with the Sixth Week*—Provisions are made during this period to accommodate extenuating circumstances which are beyond the control of the student. The procedure for withdrawal at this time is as follows:

- obtains a withdrawal form from the Graduate School Office and takes it to the instructor;
- obtains his/her instructor’s recommendation and signature on the withdrawal form;
- presents the withdrawal form signed by the instructor, along with verifiable evidence of extenuating circumstances, to the dean of the Graduate School or to his designated agent. The Graduate School is responsible for evaluating the evidence and rendering a decision.
The grade of “W” is assigned to each person permitted to withdraw from a class for extenuating circumstances. Where circumstances do not justify the assigning of a grade of “W,” a grade of “E” will be assigned.

Grade Policies

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per semester hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>9</td>
</tr>
<tr>
<td>A</td>
<td>8</td>
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<tr>
<td>A-</td>
<td>7</td>
</tr>
<tr>
<td>B+</td>
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<tr>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>B-</td>
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<tr>
<td>C+</td>
<td>3</td>
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<td>C</td>
<td>2</td>
</tr>
<tr>
<td>C-</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Unsatisfactory (denotes failure)</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
</tr>
</tbody>
</table>

Use of “I,” “X,” and “W” Grades

“I”—Incomplete: An “I” is awarded only when the student’s work has been of acceptable quality, but the required amount has not been completed because of illness or other extenuating circumstances beyond the control of the student. It is never applied to poor work.

An “I” must be removed by completing the required work within four weeks after the beginning of the next semester or session in which the student is enrolled in this University, otherwise, the grade of “E” will be recorded. The time period for removal of an “I” may be extended upon written recommendation of the instructor of the course or the director of the independent study when extenuating circumstances beyond the control of the student exist.

The removal of an “I” grade must be completed within a one-year period from the date of initial enrollment in the course. All “I” grades not removed will be converted to “E” and the student’s grade point average will be adjusted accordingly.

“X”—No Final Examination: An “X” is awarded only when the student has been unable to take an examination because of illness or other valid reasons during the examination period. In order to remove an “X,” the student should follow the procedure outlined below:

a. He shall report to the instructor or the dean of the college in which the course is offered the reason for his inability to take the examination. If the reason is a valid one, the instructor shall assign the grade of “X,”
indicating no final examination, and will report it so on the student's grade card.

b. If the student desires to remove the grade "X" acquired, he will apply in writing to the dean of the college offering the course, requesting a special examination and stating fully the reason why this request is necessary.

c. If the request is approved by the dean, he will arrange with the instructor for a special examination to be given the student during the first month of the next semester that the student is enrolled in this University.

d. If the grade of "X" is not removed in this manner, it will automatically become an "E," denoting failure, at the end of the fourth week of the next semester that the student is enrolled in the University.

e. Any student who does not take the final examination and who does not proceed in the manner outlined above will be assigned the grade of "E," denoting failure. Emergency situations beyond the control of the student will be handled as circumstances require.

"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 from the class, the grade of "E" will be assigned for the course.

Academic Probation and Dismissal

A graduate student will be placed on academic probation when his 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 his/her 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 will be dismissed for academic reasons.

Transfer of Credits

From Other Institutions:

Subject to the requirements of a degree program, the recommendation of the adviser and the approval of the Graduate School Office, it is possible to transfer graduate credits earned at other accredited institutions. Six hours may be transferred at the time of admission to a degree program. An additional six hours can be transferred from other institutions should a degree student enroll elsewhere after admission to a degree program. Grades of B- or less are not accepted for transfer credit.
From Non-Degree to Degree Program:

Non-degree students 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 under non-degree 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 must complete a minimum of ten graduate hours after admission to a degree program.

Regarding Certification:

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 certificate.

Graduate credit earned for a provisional or permanent 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 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.

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 ten. Election of graduate courses is limited to the 500 series, exclusive of independent study. Seniors are not permitted to enroll in 600 series 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 his/her 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 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. If a special style is not required by the study director, any standard thesis or dissertation manual may be followed.

Recording of the grade in the Graduate School Office is approved by the dean of the Graduate School only if the independent study is conducted in accordance with the requirements of this policy.

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 a 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.

Thesis credit varies from one to six credit hours. 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.

The department that offers a thesis either as an option or as a requirement establishes the necessary prerequisites and the mechanism through which the work of a thesis student is properly guided and evaluated.

The Graduate School requires that, prior to the commencement of formal work on a thesis, an outline of the proposed study approved by the
department head and study director must be submitted to the dean of the Graduate School. Two copies of the completed thesis, the original copy and a xerox or multilith copy, approved by the department head and study director, must also be submitted to the dean of the Graduate School. One of these copies is retained by the Graduate School Office, while the other is transmitted to the University Library.

The recording in the Graduate School Office of the final evaluation of the thesis is approved by the dean of the Graduate School upon completion of the requirements of this policy.

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 during the academic year and the summer session. 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.
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.
- Welch Hall 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 Cashier's 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 and the Counseling Center.
- 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 University Printing, 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 a quarter of a million 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 Social Sciences, 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.

UNIVERSITY HOUSING

The University owns and operates approximately 450 furnished apartments for married students. In addition, the University operates seventeen residence halls conveniently located on campus. Graduate students are eligible to live in any of these resident units as available space allows.

Students living in residence halls are required to board there also. Room and board in the residence halls is approximately $530.00 per semester. Apartment units rent for $100 and $115 per month for one bedroom apartments and $120 and $135 per month for two bedroom apartments, rates based on 1970-1971 figures. The University reserves the right to revise these rates when necessary. Applications and additional information may be obtained from the associate dean of students, Housing Office, Eastern Michigan University.

The Housing Office also maintains listings of off-campus housing accommodations available in the Ypsilanti area. These listings include rooms, apartments, houses and “room-mates wanted,” and are usually located near campus, but some good choices require transportation. Only those facilities available to students without regard for race, religion, creed, national origin or ancestry are posted.

A student expecting to live off-campus may obtain assistance by contacting the Housing Office, Eastern Michigan University.

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.

THE UNIVERSITY LIBRARY

Graduate education requires that students make extensive use of library facilities. Graduate education at Eastern Michigan University is served by a new, modern, air-conditioned library organized on a divisional basis, with open stacks. Collections and services are divided among the divisions of Education and Psychology, Science and Technology, Humanities and Social Sciences.

The total book collection numbers approximately 312,000 volumes. Special collections include a large Instructional Materials Center in conjunction with 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.

The Audio-Visual Center, a major department of the library, supplements books and journals with films, filmstrips, recordings and other materials.

INSTRUCTIONAL COMPUTER CENTER

The Instructional Computer Center, located in Room 117, Pray-Harrold Building, operates an IBM 1130, together with customary peripheral equipment. An IBM 360-40 is available on auxiliary stand-by basis for use on demand.

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, 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. These credit courses are arranged between a school system and the University. They are designed to investigate problems unique to the particular school system and they are usually held at one of the schools.

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 his 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**

**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 E.M.U. until all obligations have been satisfied.

**Last Registration Day**

The last registration day each semester for purposes of tuition credit, late registration fee and program adjustment fee is defined as the first day of classes.

**Registration Fee**

A registration fee of $15.00 is charged to each student each semester. This fee is collected when the student pays his tuition and is non-refundable after the last official registration day each 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>Michigan Resident</th>
<th></th>
<th>Non-Resident</th>
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<tbody>
<tr>
<td>1</td>
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<td>268.00</td>
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For purposes 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.
Spring and Summer Tuition and Fees

The tuition schedule and registration fee are assessed to all courses offered during the six- and seven and one-half-week courses of the spring and summer sessions. A workshop fee, but not the registration fee, is assessed independently for the pre- and post-session workshop courses.

Payment of Tuition

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

The installment payment applies 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. With the adoption of the trimester calendar in the fall of 1971, there may be changes in the terms of the installment payment plan which will be announced at a later date.

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

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% of the tuition assessment for the semester will be made to those students who cancel their registration and withdraw from the University on or before the last official registration day. Actual dates are printed in the class schedule for each semester.
2. A credit adjustment of 60% of the tuition assessment for the semester will be made to those students who withdraw from the University 21 calendar days (seven calendar days for the spring and summer sessions) or less after the last official registration day. Actual dates are printed in the class schedule for each semester.

Decrease in Academic Load:
1. A credit adjustment of 100% of the difference in tuition assessments for the semester will be made to those students who decrease their academic load on or before the last official registration day. Actual dates are printed in the class schedule for each semester.
2. A credit adjustment of 60% of the difference in tuition assessments will be made to those students who decrease their academic load 21 calendar days (seven calendar days for the spring and summer sessions) or less after the last official registration day. Actual dates are printed in the class schedule for each semester.

Two- and Three-Week Sessions:
1. An adjustment of 100% of the tuition assessment will be made to those students who withdraw prior to noon on the first day of the session.
2. No other adjustment or refund will be granted.

Qualifications for Michigan Residence
Residence in Michigan, for the purpose of registration in Eastern Michigan University, shall be determined according to this definition:
1. The residence of a student who is a minor follows that of his parents or legal guardians, except that a minor student who comes to the institution from another state or country cannot be registered as a resident of this state on the basis of having a resident of this state as a guardian except on permission of the Board of the institution in each individual case.
2. A person who is at least 21 years of age at the time of registration in the institution and who has resided in this state six months next preceding the date of registration without being registered at a college or university during that period is deemed a resident of this state for the purpose of such registration.
3. A person who is at least 21 years of age and has manifested his intention in good faith to become a permanent resident of this state and not for the sole purpose of attending school and has resided in this state for at least six months may apply to the Treasurer of the Board of Regents for permission to register as a resident student, and the Treasurer after a review of the individual case may determine that the student qualifies as a resident. The Treasurer will report all acceptances to the Board of Regents at the next regularly scheduled meeting.
4. The residence of a wife follows that of her husband except that a woman student who is a resident under paragraphs 1 or 2 may continue to register as a resident of this state although subsequently marrying a non-resident student or other non-resident.
5. No person is deemed to have gained or lost a residence in this state while a
student at any institution in this state, public or private, except by change in status effected under paragraphs 1, 3, 4 or 6.

6. A person in the service of the United States and his wife or minor children, who have met the six month residence requirement in paragraph 2, may register as residents of this state.

7. An alien lawfully admitted for permanent residence in the United States and who has obtained his permanent visa and his wife or minor children, who have met the other requirements herein for residence, may register as residents of this state.

8. A full-time member of the "teaching staff" or "research staff," and a member of the teaching staff whose appointments require at least three contact hours of teaching each week in regularly assigned formal classes, and their dependents, may register as residents of this state.

9. Discretion to adjust individual cases within the spirit of these regulations is vested in the Treasurer.

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.

Late Registration Fee

A late registration fee of $5.00 is charged to those students who, for any cause, do not complete registration by the last official registration day of 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 charged for each student-initiated change to his registration after the last official registration day 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:

Music Majors: $60.00 per semester for all instruction.
Other University Students: $60.00 per semester for one-hour lessons.
$30.00 per semester for half-hour lessons.
Students from public schools, the community and EMU staff and families: $90.00 per semester for one-hour lessons.
$45.00 per semester for half-hour lessons.

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 Cashier's 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:

- Fine Arts Department — Graphics, Ceramics, Jewelry, Sculpture, 3-D Design.
- HPER — Bowling
- Business Education — Business Laboratory Fee.

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 Police Department during the first week of each semester.

Further details are printed in the Ordinance and in the Parking and Traffic Regulations brochure.

Fees Subject to Revision

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

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

DEAN: Donald F. Drummond

DEPARTMENTS

Art
Biology
Chemistry
Economics
English Language and Literature
Foreign Languages and Literature
Geography and Geology
History and Social Sciences
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 Arts in 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 (M.A. in Fine Arts and M.A. in Art Education)
   A. A minimum of 30 semester hours of undergraduate studio art
   B. An overall undergraduate grade point average of 2.0 with a minimum of 2.5 in the studio art classes. (Art education classes are included for those majoring in art education)
   C. Art Education students are required 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. This 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
      Requirement
      FA 520 Drawing 2 hrs.
      Studio Concentration 10 hrs.
      Art Electives 10 hrs.
      Cognate Courses 6 hrs.
      (graduate level outside the art department)
      Exhibition in Fine Arts 2 hrs.
      total 30 hrs.

   B. Art Education
      Requirement
      FA 520 Drawing or FA 509 Design for Tapestry 2 hrs.
      Art Education Seminar 2 hrs.
      Studio Concentration 10 hrs.
      Art Electives 8 hrs.
      Cognate Courses 6 hrs.
      (graduate level outside the art department)
      Exhibition in Art Education 2 hrs.
      total 30 hrs.

III. CANDIDACY
   Upon completion of 12 graduate hours each student must petition for candidacy to the appropriate degree. Petition is made in the Graduate School Office and forwarded to the Art Department. The student’s work will be
reviewed by a faculty committee. Approval for candidacy should be obtained before continuing 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 Professor Charles Fensch or from Professor Kingsley Calkins, head of the art department.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 500</td>
<td>Masterpieces of Art. Two sem hours</td>
<td></td>
<td>(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.</td>
</tr>
<tr>
<td>FA 501</td>
<td>Art Education Workshop. Two sem hours</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>FA 509</td>
<td>Design for Tapestry. Two sem hours</td>
<td></td>
<td>Weaving with adherence to the disciplines inherent in tapestry, giving emphasis to creativity and contemporary innovations. Prereq: Design in materials or graduate standing.</td>
</tr>
<tr>
<td>FA 510</td>
<td>Ceramics. Two sem hours</td>
<td></td>
<td>Advanced studio course in ceramics.</td>
</tr>
<tr>
<td>FA 520</td>
<td>Drawing. Two sem hours</td>
<td></td>
<td>Advanced studio course in drawing.</td>
</tr>
<tr>
<td>FA 530</td>
<td>Art History. Two sem hours</td>
<td></td>
<td>Advanced course in art history.</td>
</tr>
<tr>
<td>FA 540</td>
<td>Jewelry. Two sem hours</td>
<td></td>
<td>Advanced studio course in jewelry.</td>
</tr>
<tr>
<td>FA 550</td>
<td>Graphics. Two sem hours</td>
<td></td>
<td>Advanced studio course in graphics.</td>
</tr>
<tr>
<td>FA 560</td>
<td>Watercolor. Two sem hours</td>
<td></td>
<td>Advanced studio course in watercolor.</td>
</tr>
<tr>
<td>FA 570</td>
<td>Sculpture. Two sem hours</td>
<td></td>
<td>Advanced studio course in sculpture.</td>
</tr>
<tr>
<td>FA 580</td>
<td>Oil Painting. Two sem hours</td>
<td></td>
<td>Advanced studio course in oil painting.</td>
</tr>
</tbody>
</table>
FA 597 Independent Study. One sem hour
Written permission.

FA 598 Independent Study. Two sem hours
Written permission.

FA 599 Independent Study. Three sem hours
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.

FA 610-617 Ceramics. Each two sem hours
Advanced studio courses in ceramics. Based on background and need of the student.
Open only to majors.

FA 620-627 Drawing. Each two sem hours
Advanced studio courses in drawing. Based on background and need of the student.
Open only to majors.

FA 628 Exhibition in Fine Arts. Two sem hours (Formerly FA 618, FA 648, FA 658, FA 668, FA 678, FA 688)
For a candidate receiving a degree in fine arts, the exhibition will be composed of work
done in the student's major area. To be elected in the last semester before receiving the
master's degree.

FA 630-637 Art History. Each two sem hours
Advanced courses in art history. Based on background and need of the student. Open
only to majors.

FA 640-647 Jewelry. Each two sem hours
Advanced studio courses in jewelry. Based on background and need of the student. Open
only to majors.

FA 650-657 Graphics. Each two sem hours
Advanced studio courses in graphics. Based on background and need of the student. Open
only to majors.

FA 660-667 Watercolor. Each two sem hours
Advanced studio courses in watercolor. Based on background and need of the student. Open
only to majors.

FA 670-677 Sculpture. Each two sem hours
Advanced studio courses in sculpture. Based on background and need of student. Open
only to majors.

FA 680-687 Oil Painting. Each two sem hours
Advanced studio courses in oil painting. Based on background and need of the student. Open
only to majors.
BIOLOGY

PURPOSE OF THE PROGRAMS:

The programs leading to the degree of Master of Science in Biology provide both depth and breadth of preparation for professional work in the biological sciences. Individual programs are tailored to accommodate the candidate's aims and interests whether these be in teaching at the high school or college level, in continuing for the doctorate in some specialized field of biology, or in a non-teaching career in such areas as nature interpretation, aquatic biology or biological or paramedical technology.

APPLICATION PROCEDURE:

A letter should be directed to Dr. Bert M. Johnson, Graduate Program Coordinator, Department of Biology, Eastern Michigan University, Ypsilanti, Michigan 48197, requesting the departmental application form G-BIO-166, information about programs and requirements for the degrees. A copy of the applicant's college transcript should be forwarded to the Graduate School.

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, (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 requirements may be granted conditional admission subject to removing deficiencies while beginning a graduate program. Hours earned in deficiency courses may not apply toward degree requirements.

REQUIREMENTS FOR THE DEGREE:

Plan A: A minimum of 30 credit hours of graduate work is required: at least 12 hours in biology, 10 hours in botany and 10 hours in zoology. 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: at least 12 hours in biology, 10 hours in botany and 10 hours in zoology. 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: a chairman, selected by the student, and two members, appointed by the graduate biology program coordinator. 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 may be assigned to a graduate student until he has selected his chairman.

GRADUATE ASSISTANTSHIPS:

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

BIO 502 Biology of Man. Two sem hours (Formerly BIO 521)
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. Not open to majors in biology.

BIO 505 Science in the Elementary School. Two sem hours (Formerly BIO 580)
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 (Formerly BIO 581)
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.

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 511 Physical Anthropology. Two sem hours (Formerly BIO 587)
The evolution of primates; current concepts of races; principles of archaeology; an appreciation of cultural differences. Not open to students who have credit in 306 Physical Anthropology.

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 513 Principles of Heredity. Two sem hours (Formerly BIO 586)
The basic principles of heredity. Not open to students who hold credit in 301 Genetics. Prereq: A recent course in introductory biology.

BIO 515 Genetics Laboratory. Two sem hours
A laboratory course to accompany or follow BIO 513 Principles of Heredity. Work with organisms especially Drosophila and Neurospora; practice in gathering and analyzing data from living populations. Highly recommended for majors; others with interest in genetics should find it useful. Not open to students with credit in 302 Genetics Lab.
Prereq: BIO 513 Principles of Heredity or 301 Genetics, previously or concurrently.

BIO 516 Radiation Biology. Three sem hours
The molecular, cellular, organismal and supraorganismal effects of corpuscular and electromagnetic radiations; basic mechanisms of biological reactions to radiation, mutational effects of radiation, mammalian response to radiation, radiational studies with plants and radiation safety. Not open to students who have credit in 480 Radiation Biology.
Prereq: plant or animal physiology, one year physics, one year chemistry, genetics is desirable.

BIO 517 Radioisotopes in Biology. Three sem hours
Basic isotope technology and its application to plant and animal physiology; use in diagnosis and treatment of human diseases will also be discussed. Not open to students who have credit in 481 Radioisotopes in Biology.
Prereq: 516 Radiation Biology or equivalent.

BIO 518 History of Biology. Two sem hours
Development of major concepts in biology from the Greek natural philosophers to the present. Not open to students who have credit in 485 History of Biology.
Prereq: At least two courses in biology.

BIO 519 Organic Evolution. Two sem hours
Origin and evolution of life and the implication for biology and our current world view. Not open to students with credit in 405 Organic Evolution.
Prereq: 221 Botany, 222 Zoology and BIO 513 Principles of Heredity; 230 Historical Geology is desirable.

BIO 520 Problems in Functional Biology. Two sem hours (Formerly BIO 589)
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.

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

**BIO 523  Limnological Methods. Two sem hours**
Field and laboratory techniques in limnology. *Not open to students who have credit in 411 Limnological Methods.*
*Prereq or Coreq: BIO 522 Limnology.*

**BIO 524  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. *Not open to students who have credit in 420 Ecology.*
*Prereq: 221 Botany, 222 Zoology and one taxonomic field course or permission of the department.*

**BIO 525  Conservation. Two sem hours** *(Formerly BIO 584)*
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  Serology. 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: 211 Bacteriology, 451 Biochemistry desirable.*

**BIO 527  Introductory Molecular Genetics. Two 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; 451 Biochemistry desirable. Not open to students with credit in 427 Introductory Molecular Genetics.*

**BIO 595  Workshops in Selected Areas.**

**BIO 596  Seminar in Biology. One sem hour**
Presentation of special reports and group discussions on selected topics.
*Prereq: 20 hours of credit in biology, including botany and zoology.*

**BIO 596  Seminar in Limnology. One sem hour**
Current problems and topics in limnology.
*Prereq: Approval of the department.*

**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  
(Formerly BIO 683)  
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. Two 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: 16 hours of biology, including general cytology, or consent of the department.

BIO 628 Tropical Ecology. Two sem hours  
Important biotic communities of the tropics. Investigation in both marine and terrestrial environments; lectures, laboratory and field work. Not open to students who have credit in 428 Tropical Ecology.  
Prereq: botany, zoology, some concept of ecological principles and some familiarity with use of taxonomic keys.

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.

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

BOT 500 Survey of the Plant Kingdom. Two sem hours  
(Formerly BIO 542)  
The major types of plants from algae to seed plants; emphasis on development of structure. Not open to graduate majors in biology nor to students who have credit in 205 General Natural History or 221 General Botany.

BOT 503 Plants and Nature. Two sem hours  
(Formerly BIO 517)  
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.

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.

BOT 510 General Microbiology Laboratory. Two sem hours  
(Formerly Bacteriology Laboratory)  
An introduction to the techniques of isolating, cultivating and identifying bacteria and other microbes. Includes experiments on physiological, serological and pathological properties and physical, chemical and biological effect on growth and death of microbes.  
Prereq: Must be accompanied or preceded by BOT 514 General Microbiology. Not open to students with credit in 210 General Microbiology Laboratory.

BOT 514 General Microbiology. Two sem hours  
An introduction to the nature and biology of bacteria and other microbes (metabolism, genetics, growth and death), their ecological relationship in natural and controlled environments, and the interactions of pathogenic micro-organisms and their animal and
plant hosts. Not open to students who have credit in 211 Bacteriology.
Prereq: 105 Biological Science, or equivalent; 119 Fundamentals of Chemistry desirable; and 510 General Microbiology Laboratory is optional.

BOT 530 Plant Products in Industry. Two sem hours   (Formerly BIO 540)
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 531 Plant Anatomy. Three sem hours
Basic plant histology; recognition of primary and secondary tissues as variously combined in root, stem, leaf and flower of a wide variety of representative seed plants. Not open to students who have credit in 312 Plant Anatomy.
Prereq: 221 General Botany.

BOT 532 Tropical Economic Botany. Two sem hours
The use of tropical plants and their products by man, including cultural and processing practices; daily lectures, discussions and field trips to forests, plantations, gardens and mills. Not open to students who have credit in 415 Tropical Economic Botany.
Prereq: One course in botany or its equivalent.

BOT 533 Morphology of Algae and Fungi. Four sem hours   (Formerly BIO 671)
A lecture and laboratory course on comparative morphology of the algae (freshwater and marine) and the fungi. A study of the structure and life cycles of representative organisms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution. Not open to students who have credit in 430 Plant Morphology of Algae and Fungi.
Prereq: 15 hours in biology including 221 General Botany.

BOT 534 Morphology of Mosses Through the Vascular Plants. Four sem hours
A lecture and laboratory course on comparative morphology of the mosses, liverworts, ferns and other vascular plants. A study of the structure and life cycles of representative forms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution, etc. Not open to students who have credit in 431 Plant Morphology.
Prereq: 15 hours in biology, including 221 General Botany, and recommended 430 Plant Morphology of Algae and Fungi but not essential.

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

BOT 542 Plant Physiology. Three sem hours
Major plant functions; lectures, demonstrations, and experimentation in laboratory and greenhouse. Not open to students who have credit in 310 Plant Physiology.
Prereq: 221 General Botany; 219 Elementary Organic Chemistry or equivalent.

BOT 543 Plant Pathology. Two sem hours
Plant diseases caused by fungi, bacteria, viruses, insects, parasites and malnutrition; their control by chemical, physical, ecological, cultural and genetic measures. Not open to
students who have credit in 311 Plant Pathology.
Prereq: plant physiology is desirable.

BOT 550 Taxonomy of Tracheophyta. Three sem hours (Formerly BIO 546)
Theory and practice in identification and classification of vascular plants. Not open to students with credit in systematic botany.
Prereq: 221 General Botany.

BOT 551 Freshwater Algae. Three sem hours
A survey of the freshwater algal divisions; their morphology, taxonomy, ecology and economic importances. Lectures will emphasize an evolutionary approach. Laboratory work will stress the identification of representative algal taxa. A class field study will be required. Counts as a taxonomic field course.
Prereq: 221 General Botany or equivalent. Not open to students with credit in 451 Freshwater Algae.

BOT 552 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. Not open to students who have credit in 450 Aquatic Tracheophyta.
Prereq: 221 General Botany.

BOT 553 Mycology. Three sem hours (Formerly Fungi)
A study of molds, rusts, mildews, edible and poisonous mushrooms and other fungi. Their life histories; their economic importance, methods of identification and preservation of specimens are topics studied. Counts as a taxonomic field course.
Prereq: 221 General Botany. Not open to students with credit in 304 Mycology.

BOT 596 Seminar in Botany. One sem hour
Presentation of special reports and group discussions on selected topics.
Prereq: 20 hours of credit in biology, including botany and zoology.

BOT 597, 598 and 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 (Formerly BIO 544)
The biological, physical and chemical nature and pathological activities of virions as found in bacteria, insects, plants and animals. Laboratory methods for propagation of virion and identification; selective inhibition of viral reproduction by chemicals in vitro; and, immunity to viral diseases.
Prereq: 15 hours of credit in biology, including bacteriology and biochemistry.

BOT 640 Plant Cell Physiology. Two sem hours (Formerly BIO 681)
Selected topics on recent advances in molecular botany.
Prereq: 221 General Botany, laboratory physiology (plant or animal) and organic chemistry.

BOT 650 Phycology. Two sem hours (Formerly BIO 672)
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: 15 hours of credit in biology including general botany and plant anatomy, or approval of the department.
BOT 651 Plant Taxonomy. Two sem hours  
Modern techniques and systems of classification of the higher plants. The student will apply one or more of the techniques in a field problem.  
Prereq: one course in plant classification.

ZOO 501 Survey of the Animal Kingdom. Two sem hours  
A survey of the major animal groups from protozoans to mammals. Structure and function; the bases for classification and the evolutionary relationships of the several groups. Not open to graduate majors in biology nor to students who have credit in 205 General Natural History, 310 Natural History of Vertebrates, 421 Entomology or 425 Ornithology.

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. Not open to students with credit in 310 Natural History of Vertebrates, 421 Entomology or 425 Ornithology.

ZOO 560 Economic Zoology. Two sem hours  
The species, varieties and breeds of animals that are used as beasts of burden, supply food, clothing, sport and recreation, serve as pets or are injurious to man or to his domestic animals and crops.  
Prereq: one course in college zoology.

ZOO 564 Histology. Three sem hours  
The structure and properties of vertebrate organs and their component tissues; techniques for their microscopic study. Not open to students who have credit in 404 Histology.  
Prereq: 222 General Zoology.

ZOO 565 Parasitology. Two sem hours  
Animal parasites which affect man and his environment; the zoological interrelationships. Not open to students who have credit in 225 Parasitology.  
Prereq: 222 General Zoology.

ZOO 566 Invertebrate Zoology. Four sem hours  
Phylogenetic and anatomical study of representative types from each phylum of invertebrates; taxonomy, classical literature and current research. Not open to students who have credit in 430 Invertebrate Zoology.  
Prereq: 222 General Zoology.

ZOO 567 Vertebrate Physiology. Three sem hours  
Physiological phenomena of the vertebrate body at the cellular and organ level. Not open to students who have credit in 327 Vertebrate Physiology.  
Prereq: 222 General Zoology, 219 Elementary Organic Chemistry or equivalent; some physics is desirable.

ZOO 570 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. Not open to students who have credit in 300 Natural History of Invertebrates.  
Prereq: 222 General Zoology.
ZOO 571 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. Not open to students who have credit in 310 Natural History of Vertebrates.
Prereq: 222 General Zoology.

ZOO 572 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 Lakes region is provided in addition to a general survey of some marine fish families. Counts as a taxonomic field course.
Prereq: 222 General Zoology or equivalent. Not open to students with credit in 422 Ichthyology.

ZOO 573 Animal Embryology. Three sem hours
Reproduction and development of animals with laboratory studies of the frog, chick, pig and other forms. Not open to students who have credit in 323 Animal Embryology.
Prereq: 222 General Zoology.

ZOO 574 Comparative Morphology and Evolution of Chordates. Four sem hours
The comparative anatomy of the vertebrate organ systems; the evolutionary development of the groups. Detailed dissection in the laboratory of the shark and cat. Not open to students who have credit in 324 Comparative Anatomy of Vertebrates.
Prereq: 222 General Zoology.

ZOO 575 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. Not open to students who have credit in 425 Ornithology.
Prereq: 222 General Zoology or consent of the department.

ZOO 580 Advanced Field Ornithology. Two sem hours (Formerly BIO 680)
Field study and identification of fall migratory birds and the fall migration as biological phenomenon.
Prereq: 425 Ornithology, 210 Birds or approval of department.

ZOO 581 Tropical Ornithology. Two sem hours
A field course covering activity of native Jamaican birds and 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 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.
Prereq: 421 Entomology.
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 Zoology; 225 Parasitology; 430 Invertebrate Zoology or 300 Natural History of Invertebrates; and 310 Natural History of Vertebrates or 324 Comparative Anatomy.

ZOO 584 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. Not open to students with credit in 480 Protozoology.
Prereq: 222 General Zoology.

ZOO 585 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. Not open to students who have credit in 421 Entomology.
Prereq: 222 General Zoology or consent of department.

ZOO 586 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.
Prereq: 222 General Zoology and 310 Natural History of Vertebrates or 420 Ecology or 324 Comparative Anatomy of Vertebrates. Counts as a taxonomic field course. Not open to students with credit in 485 Mammalogy.

ZOO 596 Seminar in Zoology. One sem hour
Presentation of special reports and group discussions on selected topics.
Prereq: 20 hours of credit in biology, including botany and zoology.

ZOO 597, 598 and 599 One, two and three sem hours
An intensive study of a problem of 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 (Formerly BIO 545)
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 (Formerly BIO 569)
A study of systems used to maintain endogenous homeostasis in a phylogenic series of animals.
Prereq: organic chemistry, animal physiology.
ZOO 672 Endocrinology. Four sem hours
(Formerly BIO 685)
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, conductivity, metabolism, respiration, excretion, growth and reproduction. Lab course is available but not required.
Prereq: 222 General Zoology, laboratory physiology (plant or animal) and organic chemistry. Biochemistry, elementary physics desirable.

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

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.

Degree Requirement: Successful completion of a minimum of thirty semester hours of graduate credit, distributed as follows:
1. Enroll in Chm 432, 461-2-3, 481, 503, 570 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 Requirements: Application for admission to this program will be considered from all applicants who have an undergraduate degree with a major in chemistry. Deficiencies in preparation may be made up without credit while in the program. Entering students will be required to take placement examinations in analytical, biological, inorganic, organic and physical chemistry.

Degree Requirement:
1. Satisfactory completion of a minimum of thirty semester hours of graduate credit, distributed as follows:
   a. at least twelve credit hours or demonstrated proficiency in four of these five areas—analytical, biological, inorganic, organic and physical chemistry.
   b. six to ten hours of research culminating in a written thesis or six hours of a suitable independent study project.
   c. two credit hours in seminar.
   d. electives chosen from advanced courses in chemistry.
   e. six hours in approved courses selected from outside the Chemistry Department.
2. Demonstrated competence in a suitable foreign language, preferably German.

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 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.

**CHM 551 Biochemistry. Three sem hours**
A lecture course dealing with the chemical properties of biologically important compounds and the pathways and energy relationships of metabolism.

**Prereq:** Organic chemistry.

**Coreq:** CHM 552 Biochemistry Laboratory.

**CHM 552 Biochemistry Laboratory. Two sem hours**
A laboratory course dealing with isolation and analysis of biologically significant compounds. One hour of lecture per week provides background in the laboratory techniques of biochemistry.

**Prereq:** Organic chemistry laboratory. Quantitative analysis is strongly recommended.

**Coreq:** CHM 551 Biochemistry.

**CHM 553 Enzymology. Two sem hours**
A lecture course covering the nomenclature, kinetics, mechanism and isolation of enzymes.

**Prereq:** CHM 551 Biochemistry and CHM 552 Biochemistry Laboratory.

**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 Introduction to 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-calculus and one year of college physics.

**CHM 565 Nuclear Chemistry. Three semester hours**
The course will cover topics such as radioactive decay, decay systematics, nuclear models and nuclear reactions. Applications of radioactivity to chemical problems will be discussed. Techniques of nuclear chemistry, nuclear processes as chemical probes and other such topics will be 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.
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 stereo­
specific 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.

CHM 576 High Polymer Chemistry Laboratory. Two sem hours
Experimental methods for preparing, evaluating, characterizing and analyzing polymers.
Preparatory methods include step-growth and chain-growth polymerization via several
mechanisms. Methods for evaluation, characterization and analysis include: osmometry,
Prereq or coreq: CHM 575 High Polymer Chemistry or permission of the department.

CHM 581 Analytical Chemistry. Three sem hours
The fundamental principles of quantitative analysis.
Prereq: Instrumental analysis and one year of physical chemistry.

CHM 594, 595 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:
374 Organic Chemistry Laboratory.*
432 Advanced Inorganic Chemistry.
461, 462, 463 Physical Chemistry.*
472 Spectrometric Organic Structure Determination.
473 Qualitative Organic Chemistry Laboratory.
481 Instrumental Analysis.
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 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. The department may permit conditional entry to selected students lacking this requirement if their overall undergraduate record or other relative experience seems relevant. However, these conditional enrollees may be asked to meet additional requirements as established by the department after a review of specific circumstances and past academic achievements. 2) No student will be admitted to the master's program in economics until his/her application has been approved by the Department of Economics and a preliminary program of study has been accepted by the department.

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 504 Development of Economic Analysis; b) ECO 541 Microeconomic Analysis; and c) ECO 542 Macroeconomic 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; and 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 501 Economic Analysis and Policy I. Two sem hours
A basic course in economic analysis and policy.
Prereq: Not open to students having 220 and 221 Elements of Economics or equivalent.

ECO 502 Economic Analysis and Policy II. Two sem hours
Continuation of a basic course in economic analysis and policy.
Prereq: Not open to students having 220 and 221 Elements of Economics or equivalent.

ECO 504 Development of Economic Analysis. Two sem hours
Theories and policies of internal change and evolution in economic science.
Prereq: One course in economics or permission of the department.

ECO 528 Economics of State and Local Finance. Two sem hours
Economic analysis of expenditures, revenues and debt management of state and local governments.
Prereq: Six hours of economics.

ECO 530 Economics: Principles and Public Issues. Two sem hours
The basic analytic tools of economic theory and their use in considering policy for current major problems. Not open to students who hold credit in economics.

ECO 532 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.
ECO 533 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 535 Regional and Urban Economics. Two sem hours
Examination of problems of economic adjustment and development by regions, including inner-city and metropolitan areas; economic concepts and methods related to regional income and product accounting; economic base studies; input-output analysis; determinants of industrial location; transportation development pertaining to living patterns and other economic activities.
Prereq: 220 and 221 Elements of Economics, or equivalent or permission of the department.

ECO 541 Microeconomic Analysis. Two 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: 431 Intermediate Economic Analysis or permission of the department.

ECO 542 Macroeconomic Analysis. Two sem hours
National income accounting as a framework for economic analysis; determinants of consumption, investments and government expenditures; models of underemployment and inflation.
Prereq: 430 Aggregate Economic Analysis or permission of the department.

ECO 574 Economic Development of the Far East. Two 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: Six hours in economics.

ECO 575 Economic Development Planning. Two 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: Six hours in economics.

ECO 577 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: One course in economics or permission of the department.

ECO 578 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 579 Economic Growth and Development. Two 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.
ECO 595 Workshop in Economics. Two sem hours
Selected principles of economics presented by visiting consultants. Class discussion on phases of contemporary economics.

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.

ECO 696 Seminar in Economic Development. Two sem hours
Research on theoretical and empirical problems of economic growth; economic development policies and the role of capital formation in economic growth; specific developmental problems of underdeveloped areas.
Prereq: ECO 579 Economic Growth and Development or permission of the department.

ENGLISH LANGUAGE
and LITERATURE

The Department of English Language and Literature offers courses leading to the degree of Master of Arts in Literature, 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, 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 literature (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 George Perkins. Members of the departmental Graduate Committee are Professors Alice Bensen, Eugene Haun, Paul McGlynn and Patrick White. 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 (Formerly CU 532)
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 (Formerly CU 563)
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 (Formerly CU 574)
The documentary biography, the portrait biography and the narrative-pictorial biography; biography as fact, as psychological interpretation and as art.

LIT 508 Teaching of Children’s Literature. Two sem hours (Formerly LE 534)
An appreciation of the several types of books available for children with suggested uses which might be made in the elementary schools. Not open to students who have credit in 207 Literature for Elementary Grades. Offered for teachers in the elementary schools.

LIT 580 The Making of the Modern Mind. Three sem hours (Formerly CU 561)
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 (Formerly CU 575)
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 (Formerly CU 567)
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 (Formerly CU 564)
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 (Formerly CU 566)
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 (Formerly CU 565)
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 (Formerly CU 570)
The complete poetry and selected prose of John Milton, with some attention to his intellectual milieu.
Prereq: 15 hours of credit in literature.
LIT 560 Dryden, Pope. Three sem hours  
A study of the major works of Dryden and Pope, with an introduction to the most important criticism of their writings.  
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 Smollett, and some of their imitators and minor successors; the Fielding-Richardson interreaction.  
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  
(Formerly CU 572)  
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  
(Formerly CU 573)  
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  
(Formerly CU 577)  
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 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 (Formerly CU 562)
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 (Formerly CU 568)
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 (Formerly CU 571)
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.

E. MISCELLANEOUS

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 (Formerly CU 666)
A study of various approaches to literary criticism with application to specific works.
Prereq: 15 hours of credit in literature.

LIT 696 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.

III. Language, Linguistics and Composition

The University does not offer a master’s degree in language, linguistics or composition. Of the following courses, only 509 may be elected in partial fulfillment of M.A. requirements. Interested students should consult with a graduate adviser.
ENG 501 Basic Studies for Teachers of Language Arts. Three sem hours
(Formerly CU 533)
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 Linguistic Theory. Three sem hours
Contemporary theoretical developments in linguistics for prospective teachers of
grammar in college, high school and elementary school.

ENG 509 The Development of Modern English. Three sem hours
(Formerly CU 553)
The history of the English language. The scientific principles involved in linguistic
evolution; the grammatical structure, the sources of the English vocabulary, the political,
social and cultural influences which have affected the language. Not open to students
who have credit in 221 History of the English Language.

IV. Other Courses for Credit Toward Master of Arts in Literature

The following courses for advanced undergraduates are also available to graduate
students for either two or three semester hours credit each depending upon the
circumstances of the student's registration; 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
Department of English. For descriptions of these courses, see the Undergraduate Catalog.
Ordinarily a maximum of three undergraduate courses may be approved for graduate
credit.

305 Shakespearean Comedy.
314 Old English.
315 Age of Chaucer.
316 English Literature 1500-1600.
317 English Literature 1600-1660.
318 English Literature 1660-1744.
319 English Literature 1744-1798.
327 Milton.
330 The Eighteenth Century Novel.
331 The Nineteenth Century Novel.
332 The Twentieth Century American Novel.
333 The Twentieth Century British and European Novel.
340 English Drama 1558-1642.
341 English Drama 1660-1779.
401 Modern American and British Poetry.
403 Modern Drama.
404 English Literature 1798-1832.
405 Victorian Poetry.
407 Victorian Prose.
409 American Literature to 1865.
410 American Literature since 1865.
420 Old English Poetry.
430 History of Literary Criticism.
434 English Literature in Transition, 1880-1914.

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. 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, and will then be submitted to the dean of the Graduate School for approval.

The course requirements for the degree will be adjusted to complement the areas covered by the student during his undergraduate preparation. Every candidate for the M.A. degree will be expected to have completed work at the undergraduate or the graduate level in the areas cited below with the minimum of credit hours indicated.

**FRENCH**

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<th>LITERATURE</th>
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**LANGUAGE**

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| Syntax                         | Spanish Grammar & Syntax  | 2               |
| Stylistics                     | Graduate Spanish Conversation | 2              |
| Graduate Conversation         | Stylistics               | 2               |
| Diction                        | Spanish Language in New World | 2              |
|                                | Diction                  | 2               |

*The student is expected to be conversant with both Peninsular and Latin-American literature, and his program of studies must reflect this.*
No student will be recommended for the degree, despite an unusual undergraduate preparation, until he has completed at Eastern Michigan University a minimum of ten hours in literature courses and eight hours in language courses. The program may include a maximum of six hours in a related area, to be determined by the departmental adviser and the student, and approved by the dean of the Graduate School.

A graduate student may elect, with the advice and consent of his departmental adviser, upper division courses numbered in the 400’s for graduate credit, and shall receive the usual credit or less, as agreed upon by student and adviser, previous to enrollment.

For admission to candidacy for the degree, a student shall demonstrate to a departmental committee his proficiency in the written and oral use of the language; and shall present a minimum of twelve semester hours of graduate work in the chosen field with marks of at least B in each course.

To obtain the degree, the following requirements shall be met: (1) a research paper or essay shall be completed and approved by the departmental committee a month before the degree is to be awarded; (2) the student shall pass satisfactorily written and oral examinations in all required areas not covered by his graduate courses. The student shall have the option of deciding which half of these areas shall be covered by the written examination, and which by an oral examination. These examinations must be completed at least one month before the degree is to be awarded. The Reading List presented to the student upon his admission to candidacy will include the items upon which the examinations will be based.

The department offers annually three appointments each in French and Spanish for teaching fellowships with a stipend of $2800. The fellow will be expected to teach one elementary class (five hours per week) and will register for a minimum of eight hours of graduate work toward the degree. Tuition is paid at the in-state rate. Successful applicants are expected to attend classes the summer preceding their appointment.

FLA 511 Methods of Teaching Modern Language. Two sem hours
History, theory, and techniques of modern language teaching. Not counted in Group I for degree, nor toward a major or minor in any modern language.

FLA 512 Methods of Teaching Modern Languages in the Elementary Grades. Two sem hours
Techniques and materials of teaching French and Spanish in elementary grades. Not counted in Group I for degree, nor toward a major in any modern language.

I. French

FRN 516, 517 Reading French for Graduate Students. Two sem hours
Structure, basic vocabulary, and common idioms of French for reading proficiency. Open to beginning students. Enrollment in both parts is required.

*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 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.

II. Other Courses for Credit Toward M.A. in French
The following courses for advanced undergraduates are also available to graduate students, for either 2 or 3 hours credit depending upon the circumstances of the student's registration. He will be expected to do somewhat more work than is done by the undergraduates. This aspect of the course work should be clearly settled by the chairman of the French Graduate Program, the instructor in the course and the student. The descriptions of the courses are given in the Undergraduate Catalog.

431 Molière.
432 Corneille and Racine.
441, 442 Nineteenth Century French Novel.

*Not open to native speakers of the language, except by departmental requirement.
443 French Syntax.
444 Advanced French Conversation.
447, 448 Nineteenth Century French Theatre.
461, 462 Modern French Poetry.
471, 472 Eighteenth Century French Literature.
481 History of the French Language.
491, 492 Seventeenth Century French Literature.

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.

IV. Other Courses for Credit Toward M.A. in Spanish

The following courses for advanced undergraduates are also available to graduate students, for either two or three hours credit depending upon the circumstances of the student.

*Not open to native speakers of the language, except by departmental requirement.
student's registration. He will be expected to do somewhat more work than is done by the undergraduates. This aspect of the course work should be clearly settled by the chairman of the Spanish Graduate Program, the instructor in the course and the student. The descriptions of the courses are given in the Undergraduate Catalog.

431, 432 Survey of Spanish-American Literature.
443 Advanced Spanish Composition.
444 Advanced Spanish Conversation.
446 Spanish-American Theatre.
447 Modern Novel.
448 Modern Drama.
453 Drama of the Golden Age.
454 Modernism in Spanish America.
455 The Generation of 1898.
463 Don Quijote.
481 History of the Spanish Language.

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 of study leading to a master's degree in geography are to prepare each student for professional work in the field while allowing some opportunity for specialization. Programs are designed to prepare students a) who wish to work towards a doctoral degree in geography, b) who wish a professional career in geography (excluding teaching) after earning a master's degree, and c) who intend to teach at the elementary, secondary or community college level and desire to increase their geographic knowledge to a master's degree competence. Persons with a master's degree in geography have numerous opportunities for teaching at all levels. Government agencies from local to federal levels employ geographers 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. Twenty-four hours in geography courses must be taken for graduate credit; the remaining must be taken in a cognate field, or fields. Students who enter a program with less than 30 hours of undergraduate work in geography will have to complete a correspondingly larger number of hours as indicated above. Graduate students who have not successfully completed courses in economic geography and cartography must elect these courses for undergraduate credit early in their graduate program.

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 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 departmental graduate adviser.

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.

GEO 522 Processes of Landform Development. Two sem hours
Interrelation of climate, soil formation, landform development and vegetation; glaciation, streams, wind and shoreline environments in Michigan. Classroom, laboratory and field trips.

GEO 528 Biogeography. Two sem hours
Descriptive and historical plant and animal distribution and the basic principles governing the natural distribution in both space and time.
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 535 The Geography of Energy. Two sem hours
The problems of production, transportation, distribution and consumption of electricity. Energy sources; coal, petroleum products, natural gas, water power and nuclear fission. Prereq: 339 Economic Geography or approval by the department.

GEO 541 South American Lands. Two sem hours
A regional geography study of the countries and colonies on the South American continent; resources, people and national cultures. Prereq: 15 hours of credit in geography and approval by the department.

GEO 542 Middle America and the Caribbean World. Two sem hours
A regional study of Mexico, Central America and islands of the Caribbean Sea. Conditions leading to the present political upheavals in the area and an effort made to chart future trends. Prereq: 15 hours of credit in geography, including one course in urban geography, or approval by the department.

GEO 544 Problems in Urban Geography. Two sem hours
Selected geographic problems: urban sprawl, deterioration of the urban environment, changing urban functions and others. Acquisition of analytical techniques and geographical insights. Prereq: 15 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: 15 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: 10 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 553 Geography of the Great Lakes. Two sem hours
A geographic and economic survey of water and land uses, primarily within the area of the Great Lakes drainage basin; the role of the St. Lawrence Seaway. Documents and statistical source material to acquire knowledge about a vital and dynamic area. Prereq: A course in economic geography, the geography of Anglo-America or approval by the department.
GEO 555 Geography of Australia. Two sem hours
A regional study of the physical and economic geography of Australia and New Zealand including the physical setting, distribution of people and economic development. 
Prereq: One course in geography.

GEO 556 Problems in the Geography of Western Europe. Two sem hours
Selected problems in the cultural and economic geography of Western Europe. 
Prereq: 15 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 558 Geography of the Moslem World. Two sem hours
A regional study of the areas of Africa and Asia practicing the religion of Islam. An assessment of the resource bases, current issues and possible future trends in those countries which have grown in importance since 1940. Not open to students who hold credit in an equivalent course. 
Prereq: One course in geography.

GEO 559 Problems in Soviet Geography. Two sem hours
Individual and group research in selected problems in the geography of the Soviet Union. 
Prereq: 15 hours of credit in geography, including a course in Soviet geography, or approval by the department.

GEO 561 Physical Landscapes. Two sem hours
An understanding of selected landscapes, the agents and processes at work in the formation of surface features such as: weathering, wind, ice, water, waves, vulcanism and diastrophism. 
Prereq: One course in physical geography, geology or approval by the department.

GEO 562 Weather. Two sem hours
Aimed at understanding the atmospheric processes which generate all weather; applies observations of weather elements to analysis of weather phenomena; concludes with experimental forecasting. One hour lecture and two hours laboratory per week. Not open to students holding credit in 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. Variable Credit
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: 15 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 and securing, organizing, presenting and evaluating materials.

GEO 574 Problems of Sub-Saharan Africa. Two sem hours
Individual research in selected problems in the geography of Sub-Saharan Africa.
Prereq: 15 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: 10 hours of credit in geography or approval by the department.

GEO 596 Seminar in Geography. Two sem hours
The problems involved in modern geography and analysis of subfields.
Prereq: Geography majors.

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: 15 hours of credit in geography, including a course in economic geography, and 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: 15 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 562 Weather and GEO 563 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 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.

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 University faculty member.
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. The student, before completing his registration, should have a clear understanding with both the dean of the Graduate School and the graduate adviser in the Department of Geography concerning the number of semester hours credit each course will carry. For descriptions of these courses see the Undergraduate Catalog.

312 Geography of Canada.
313 Geography of Michigan.
321 Geography of Latin America.
322 Geography of Africa.
323 Geography of Australia and the Pacific Islands.
326 Structural Geology.
327 Introduction to Soil Science.
329 Lithology.
330 Sedimentation and Stratigraphy.
331 Introduction to Paleontology.
332 Urban Geography.
359 Geography of the U.S.S.R.
360 Cultural Geography.
361 Population Geography.
370 Glacial Geology.
405 Historical Geography of Europe.
423 Problems of Southeast Asia.
424 Climatology.
425 Near East.
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:

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.
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:

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<td>History of Religion</td>
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</table>

A limited number of graduate assistantships are available. Interested students should direct their enquiries 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 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 these qualifications will make up the deficiency.

For completion of the master's degree in social studies, the applicant must present a total of not less than 30 semester hours of graduate credit 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. H. R. King, 701-M Pray Harrold Building.

I. History

A. COURSES FOR THE MASTER OF ARTS IN HISTORY
AREA 1: UNITED STATES
HIS 531 Studies in Negro 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. Two sem hours
Intensive study of differing periods and topics in Michigan history.
Prereq: 313 Michigan History, 414 Michigan in the Twentieth Century or permission of the department.

HIS 538 Studies in Colonial American History. Three sem hours
Colonial American political, economic and social institutions; current scholarship and interpretation.
Prereq: 223 American History to 1865 or permission of the department.

HIS 541 The United States, 1825-1860: Ferment and Reform. Two sem hours
Reform 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, 1865 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.)
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. Six 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
Christendom, with special concern for their influences in current events.
Prereq: 201 The Comparative Study of Religion or permission of the department.

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 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. Two 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 politico-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.

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.
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 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.

HIS 687 Historical Method. Two 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 688 Historiography. Two sem hours

A critical study of the writings, philosophy and influence of major historians.
Prereq: 15 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: 15 hours of graduate credit in history plus HIS 687 Historical Method.

B. OTHER COURSES FOR CREDIT TOWARD THE M.A. IN HISTORY
The following courses for advanced undergraduates are also available to graduate students. For descriptions of these courses see the Undergraduate Catalog.

1. UNITED STATES
303 History of American Religion.
313 Michigan History.
315 History of Black Americans.
361 Foreign Relations of the United States.
362 American Urban History
365 The Old South.
368 Social and Intellectual History of the United States to the Civil War.
369 Social and Intellectual History of the United States since the Civil War.
380 The American Colonies to 1763.
383 The Age of Jackson.
385 Civil War and Reconstruction.
402 The American Revolution.
411 American Constitutional History to 1865.
412 American Constitutional History, 1865 to the Present.
414 Michigan in the Twentieth Century.
425 Twentieth Century America to 1945.
426 The United States since World War II.
480 Federalist Jeffersonian America.

2. EUROPE
309 France to 1789.
310 France since 1789.
311 England to 1689.
312 England 1689 to Present.
323 Greek History.
324 Roman History.
327 The Early Middle Ages.
328 The High Middle Ages.
329 Europe in the Age of the Renaissance.
333 Europe since 1919.
337 German History to 1815.
338 German History since 1815.
343 Russia to 1855.
344 Russia since 1855.
435 Italy since 1815.
471 Social and Intellectual History of Nineteenth Century Europe.

3. OTHER
301 The Religions of South and East Asia.
302 Near Eastern and Western Religions.
355 Latin America: Colonial Period.
356 Latin America: National Period.
371 The Far East to 1800.
372 The Far East since 1800.
375 Modern India.
403 History of the Ancient Near East.
438 History of Islamic Lands to 1800.
441 Middle Eastern History, 1789 to Present.
442 North Africa, 1798 to Present.

II. Philosophy

PHI 528 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 529 Studies in the Philosophy of Art. Two sem hours
An application of contemporary analytical methods to problems in the philosophy of art. The reading matter consists of leading journal articles published during the twentieth century.
Prereq: 210 Aesthetics or permission of the department.

PHI 530 Plato. Two sem hours
Major and minor Platonic dialogues and some of the epistles.
Prereq: One course in philosophy.
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: One course in philosophy.

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 a 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 337, 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 faculty adviser: 321, 402, 421, 426, 470, 471, MTH 506, 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.

The following courses may be elected for graduate credit and course descriptions may be found in the undergraduate catalog: 321, 337, 400, 402, 403, 411, 414, 416, 418, 420, 421, 423, 425, 426, 436, 437, 441, 445, 446, 470, 471, 491, 492.

The Specialist's Degree

A Specialist's Degree in Mathematics has great flexibility and prepares persons for positions in business, industry, education and government. The approval of this program is now pending.

X MTH 500 Modern Mathematics Content, K-6. Two sem hours
The modern mathematics required for teaching this subject in the elementary grades, K-6: set theory, logic, numeration systems, the real number system and geometry. Not open to students who have credit in MTH 501 New Topics in Modern Mathematics K-8.

X 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 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 or 464 Improving Arithmetic Instruction in the Elementary School.

X MTH 503 Arithmetic Methods. Two sem hours
Current problems in teaching arithmetic. Evaluating pupil achievement; new topics.
Prereq: Teaching experience or 381 The Teaching of Mathematics, K-6 or 464 Improving Arithmetic Instruction in the Elementary School.

X 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.

X MTH 508 Foundations of Mathematics. Two sem hours
An introduction to axiomatic method, axiomatic set theory, transfinite arithmetic, logical paradoxes; their influence on modern conceptions of mathematics.
Prereq: A minor in mathematics.

X MTH 511 Linear Algebra I. Two sem hours (Formerly MTH 517)
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.

X 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 (formerly MTH 517).
MTH 515 Elements of Set Theory. Two sem hours
Sets and subsets, set operations, sets of numbers, relations, cardinal numbers, ordinal numbers, ordered sets and other topics.
Prereq: A minor in mathematics.

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: 15 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.

MTH 520 The Real Number System. Two sem hours
A development of the real number system and a study of its properties.
Prereq: A minor in mathematics.

MTH 522 Fourier Analysis. Two sem hours
An introduction to Fourier series and their application to the solution of boundary value problems in the partial differential equations of physics and engineering.
Prereq: 320 Differential Equations I and 420 Advanced Calculus I, or equivalents.

MTH 526 Real Analysis I. Two sem hours
Sets, compact, perfect and connected sets, metric spaces, convergence of sequences and series, continuous and differentiable functions (including functions of bounded variation).
Prereq: 420 Advanced Calculus I or permission of the department.

MTH 527 Real Analysis II. Two sem hours
Riemann-Stieltjes integral, uniform convergence, Stone-Weierstrass theorem, power series, exponential logarithmic and trigonometric functions, Fourier series.
Prereq: MTH 526 Real Analysis I.

MTH 528 Introduction to Topology I. Two sem hours
(Formerly MTH 544)
Elements of general topology including countability, metric spaces, topological spaces, continuity, separation axioms and compactness.
Prereq: 420 Advanced Calculus I 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 (formerly MTH 544).

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 Introduction to 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 Mathematics I.
Prereq: A course in computer programming and 121 Analytic Geometry and Calculus II.

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.

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: 15 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 470 Introduction to Mathematical Statistics I.
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.
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 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: 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 and MTH 610 Rings and Ideals I, or equivalents.

MTH 626 Complex Analysis I. Two sem hours
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: MTH 526 Real Analysis I or 420 Advanced Calculus I.

MTH 627 Complex Analysis II. Two sem hours
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 626 Complex Analysis I.

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.

MTH 697, 698, 699 Independent Studies. One, two and three sem hours
A report on an approved subject in the field of mathematics, the history of mathematics or the teaching of mathematics, under the guidance of Mathematics Department staff.
Prereq: Completion of 10 hours of graduate credit in mathematics and permission of the department.
MUSIC

OBJECTIVES OF THE PROGRAMS

Programs leading to a Master of Arts degree are offered in conducting, music education, music literature, music theory-composition and performance. All of them, through separate concentrations, are designed to expand musicianship and to make available the most recent developments in the materials and techniques of the practice and teaching of music at all levels.

The Music Department is currently increasing its interactions with other Michigan schools and is in the process of developing new programs for the master's and specialist's degrees in music. Eastern Michigan University was a primary member of the Institute for Music in Contemporary Education under the Ford Foundations—MENC sponsored Contemporary Music Project.

All music programs are accredited by the National Association of Schools of Music.

ADMISSION TO THE PROGRAMS

Students are admitted to the Graduate School by application to that office and satisfactory evaluation of undergraduate records, which should be forwarded directly to the Graduate School at the time of application. Admission is based upon an undergraduate degree in music from an accredited college or university. Students with degrees not in music can also enroll but must complete the undergraduate prerequisites without graduate credit.

A placement test in theory, literature, keyboard proficiency, and general writing skills is given each semester, and students are expected to take this test before decisions on course election are made. Upon entering the department, each student is assigned to an adviser, with whom he/she works in planning a curriculum of greatest relevance to his/her needs and future plans. The placement test is used diagnostically and may result in a requirement to take courses to attain minimum skills with or without graduate credit.

Students wishing to major in performance should send a tape or write for information on auditions.

CANDIDACY

Admission to the department does not include admission to a degree program with a major in music.

After completing six credit hours of work within the music department, a student wishing to pursue one of the degree programs with a major in music may apply by letter to the chairman of the area in which his major is to be taken, though this application may be postponed until he has completed sixteen credit hours in music. (Early application is recommended.)

Admission to a curriculum as a major is granted by the Executive Committee for Graduate Studies in Music and comprises candidacy. At the time of admission to candidacy, the student's complete program is projected
in detail and is filed with the Graduate School. Completion of this program fulfills the requirements for the degree.

CURRICULUMS IN MUSIC

Master's degrees in music are based upon a major concentration of fourteen credit hours, a minor concentration of eight credit hours, and a minimum of six credit hours to be earned outside of the department. The minimum for graduation is thirty hours, any work over the minimum requirements being free elective. Where the minor concentration is outside of the music department, it includes the six credit hours mentioned above, and a minimum of six credit hours of electives within the music department are required instead of eight.

Each major concentration includes Music 510, Introduction to Graduate Studies, and a recital, thesis, or project, according to the specific curriculum the student pursues.

Some of the majors offered are:

Conducting, choral
Performance, Piano
Performance, Organ
Performance, Accompaniment
Performance, Voice
Music Education, Voice
Music Literature

Details of each curriculum can be obtained from the chairman of the Graduate Music Committee.

FELLOWSHIPS AND ASSISTANTSHIPS

A number of assistantships, averaging $2500 for two semesters, are available for outstanding students. These include laboratory assistantships 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 director of graduate studies in music.

Auditions and examinations will be held in the year 1971-72 on the following days:

**Fall Semester**
- September 11, 1971
- December 2, 1971

**Winter Semester**
- February 1, 1972
- April 12, 1972

**Summer**
- June 29, 1972
All students accepted for private music lessons will be assessed an applied music fee at the following rates:

Music Majors: $60.00 per semester for all instruction.
Other University Students: $60.00 per semester for one-hour lessons. $30.00 per semester for half-hour lessons.

I. General Courses

NOTE: All music literature and history courses except MUS 541 The Band and Its Literature, MUS 542 The Organ and Its Literature and MUS 544 Solo Song Literature are open to general University students. All 500-level courses are open to qualified seniors.

MUS 501 Masterpieces of Music. Two sem hours
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.

II. Courses for the Master of Arts in Music

A. BASIC COURSE

MUS 510 Introduction to Graduate Studies. Two sem hours
Available source materials for graduate research; research, documentation, evaluation and scholarly presentation, organizing and assembling a bibliography.

B. COMPOSITION AND THEORY

MUS 511 Survey of Harmonic Techniques. Two sem hours
Compositional and harmonic techniques and practices of major composers of the eighteenth, nineteenth and twentieth centuries.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 513 Form and Analysis. Two sem hours
Structural principles and techniques through analysis of representative works of eighteenth, nineteenth and twentieth centuries.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 514 Sixteenth Century Counterpoint. Two sem hours
Polyphonic techniques and forms based upon stylistic principles of the sixteenth century.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 517 Music Composition I. Two sem hours
The creative process in music through analysis of traditional and new music; original composition in small forms illustrating various techniques and media.
Prereq: Permission of the department (may be repeated for credit).
MUS 518 Music Composition II. Two sem hours
Original composition based upon techniques of the twentieth century; composition 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 equivalent.

C. LITERATURE AND HISTORY

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.

MUS 525 Choral Literature I. Three sem hours
A survey course designed to learn or review selections from sacred and secular choral literature from the Pre-Renaissance Era through the Baroque.

MUS 526 Choral Literature II. Three sem hours
A survey course designed to learn or review selections from sacred and secular choral literature from the Classical Era through the twentieth century.

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. Three 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
Three 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, performance 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 541 The Band and Its Literature
Two sem hours

The history and development of the band and its music.

### MUS 542 The Organ and Its Literature
Two sem hours

Organ music from its beginning to the present; types of instruments representing regional and epochal schools as they influence the structure of music and its interpretation. 
*Prereq: Keyboard proficiency, or previous organ performance or permission of the department.*

### MUS 543 The Piano and Its Literature
Two sem hours

Music for the piano from the Baroque to the present. Open to majors and non-majors.

### MUS 544 Solo Song Literature
Two sem hours

The art song literature from the American, English, French, German and Italian repertoire, with an introduction to the literature of the arias from operas and oratories. 
*Prereq: Demonstrable singing knowledge of one of the foreign languages.*

### MUS 545 The Opera
Two sem hours

Opera from its inception to the present day as music and theatre. Open to majors and non-majors.

### MUS 596 Seminar: History of Jazz
Two sem hours

The origins of jazz; its roots in Afro-American culture; its development in the United States; the significance of the Negro's contribution to this unique American musical expression; the history of recorded jazz; a discussion of the major personalities and the importance of jazz in American composition. Open to majors and non-majors.

### D. MUSIC EDUCATION

#### 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 556 Development of a String Program in the Public Schools
Two sem hours

Problems related to building a public school string program; including techniques and materials. 
*Prereq: Permission of the department.*
MUS 558 Supervision and Administration of School Music Education Programs. Three sem hours
Trends and practices in the teaching of vocal and instrumental music at the elementary and secondary school levels.

MUS 559 Piano Pedagogy. Two sem hours
Individual instruction; teaching problems and procedures for developing techniques; teaching materials at various levels of advancement.

MUS 560 Vocal Pedagogy. Two sem hours
Study of the technique of training the human voice. Emphasis will be placed upon diagnosis of vocal problems and the study of theories for correction of these problems. Prereq: Permission of the department.

MUS 562 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 563 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 564 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 565 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.

E. PERFORMANCE

MUS 546 Collegium Musicum. One sem hour
Various ensembles of soloists-instrumental, vocal and mixed. Opportunity to 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 548 Collegium Musicum. Three 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 549 Collegium Musicum. Four 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 552 Accompanying. Two sem hours**
Provides pianist with additional experience in accompanying singers and instrumentalist through continued learning of skills and repertoire. *Audition. May be repeated for additional credit.*

**MUS 571, 572, 573, 574, 575, 576 Applied Music (Secondary Instrument or Voice). One sem hour each**

**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.

**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: 326 Conducting.*

**MUS 581, 582, 583, 584, 585, 586 Applied Music (Principal Instrument or Voice). Two sem hours each**
*Prereq: Audition.*

**MUS 595 University Summer Choir. One sem hour**
*Open to all students of the University by permission of the department.*

**MUS 596 Chamber Music: Performance Seminar. Two sem hours**
Study and performance of contemporary and traditional literature for chamber music ensembles. *Open to advanced undergraduate and graduate students.*
*Prereq: Permission of the department. (May be repeated for credit.)*

**MUS 681, 682, 683, 684, 685, 686 Performance. Two sem hours each**
*Open only to students concentrating in applied music, 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 applied music.*

**MUS 690, 691, 692 Thesis. One, two and three 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.*

*Other courses that are open to the graduate student for credit are 448, 449 and 450 Opera Workshop.*
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 thesis 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 semester hours work in physics and astronomy and 16 approved semester 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 up-grade 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 undergraduate 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. 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, general science adviser, 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 for Teachers. Two sem hours
A study of kinematics, dynamics, gravitation and energy designed particularly for teachers of general science who have little previous experience with physics.

PHY 512 Heat and Light for Teachers. Two sem hours
A phenomenological study of heat, elementary kinetic theory, geometrical and physical optics.
Prereq or corequisite: PHY 511 Mechanics for Teachers or equivalent.

PHY 513 Electricity for Teachers. Two sem hours
A study of electrostatics, magnetism and electronics.
Prereq: PHY 511 Mechanics for Teachers or equivalent.

PHY 514 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 520 Physical Science for Secondary Teachers. Two sem hours
Simply constructed or easily available materials will be used to stress laboratory centered instruction in physical science at the secondary level. Topics will include properties and structure of matter, force and motion, heat, electricity, optics, conservation laws and radioactivity.
Prereq: One college course in physical science or physics.

PHY 524 Introductory Physical Science I. Two sem hours
A laboratory course; introductory materials for teachers of physical science in secondary schools. Experiments and demonstrations by class participants.
Prereq: Three laboratory courses in science or science teaching experience.

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.

PHY 527 Introduction to the Use of Radioisotopes. Two sem hours
Properties, measurement, safe handling and dosage of radioisotopes.
Prereq: 221 Mechanics, Sound and Heat and 222 Electricity and Light or the equivalent. Not open to students who have credit in 471 Nuclear Physics.

PHY 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 580 Atomic and Nuclear Physics I. Two sem hours
Electron physics, radiation, atomic structure, x-rays, the quantum properties of waves and particles, relativity, the Bohr atom and atomic spectra, wave mechanics and the Schrödinger equation.
Prereq: One year of college physics.

PHY 581 Atomic and Nuclear Physics II. Two sem hours
Nuclear structure, radioactive decay, detection and measurement of nuclear radiation, fission, fusion, cosmic rays, production of radioisotopes in neutron howitzer.
Prereq: One year of college physics.

PHY 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 631 Advanced Mechanics. Three sem hours
Provides the background required for graduate courses in electromagnetic theory and quantum mechanics, shows the power and beauty of classical physics. Topics covered include: Lagrangian formalism, Hamiltonian formalism, small vibrations, rigid bodies, canonical formalism, Hamilton-Jacobi theory, perturbation theory, continuous media.
Prereq: 431 Intermediate Mechanics II or permission of the department.

PHY 650 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 676 Quantum Mechanics. Four sem hours
The Schroedinger equation and its applications in three dimensions, angular momentum, electron spin, Heisenberg's matrix mechanics, Dirac notation, perturbation theories, variational methods, scattering theory.
Prereq: 475 Introduction to Quantum Mechanics.

PHY 692 Research Techniques. Two sem hours
(Formerly PHY 694)
Under direction the student will study and report on a subject in physics, physics history or the teaching of physics. Laboratory research, library research or both.
Prereq: Admission to candidacy for an M.S. in physics education 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. \textit{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. \textit{Prereq: AST 503 Astronomy I or 303 Introduction to Astronomy or equivalent.}

I. 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 Department of Physics and Astronomy. For descriptions of these courses, see the Undergraduate Catalog.

430 Intermediate Mechanics I.
431 Intermediate Mechanics II.
436 Vibration and Sound.
440 Optics.
441 Modern Optics.
450 Electricity and Magnetism.
452 Electrical Measurements.
454 Vacuum Tubes and Their Applications.
455 Semiconductor Electronics.
456 Electronics for Science Students.
460 Heat and Thermodynamics.
462 Kinetic Theory and Statistical Mechanics.
471 Nuclear Physics.
475 Introduction to Quantum Mechanics.
476 Solid State Physics.
481 Mathematical Physics.
The graduate program in political science has not yet been approved. The following courses are available for the Master of Arts in social studies degree (see History and Social Sciences) and for cognate credit on other programs where appropriate.

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

**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.
*Prereq: 341 International Law or permission of the department.*

**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.*
Psychology 103

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.

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.

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 performance and acceptable scores on the Graduate Record Examination.

To qualify 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 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.

Students who desire to begin graduate studies, but do not satisfy the above requirements at the time of asking application, should request a Non-Degree Admission status in the Graduate School. Application to the psychology program should be deferred until the stated 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.

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

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 the graduate adviser. This program must be approved by the graduate adviser before the student may enroll for course credit.

The student must earn at least a “B” in all courses taken in the Psychology Department and maintain a “B” average overall. Any student earning one or more grades of “B-” or less, may, at the discretion of the department, be dropped from the program.

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

1. Core Requirement (nine sem hours)
   
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 600</td>
<td>Psychological Statistics I</td>
<td>Three sem hours</td>
</tr>
<tr>
<td>PSY 620</td>
<td>Learning</td>
<td>Three sem hours</td>
</tr>
<tr>
<td>PSY 646</td>
<td>Personality: Theory and Research</td>
<td>Three sem hours</td>
</tr>
</tbody>
</table>

2. One course from both Groups A and B

   **Group A (Three sem hours)**
   
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 601</td>
<td>Psychological Statistics II</td>
<td>Three sem hours</td>
</tr>
<tr>
<td>PSY 605</td>
<td>Research Design</td>
<td>Three sem hours</td>
</tr>
<tr>
<td>PSY 623</td>
<td>Experimental Analysis of Behavior</td>
<td>Three sem hours</td>
</tr>
<tr>
<td>PSY 626</td>
<td>Motivation and Emotion</td>
<td>Three sem hours</td>
</tr>
</tbody>
</table>
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.

CLINICAL EMPHASIS

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.

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.
I. Courses Primarily for Non-Psychology Majors

**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. Students are encouraged to also take PSY 553 Existential Psychology before or after this course.*

**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 adviser.*

**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 instructor.

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.

II. Courses Primarily for Graduate Students in Psychology

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 areas 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 developmental 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 graduate adviser.

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 graduate adviser.

PSY 650 Clinical Psychology. Three sem hours
The responsibilities and tasks of the clinical psychologist; common diagnostic tools, the clinician’s role in differential diagnosis, review of major treatment approaches used by clinicians.
Prereq: 205 Quantitative Methods in Psychology and 360 Abnormal Psychology or equivalent.

PSY 660 Theory of Psychological Testing. Three sem hours
Assumptions, rationale and statistical foundation of psychological tests used in differential diagnosis.
Prereq: Ten hours in psychology, including 205 Quantitative Methods in Psychology or equivalent.

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 and projective methods in the study of personality diagnosis. Includes learning to administer, score and interpret the MMPI, 16 PF, Bender-Gestalt, Draw-A-Person and Rorschach. 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 instructor.
PSY 671 Personality Evaluation II. Three sem hours
This course emphasizes the integration and synthesis of a battery of clinical psychological tests as exemplified in writing a psychological report. 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 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 graduate adviser.

SOCIOLOGY

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>1. SOC 530 Advanced Social Statistics</td>
<td>3</td>
</tr>
<tr>
<td>SOC 535 Advanced Methods in Sociological Research</td>
<td>3</td>
</tr>
<tr>
<td>SOC 540 Advanced Sociological Theory</td>
<td>3</td>
</tr>
<tr>
<td>2. Additional graduate sociology electives as approved by graduate adviser in the Sociology Department</td>
<td>9</td>
</tr>
<tr>
<td>3. Independent study or thesis credit</td>
<td>4</td>
</tr>
<tr>
<td>4. At least one seminar (Sociology 596). The specific seminar(s) selected to be approved by the graduate adviser</td>
<td>2</td>
</tr>
<tr>
<td>5. Cognate courses in other fields, as approved by graduate adviser in the Sociology Department</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>30*</td>
</tr>
</tbody>
</table>

*NOTE: Courses required to make up deficiencies in sociology or extra hours required by the Graduate School 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 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, loans and grants 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.

- **SOC 500** Man in Society. Two sem hours (Formerly SOC 520)
  
  Basic concepts, theory and analysis of social structures, social process and social disorganization. Not open to students who have credit in sociology.

- **SOC 502** Racial and Cultural Minorities. Two sem hours (Formerly SOC 576)
  
  Racial and cultural minorities in the modern world with particular references to the Negro and to European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems. *Not open to students with credit for 214 Racial and Cultural Minorities.*
  
  Prereq: 105 Introductory Sociology.*

- **SOC 503** The Family. Two sem hours (Formerly SOC 524)
  
  Study of the family as a basic social institution. Examination of various types of family systems throughout the world, with special emphasis on the American family. *Not open to students with credit in 450 The Family.*
  
  Prereq: 105 Introductory Sociology or 235 Cultural Anthropology.*

- **SOC 504** Population. Two sem hours (Formerly SOC 557)
  
  
  Prereq: 105 Introductory Sociology.*

- **SOC 505** Cultural Anthropology. Two sem hours (Formerly SOC 560)
  
  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 Cultural Anthropology.*

*Prerequisites may not be taken concurrently with courses for which they are required.*
SOC 506 Criminology. Two sem hours  (Formerly SOC 526)
An examination of the types of crime and theories of criminal causation and prevention. Attention is given to functioning of police and court systems and to problems of penology, including parole. Not open to students with credit for 206 Criminology.
Prereq: 105 Introductory Sociology.

SOC 508 Social Psychology. Two sem hours  (Formerly SOC 525)
An introductory study of the order and regularity underlying processes of human interaction; motives and attitudes, social norms and roles, the socialization process, personality and group membership. The effect of group membership upon individual behavior. Not open to students with credit in 308 Social Psychology.
Prereq: 105 Introductory Sociology and 101 or 102 General Psychology.

SOC 509 Culture and Personality. Two sem hours  (Formerly SOC 589)
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.

SOC 510 Theories of Criminal Behavior. Three sem hours  (Formerly SOC 587)
Consideration of major theories of criminal and delinquent causation. Emphasis on sociological factors in criminal acts and the dynamics of criminal and delinquent behavior.
Prereq: At least two courses in sociology, including 206 Criminology or SOC 506 (526) Criminology.

SOC 511 Sociology of Crime and its Correction. Three sem hours  (Formerly SOC 588)
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 206 Criminology or SOC 506 (526) 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  (Formerly SOC 450)
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  (Formerly SOC 575)
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 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 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: One of the following: 308 or SOC 508 Social Psychology, 450 Advanced Social Statistics or SOC 503 The Family or 402 Group Dynamics.

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 558 Sociology of European Cities. Four sem hours
A study tour of major cities in Europe of varying sociological characteristics. The course is designed to allow the student to experience first hand cultural systems in different countries.
Prereq: 105 Introductory Sociology.

SOC 594 Supervised Field Experience. Two sem hours
Supervised internship in a community agency such as a correctional institution, 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 graduate adviser in sociology.
SOC 595 Workshop in Crime and the Community. Two sem hours (Summer only)  
(Formerly 586)
A brief, intensive exploration of specific aspects of crime and its relationship to social organization. Not open to students with credit in 206 Criminology or SOC 506 (526) Criminology.  
Prereq: 105 Introductory Sociology.

SOC 596 Seminar in Research and Theory of Intergroup Relations. Two sem hours
An examination of empirical and theoretical issues and problems in cultural assimilation, conflict and ethnic stratification. The student will research selected topics and design empirical research proposals in his area of specific interest.  
Prereq: 214 or SOC 502 (576) Racial and Cultural Minorities, SOC 535 (575) Advanced Methods in Sociological Research and permission of the graduate adviser in sociology.

SOC 596 Seminar in Problems of Criminology. Two sem hours
Guided individual and group study of contemporary theoretical issues in the field of criminology.  
Prereq: Nine hours of graduate sociology and permission of the graduate adviser in sociology.

SOC 596 Seminar in Sociological Theory. Two sem hours
An intensive analysis of a selected theoretical school of thought, theoretical problem or theorist in sociology.  
Prereq: SOC 540 Advanced Sociological Theory and permission of the graduate adviser in sociology.

SOC 596 Seminar in Social Psychology. Two sem hours
Advanced course in social psychology dealing primarily with new directions and controversies in the field. (The seminar will vary from semester to semester according to the interests of the students and instructor).  
Prereq: SOC 545 Advanced Social Psychology or permission of the instructor.

SOC 596 Seminar in Personality and Culture. Two sem hours
An intensive study of theory and research concerning the relationship between personality patterns and socio-cultural variables; a research proposal will be prepared by each member.  
Prereq: 309 or SOC 509 (589) Culture and Personality, SOC 535 (575) Advanced Methods in Sociological Research and permission of the graduate adviser in sociology.

SOC 596 Seminar in the Family. Two sem hours
Examination of theory, methodology and substantive findings in the study of the family as a basic social institution. Preparation and presentation of papers.  
Prereq: 15 hours of sociology, including 450 Advanced Social Statistics or SOC 503 The Family, SOC 551 Research in Family Interaction or permission of the instructor.

SOC 596 Seminar in Community Behavior and Social Change. Two sem hours
The sociological examination of community power structures; voluntary social action groups and institutional practices; their implications for producing and reducing change.  
Prereq: 15 hours of sociology, including either 306 The Urban Community, SOC 555 Contemporary Community Structure or SOC 556 Human Ecology and Community Development and permission of the graduate adviser in sociology.
SOC 596 Seminar in Ecological Theory and Methods. Two sem hours
Analysis of the theoretical implications of ecological theory for the study of functional and spatial relationships of social organizations. Emphasis on the methods of ecological research and the development of particular research problems.
Prereq: 15 hours of sociology, including either 306 The Urban Community, SOC 555 Contemporary Community Structure or SOC 556 Human Ecology and Community Development and permission of the graduate adviser in sociology.

SOC 596 Seminar in Selected Population Problems. Two sem hours
Particular problems in the techniques of demographic analysis. Population theory or population control will be studied.
Prereq: 240 Elementary Social Statistics and 15 hours of sociology, including 334 or SOC 504 Population and permission of the graduate adviser in sociology.

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 graduate adviser in sociology.

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

SPEECH and DRAMATIC ARTS

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

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 covering communication-public address or dramatic arts and selected cognates 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 Communications for Leaders. Two sem hours (Formerly DRA 590)
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 Discussion 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 Speech 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 (Formerly DRA 503)
Principles and techniques of play production with emphasis on problems encountered in secondary schools. Dramatic structure, play selection, directing, scene design and construction, stage lighting, make-up, costuming, properties and business management; improvement of effectiveness in both curricular and extracurricular theatre.
SPH 569 Seminar in Directing High School Dramatics. Two sem hours  
(Formerly 596)

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

Dramatic Arts for Children

SPH 501 Creative Drama. Two sem hours  
(Formerly DRA 501)

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

SPH 502 Drama for Children. Two sem hours  
(Formerly DRA 502)

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, func­
tion 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 595 Workshop in Broadcasting and Film. 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.

Communication and Public Address

SPH 570 College Teaching of Speech. One sem hour

Theory and practice of teaching speech at the college level. 
Prereq: Permission of the department.

SPH 576 Public Address. Three sem hours  
(Formerly SPH 596)

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.

(Formerly SPH 596)

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 speech 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.

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 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.

Dramatic Arts

SPH 551 Theatre Planning. Two sem hours
A study of the steps and considerations appropriate to the design of theatre structures
with emphasis on institutional and community playhouses.
Prereq: Nine hours credit in dramatic arts or permission of the department.
SPH 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.

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 (Formerly SPH 596)
This course will be concerned with a penetrating study of the theatrical activity and technology prevalent during two or more periods in world history.

SPH 567 Seminar in Design and Technical Theatre. Two sem hours (Formerly SPH 596)
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 (Formerly SPH 596)
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.
SPH 569 Seminar in Directing. Two sem hours  
(Formerly SPH 596)  
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.  

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.*  

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

Dramatic Arts for Children  

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 or SPH 501 Creative Drama plus 322 Theatre for Children or SPH 502 Drama for Children.*  

SPH 657 Advanced Creative Drama. Two sem hours  
A continuation of 323 Creative Drama.  
*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 two or three semester hours of credit each, depending upon the circumstances of the student's registration. 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 Department of Speech and Dramatic Arts. For descriptions of these courses, see the Undergraduate Catalog.

Communication and Public Address
350 Persuasive Speaking.
356 Argumentation and Debate.
359 Discussion and Conference.
440 Survey of Public Address.
460 Theory of Speech Criticism.
475 Practicum in Speech Communication Behavior.
485 Theories of Speech Communication Behavior.

Broadcasting
340 Broadcasting and Film Performance Techniques II.
331 Fundamentals of Radio Production and Direction.
332 Fundamentals of Television Production and Direction.
431 Advanced Radio Production and Direction.
432 Advanced Television Production and Direction.
344 Broadcast Continuity Writing.
446 Broadcasting in Society.

Interpretation
314 Interpretation of Drama.
411 Advanced Problems in Interpretation.
414 Development and Theory of Oral Interpretation

Dramatic Arts
335 Play Direction.
367, 467 Theatre Practice.
370 Scene Design.
375 Stage Make-Up.
376 Stage Lighting.
377 Stage Costume: History and Theory.
378 Stage Costume: Design and Construction.
385 Dramatic Composition.
386 Dramatic Writing.
406 History of the Theatre.

Dramatic Arts for Children
322 Theatre for Children.
323 Creative Dramatics.
324 Interpretation of Children’s Literature.
422, 423, 424 Independent Study in Dramatic Arts for Children.
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 undergraduate record of above average quality.
3. Scores on Admission Test for Graduate Study in Business.
4. Six semester hours of undergraduate study each in accounting, economics, management, marketing and three semester hours each in computer science, finance and statistics. (Graduate students in business education may secure approval to substitute business writing and/or business law.)

Applicants with non-business degrees are required to remove these deficiencies by completing a maximum of 21 semester hours of graduate study in foundation courses.

5. 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 and to provide sufficient specialization for the student to perform in a specific job area.

Program Requirements (Minimum)  

<table>
<thead>
<tr>
<th></th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>Basic Disciplines (core)</td>
<td>12</td>
</tr>
<tr>
<td>Operational Areas:</td>
<td></td>
</tr>
<tr>
<td>(Accounting, Finance, Management, Marketing)</td>
<td>9-12</td>
</tr>
<tr>
<td>Business Electives</td>
<td>3</td>
</tr>
<tr>
<td>Cognate Courses</td>
<td>6</td>
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<td></td>
<td>30</td>
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</tbody>
</table>

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

A student who has not met all prerequisites mentioned above must 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, business elective and cognate courses. An overall final examination will be required.
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>Cultural Background:</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Science, Humanities, Social Sciences, Music, Art)</td>
<td>6</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>
</tbody>
</table>

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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 internships are available for full-time graduate students. Assistantships require 20 hours of work per week and carry a stipend of from $2,000 to $2,800 for two semesters. Internships vary according to the corporate sponsor. Inquiries regarding these programs should be addressed to the head of the department in which the student intends to specialize.

Students who need part-time employment should apply to the Placement Office, Eastern Michigan University. Foreign students are expected to devote full time to study.

ACCOUNTING and FINANCE

ACC 501 Accounting Principles. Three sem hours

For students whose undergraduate major was not in business. The development of accounting principles and techniques for use as a tool in making financial decisions; an analytical rather than a procedural approach. The completion of a self-instruction, programmed text on the basic accounting process is required.
ACC 515 Accounting for School 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.

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: 344 Tax Accounting or equivalent.

ACC 584 Administrative Controls. Two sem hours
An interdisciplinary approach to decision making requiring accounting data; the effectiveness of accounting information. Representative problem areas include profit planning, cash flow, make or buy, capital investment and product pricing.
Prereq: Twelve hours of credit in accounting or permission of the department.

ACC 597, 598 and 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 permission of the department.

ACC 610 Accounting System Design and Installation. Three sem hours
Provides the fundamentals of developing and analyzing accounting systems to produce efficient recording optimum data processing procedures and appropriate analysis and interpretation for management, treated in the context of data processing methods. Case studies are used.
Prereq: Fifteen hours of credit in accounting.

ACC 664 Theory of Accounting. Two sem hours
The historical evolution of accounting and the contributions made by accounting theorists, accounting societies and governmental agencies. The evaluation and application of theories to select accounting problems.
Prereq: Undergraduate major in accounting or permission of the department.

ACC 696 Seminar in Accounting Theory and Practice. Two sem hours
An intensive study of selected problems in accounting.
Prereq: ACC 664 Theory of Accounting and MKT 592 Business Research.

FIN 502 Financial Principles. Three sem hours
For students whose undergraduate major was not in business. Key financial problems in business management; an understanding to work effectively with financial specialists in overlapping problem areas; develops a strong base for those students who expect to return to the subject of finance and to build further competence in this area. Treatment of a limited number of key financial concepts.
Prereq: ACC 501 Accounting Principles or equivalent.

FIN 573 Securities Analysis. Three sem hours
An advanced course for the professional investment manager covering the areas of economic policy and forecasting, security valuation, technical analysis, portfolio methods and procedures applied to institutional portfolio management, trust financial management.
Prereq: ACC 502 Financial Principles
FIN 583 Financial Administration Policies. Two 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 or equivalent.

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.
Prereq: Permission of the department.

BED 562 Cooperative Programs in Business Education. Three sem hours
(Formerly 462)
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. Open to graduate students and seniors in business education.

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. Open to qualified seniors in business education.

BED 569 Foundations of Business Education. Two sem hours
Principles and developments in business education for school administrators and business teachers. The objectives and curricular patterns in business for different types of educational institutions; professional leadership and current research in the field. Open only to graduate students.

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. Two sem hours
Concepts and problems of business education in secondary schools and community colleges; current literature and research supplemented by individual research in selected areas.
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.

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 the department head.

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 majors only.

GENERAL BUSINESS

GBS 501  Introductory Probability and Statistics for Business.  Three sem hours
Fundamental concepts of quantitative analysis for business and economics. Emphasis on
probability as a basis for statistics, probability distribution, sampling distributions,
regression, correlation and time series.
Prereq: Business major.

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
Study of the nature of risk and the principles and methods used in risk management.
Emphasis on use of insurance in handling business risks.
Prereq: Business major.

GBS 568  Administrative Communications.  Three sem hours
Seminar in administrative communications covering theory, principles and practices.
Applications to business research, case analyses and reports writing to help student
become aware of management's problems and use of communications in managing a
business.
Prereq: Business major.

GBS 570  Problems in Contemporary Economics.  Two sem hours
Basic business and economic problems in a free enterprise system; current economic
problems. Not open to students who have credit in economics.

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 588 Managerial Economics. Three sem hours  
(Formerly MKT 588)  
Application of analytical methods in internal and external business management problems. Methods and techniques that facilitate decision making and forward planning under conditions of uncertainty. Management, uncertainty, prediction, measurement. Selected decision making problems. Management and technique of problem analysis and evaluation.  
Prereq: Business major, GBS 501 Introductory Probability and Statistics for Business or equivalent.

GBS 589 Business Conditions: Analysis and Forecasting. Three sem hours  
(Formerly GBS 592)  
Prereq: GBS 586 Quantitative Analysis for Business and GBS 588 Managerial Economics.

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.

**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  
(Formerly GBS 576)  
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.

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.

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.

MGT 687 Seminar in Personnel Administration. Three sem hours  
Problems actually faced by executives, line and staff, in all levels of an organizations in carrying out their responsibility for personnel administration.  
Prereq: Graduate standing and six hours of credit in management.

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.
MGT 696 Seminar in Administrative Policy. Three sem hours  (Formerly MGT 596)
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  (Formerly GBS 592)
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 of 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. Contributions of
economics, behavioral science and mathematics to the marketing process.
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 and Occupational Therapy

DIVISIONS
Educational Media
Social Foundations
CURRICULUM AND INSTRUCTION

Graduate programs in elementary education at Eastern Michigan University are intended for professional educators seeking careers in early childhood education, elementary education and supervision.

The master's degree program 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 multidimensional aspects of the teacher's role with children, parents, professional colleagues and community. Current practices will be evaluated in the light of theoretical foundations and relevant research findings.

The master's degree in elementary education is designed along the same basic lines. Its purpose is to provide the practicing classroom teacher with increased depth in the foundation areas as well as greater breadth in the field of elementary education.

Graduate programs in secondary education at Eastern Michigan University are intended for professional educators seeking teaching and/or supervisory careers in secondary school curriculum and secondary and junior high school teaching.

The master's degree programs in secondary education provide an opportunity for emphasis on behavioral science foundations, curriculum development and instructional improvement.

The master's degree in secondary school curriculum is designed primarily for the student who wishes to attain a broader and more comprehensive understanding of the American secondary school.

The master's degree in education for secondary school teachers is designed for the graduate student who wishes to take his master's in the field of education and who also wishes to improve his teaching effectiveness in the academic areas.

The master's degree in education for junior high school teachers is designed for teachers, department heads, supervisors and principals who have a particular interest in the development and understanding of competencies for work in the junior high school and the middle school.

The Faculty member who may be contacted regarding these programs is: R. Hoexter.

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 School Curriculum. Two sem hours
(Formerly CO 561 The Junior High School)
History and philosophy of the junior high 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 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.

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 481 and 348 Teaching Social Studies.

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.

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.

CUR 591 Supervision of Student Teachers. Two sem hours
Preparing the public school teacher to work with student teachers.

CUR 595 Teaching the Disadvantaged. Two sem hours
The problems of teaching disadvantaged children and youth in inner-city, suburban and rural schools.

CUR 595 Early American Life--Colonial Williamsburg. Two sem hours

CUR 595 Workshop in East African Studies. Two sem hours
This workshop is designed to study the culture, geography and economy as they affect education in Ethiopia, Kenya, Somalia, Tanzania, Uganda and Zambia. These countries are forming an expanded East African Economic Community.

CUR 596 Seminar in Secondary Curriculum. Two sem hours
Problems and concerns in curriculum making in junior and senior high schools; content is determined by students' interests and concerns.
Prereq: CUR 540 Curriculum Foundations, CUR 542 Curriculum--Secondary Systems and 20 hours of graduate credit.

CUR 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.

CUR 696 Seminar in Elementary School Curriculum. Two sem hours
An intensive study of curriculum materials and problems in elementary schools.
Prereq: CUR 541 Curriculum--Elementary School and 20 semester hours of graduate credit.

CUR 696 Seminar: Early Childhood Education. Two sem hours
Systematic analysis of critical issues and research areas in early childhood education. Presentation of individual reports to seminar group for discussion and criticism.
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 may be developed by 1972. 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. Persons who wish further information regarding these classes may contact A. Carpenter, R. Peterson and Mrs. F. Cook.

AUDIO-VISUAL (Former Prefixes CUR)

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.
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 Production of Instructional Materials—Workshop I. 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.
Prereq: One course in television.

EDM 596 Seminar in 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, 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 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.

LIBRARY SCIENCE (Former Prefixes LIB)

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 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 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.

READING

OBJECTIVES

The graduate programs in reading are designed for the professional preparation of persons vitally concerned with reading such as classroom teachers and specialized personnel. Training is provided for persons who wish
to work as special teachers of reading at both elementary and secondary levels, supervisory reading specialists such as consultants, coordinators and supervisors and specialists for reading clinic positions such as clinic directors and reading counselors. Courses are also designed to aid administrators, supervisors, directors and persons in guidance and related work whose main responsibilities in schools are general in nature.

The program at Eastern Michigan University 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.

Programs are planned within the established framework of the master's degree program in education. Adaptations are made for individual interests and needs.

MASTER'S DEGREE

Admission to the master's degree program in reading is granted applicants who present a bachelor's degree from an accredited college or university, have a minimum undergraduate grade point average of 2.0 (C), a minimum of one undergraduate level course in teaching of reading or the language arts and indicate promise of success in graduate study.

This degree requires a minimum of 30 semester hours of graduate work distributed as follows:

Foundations: Eight semester hours

Curriculum ...............CUR 540 Curriculum Foundations
Psychology ...............EDP 500 Human Development

or

EDP 505 Mental Hygiene
Research ...............EDP 592 Research Techniques
Social Foundations ........SFD 526 History of Education

or

SFD 525 Philosophy of Education

or

SFD 529 Sociology of Education

Concentration Area: Twelve to fourteen semester hours in reading

Cognates: Eight to ten semester hours. Six to eight semester hours of these courses must be outside of the Department of Curriculum and Instruction. All courses must show some relevance to the field of reading and language arts. They are chosen only in consultation with the student's adviser.

Students deemed by their adviser to be deficient in an area of study may be required to take more than a 30 hour program for their degree in order to remedy the deficiency.
For information regarding the previously offered specialist program, contact the coordinator of advising.

RDG 500 Foundations of Reading Development. Four sem hours (Formerly RDG 572) 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 (Formerly RDG 591) 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: Nonmajor.

RDG 502 Developmental Reading—Secondary. Two sem hours (Formerly RDG 592) Curricular objectives and their implementation through recommended activities, methods and materials; functional programs for disabled readers.

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.

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.

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 credit in reading.

RDG 594 Internship in Reading. Six sem hours Supervised experiences in selected school systems; major functions and problems of reading consultants and/or co-ordinators.

RDG 595 Workshops in Selected Areas. Two sem hours

RDG 595 Workshop in Providing for Individual Differences in Reading. Two sem hours

RDG 596 Seminar: The Teaching of Reading. Two sem hours Sources, research studies and a critical examination of selected studies and investigations; evaluation of student's background in reading. Prereq: Eight hours of credit in reading.
RDG 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems in the field of reading or language arts. The completed study must 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 reading 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 credit in reading.

RDG 661 Analysis and Treatment of Common Reading Problems. Two sem hours
(Formerly RDG 661 & 662)
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: Specialist degree standing and permission of the adviser.

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: Specialist degree standing and permission of the adviser.

RDG 696 Seminar: The Reading Process. Two sem hours
For the research in the behavioral and medical sciences; linguistic studies; critical examination of selected studies, investigations and reports.
Prereq: Twenty hours of credit in reading.

RDG 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems in the field of reading or language arts. The completed study must 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 reading staff.
EDUCATIONAL LEADERSHIP

The Department of Educational Leadership offers pre-service and in-service preparation programs in public school, community school and community college administration. Degrees currently offered include:

Master's - Educational Administration
Specialist's - Educational Administration

Programs

The master's program includes:

<table>
<thead>
<tr>
<th>Administration courses</th>
<th>14 hours</th>
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<tbody>
<tr>
<td>Education courses</td>
<td>10 hours</td>
</tr>
<tr>
<td>Courses outside College of Education</td>
<td>6 hours</td>
</tr>
<tr>
<td>Total</td>
<td>30 hours</td>
</tr>
</tbody>
</table>

The specialist's program is a 62 hours program of graduate study and includes the above requirements of the master's program:

<table>
<thead>
<tr>
<th>Administration courses</th>
<th>32-34 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis or Internship</td>
<td>6 hours</td>
</tr>
<tr>
<td>Education courses</td>
<td>10-14 hours</td>
</tr>
<tr>
<td>Courses outside College of Education</td>
<td>10-12 hours</td>
</tr>
<tr>
<td>Total</td>
<td>62 hours</td>
</tr>
</tbody>
</table>

Students are expected to be on an official program in educational leadership prior to initial registration for classes. Departmental advisers are encouraged to credit a minimum of work completed previous to the student's enrollment on an official leadership program. Department regulations not stated in the catalog are available from the student's adviser.

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 upon recommendation of the instructor primarily responsible for teaching the course.

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 a 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
Coordinator of Advising - Doris Kilanski
Advisers - Master’s Program
G. Brower, D. Fox, J. Minzey
Advisers - Specialist’s Program
E. Duvall, K. Grinstead

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, community change and action and community problems. Open to teachers and community members.

EDL 550 Adult Education. Two sem hours (Formerly ADM 594)
Organization and administration of adult education programs for communities. Open to non-majors.

EDL 553 Economics of Public Education. Two sem hours
Economic assumptions and theories of support for education; the effectiveness with which school funds are spent. Prereq: Six hours of credit in administration.

EDL 556 Community Education. Two sem hours
The basic principles in the organization and administration of community school activities. Observations of community schools and their varied programs together with textual and research materials. The Flint Community Schools will receive particular attention. Open to non-majors.

EDL 560 School and Community Understanding. Two sem hours (Formerly ADM 593)
Interpreting the school to the community; some basic understandings in the use of the community as a laboratory to enrich the education of the child and to serve the needs of the community. Open to non-majors.
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 (Formerly ADM 595)
Identification, validation and use of criteria for appraising and improving teaching and learning, with focus on the classroom; principles underlying techniques of improving instruction. Open to non-majors.

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
Principles and procedures involved in the evaluation of: administrative and supervisory functions, the planning and management of school business affairs, the special services programs, the curriculum and auxiliary services. Public opinion and criticism, follow-up studies, standardized tests, and studies of educational change in behavior and attitudes.

EDL 596 Seminar in Administration and Supervision. Two sem hours
A consideration of special fields and special problems in Educational Administration. Prereq: Six hours of credit in administration.

EDL 605 Leadership Research and Theory. Two sem hours (Formerly ADM 505)
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 (Formerly ADM 595)
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: ADM 553 Economics in Public Education.

EDL 655 Problems in School Building Planning. Two sem hours (Formerly ADM 555)
Functional layouts and locations of school buildings in the light of recent trends toward involvement of staff and community. Prereq: Six hours in administration.

EDL 658 School Personnel Administration. Two sem hours (Formerly ADM 558)
The basic principles of staff relationships and policies necessary for effective service and high-level morale. Prereq: Six hours in administration.
EDL 671 Elementary School Principalship. Two sem hours
Educational leadership in the elementary school and school-community relations; curriculum, instruction, special services, buildings and equipment, pupil relations and personnel relations.
Prereq: Six hours in administration.

EDL 672 Junior High School Principalship. Two sem hours
Educational leadership in the junior high school and school-community relations; curriculum, instruction, special services, buildings and equipment, pupil relations and personnel relations.

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 and personnel relations.

EDL 674 Community School Administration. Two sem hours
Selected problems in community school administration for students who are directors or instructors in a community schools.
Prereq: ADM 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. Open to non-majors.

EDL 677 School Business Management. Two sem hours
School business procedures; budgeting, construction, purchasing, salary schedules, school indebtedness and insurance problems.
Prereq: ADM 553 Economics of Public Education.

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.

EDL 682, 683 Behavioral Science in Administration and Supervision I and II. Two sem hours
Emphasizes contributions of research in the behavioral sciences. Explores studies 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.

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

EDL 693 Practicum in Field Research. Two Sem hours
Orientation to research and proposal development, development of research instruments and procedures to be used in independent study and review of the literature for the proposed research area. Must be taken prior to Independent Studies.
Prereq: ADM 683 Behavioral Science in Administration and permission of the department.
EDL 694 Internship in Educational Administration. Two sem hours
On-the-job training experience in an administrative job. Is completed in schools which have contracted with the University to conduct this program. Arrangements made with instructor prior to registration.
Prereq: Prior approval of the department.

EDL 696 Advanced Seminar in Administration and Supervision. Two sem hours
An intensive study of selected problems in administration and supervision.
Prereq: Eight hours in concentration area toward Specialist in Arts.

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.
Prereq: ADM 683 Behavioral Science in Administration and Supervision II, ADM 693 Practicum in Field Research, EDP 592 Research Techniques and permission of the department.

EDUCATIONAL PSYCHOLOGY

The purposes of the Master's degree program in Education Psychology are (1) to provide the professional classroom teacher with a broad foundation in the area of human growth and development, learning and educational psychology, measurement and evaluation of learning and personality dynamics, (2) to improve the teacher's competencies and skills in the understanding and the utilization of psychological theories, principles and tools and (3) to provide a foundation for the pursuit of more advanced degrees in educational psychology or in an allied field.

ADVISING AND SELECTION

The Graduate Committee in Educational Psychology is responsible for selection and advisement of graduate students for the programs. The evaluation and modification of the program is also the responsibility of this committee.

Following admission to the Graduate School, each applicant interested in a degree in educational psychology will be screened by the Graduate Committee. Millers Analogies test scores are required. If accepted into the program, each applicant will be assigned to a member of the committee who will serve as his adviser.
COURSE REQUIREMENTS

Foundation courses are designed to broaden and strengthen the student's understanding of the basic areas of education. Courses in the area of concentration will provide specialized competencies. Cognate courses allow each student to strengthen his background in areas of human behavior and related fields, so that he will have a sound basis on which to develop his professional skills.

In planning his program the student and his adviser will take into account the student's vocational goal, and his educational and work experience. The selection of appropriate courses and cognate fields is of utmost importance, if the student is to be maximally ready to assume professional responsibility in this field.

 Foundations

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>Basic Concepts in Educational Psychology</td>
<td>8 hours</td>
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<tr>
<td>Introduction to Research</td>
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<tr>
<td>Curriculum Foundations</td>
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<tr>
<td>Social Foundations</td>
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<tr>
<td>Alternates approved by the Graduate Committee</td>
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Areas of Concentration

<table>
<thead>
<tr>
<th>Area</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>Development</td>
<td>8 hours</td>
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<tr>
<td>Learning and Educational Technology</td>
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<tr>
<td>Personality</td>
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<td>Measurement and Research</td>
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Courses in One of the Areas of Concentration or an Approved Research Project

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>Approved Research Project</td>
<td>6 hours</td>
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<tr>
<td>Cognates (outside of the Department of Educational Psychology)</td>
<td>6 hours</td>
</tr>
<tr>
<td>Seminar in Educational Psychology</td>
<td>2 hours</td>
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</tbody>
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minimum 30 hours

Graduate Committee: Anton Brenner, Thomas Bushey, Marie Dellas, Eugene Haddan, Kishor Wahi (chairman) and Wilbur Williams.

A. Survey

EDP 502 Basic Concepts. Two sem hours
The major areas in educational psychology; recent developments in human development, measurement and research, learning and technology and personality.

EDP 596 Seminar in Educational Psychology. Two sem hours
An overview and integration of the major concepts and theories in measurement, human development, learning and educational technology and personality. Analysis of the student's experiences in the graduate program in education psychology as it relates to his professional goals.
Prereq: Admitted to candidacy for the M.A. degree in educational psychology.
B. Development

EDP 500 Human Development. Two sem hours
Heredity, physiological changes and physical growth of the child. Learning differences, mental abilities and intelligence testing. The gifted and mentally limited.

EDP 501 Psychology of Adolescence. Two sem hours
Study of youth culture and its implication for teachers, parents and society.

EDP 509 Problems in Child Psychology. Two sem hours
Ways in which children may be helped to accept greater responsibility; possible approaches for reducing tensions and increasing motivation of pupils. Course content will be determined by the needs of the students and the availability of community resources.

C. Learning and Educational Technology

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.

EDP 504 Essentials of Programmed Instruction. Two sem hours
Principles of programmed instruction are discussed, and students examine published programs and evaluate them. Students construct short programs in their areas of interest and revise and evaluate them.
Prereq: One course in educational psychology.

EDP 506 Technology of Instruction. Two sem hours
Classroom management of learning and instruction; the tools of instruction. Educational technology is more than the study of machines used in education.
Prereq: EDP 500 Human Development or EDP 502 Basic Concepts or equivalent.

EDP 508 Computer Applications in Education. Two sem hours
Computer applications in education for school administrators, teachers and others; the computer (hardware), the basic concepts of computer languages (software) and language skills to communicate with "experts." Scheduling, test scoring, record keeping, unique uses of computers for administrators, teachers and counselors.

D. Personality

EDP 505 Mental Hygiene. Two sem hours
The role and responsibility of the teacher in promoting good mental health. Factors and conditions contributing to maladjustment; the nature of mental disorders and diseases; school and agency services in their prevention and treatment.

EDP 584 Psychoanalytic Theory and Education. Two sem hours
The applicability of psychoanalytic theories and concepts to problems of education.
Prereq: EDP 500 Human Development.

E. Measurement and Research

EDP 521 Statistics I: Descriptive Statistics. Two sem hours
Comprehension and understanding of statistical procedures. Areas covered include distribution, measures of central tendency, measures of dispersion and correlation.
EDP 531 Measurement and Evaluation. Two sem hours
An analysis of educational achievement and individual prognosis. Includes a study of the construction and use of standardized and teacher-made educational tests, rating scales, questionnaires and similar devices.

EDP 551 Statistics II: Inferential Statistics. Two sem hours
Inferential statistics, both parametric and nonparametric; theory of hypothesis testing. 
Prereq: EDP 521 Statistics I.

EDP 592 Research Techniques. Two sem hours
Kinds of research in a variety of settings; reviewing reports of research; developing an interest in research activities. Students will present a plan for a research problem.

EDP 598 Special Project. Two 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 head. Not open to undergraduates.

EDP 599, 699 Master's Project. Three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member culminating in a thesis. 
Prereq: Permission of the department head.

EDP 631 Statistics III: Analysis of Variance. Two sem hours
Involves statistical principles in experimental design through the study of single and multifactor analyses of variance. 
Prereq: EDP 521 Statistics I and EDP 551 Statistics II.

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 counselors and personnel workers in colleges, social agencies and employment offices. Introductory courses are also 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. 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 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 (ex. 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.
Students should petition for candidacy in the Graduate School office upon the completion of 12 semester hours. Guidance and counseling majors should develop their programs so as to have completed G&C 520 Standardized Group Testing prior to this program stage. The student’s progress is reviewed at this time and faculty recommendations regarding candidacy are forwarded to the Graduate School.

Specialist in Arts Degree Program

An advanced degree program of 33 semester hours beyond the master’s degree is currently under consideration. Persons interested in such a future program of graduate study in guidance and counseling should contact Dr. John Pappas, department head, 13 Boone Hall.

G&C 500 Introduction to Guidance and Counseling. Two sem hours  
(Formerly G&C 544)
A general course designed to present the philosophy, practice and principles underlying counseling and guidance services 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  (Formerly G&C 549)
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 510 Counseling Principles and Practices. Two sem hours  (Formerly G&C 545)
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  (Formerly G&C 547)
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  (Formerly G&C 548)
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.
Prereq: G&C 500 Introduction to Guidance and Counseling or G&C 501 Guidance in the Elementary School.
G&C 595 Experimental Workshop in Counselor Development. Two sem hours
This is an experimental workshop designed to provide beginning students with initial experiences using the skills needed for effective counseling. During the workshop, individuals will be given an opportunity to assess their own potential for counseling as well as receive appraisal of their counseling potential from their peers and the staff.
Prereq: Not open to students who have credit in G&C 510 Counseling Principles and Practices. All others with departmental permission.

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
(Formerly G&C 647)
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: 10 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: 10 semester hours in G&C courses.

G&C 620 Individual Appraisal in Guidance and Counseling. Two sem hours
(Formerly G&C 640)
Testing and nontesting 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
(Formerly G&C 642)
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  
(Formerly G&C 646)
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.

G&C 650 Organization and Administration of Guidance Services. Two sem hours  
(Formerly G&C 645)
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 651 Professional Problems of Counselors. Two sem hours  
(Formerly G&C 649)
Selected problems typical to the professional activities of the school counselor are evaluated. The current and future involvement of the counselor in the total school setting is studied in depth.  
Prereq: Ten semester hours in G&C courses.

G&C 680 Counseling Practicum I. Two sem hours  
(Formerly G&C 643)
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 greater 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 on 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 I. 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.

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.
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 six hours of study in foundations courses in other areas of education. At least fourteen 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. Erma Muckenhirn, chairman, Social Foundations Division, Education Department, Eastern Michigan University.

SFD 520 Education in Europe and U.S.S.R. Two sem hours  (Formerly SFD 521)
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  (Formerly SFD 522)
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 organization, social change, policymaking, power and authority structures, social class system and social movements in relation to the school as an institution.

SFD 548 Workshop in British Education. Four or six sem hours
British education in its social and cultural setting. Taught at Reading, England, in cooperation with Reading University.

SFD 548 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 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 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 595 Workshop on 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, functions of leadership, interpersonal relations and personal styles as influences on group development.
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 596 Seminar in Social Foundations. Two sem hours
An intensive study of problems in social foundations.

SFD 597 Independent Study. One sem hour
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.

SFD 598 Independent Study. Two 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.

SFD 599 Independent Study. 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.

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
(Formerly SFD 622 Development of American Pragmatism)
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 Workshop in 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.
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

1. To provide a background of knowledge and experiences which would allow the teacher to further develop competencies in the areas of physical education and athletics.
2. To provide opportunities for the acquisition of knowledge in greater depth in the areas of teaching as selected by the individual student.
3. To provide for the acquisition of skills, knowledge and experiences in deficient undergraduate areas which would enhance a person's 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 10-12 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** .................................................................................................................. 10 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

2. **PROFESSIONAL CLASSES** (electives in H.P.E.R.) ........................................... 10-14 hours
3. **COGNATE CLASSES** (electives outside H.P.E.R.) ............ 6-10 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. General Courses

PED 500-504 are designed for nonmajors and should enhance the knowledge of students from other departments.

- **PED 501** 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.

- **PED 502** Elementary School Health. Two sem hours
  Elementary school personnel and the total school health program.

II. Tool Courses

- **PED 505** Basic Statistics. Two sem hours
  Statistical procedures, distribution, measures of central tendency, measures of dispersion, and correlation.

- **PED 506** Test Construction. Two sem hours
  Types of written tests and examinations; construction, selection and interpretation of results.

III. 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 619** Problems in Training for Athletics. Two sem hours
  Problems in the physical preparation of athletes for competition; treatment and rehabilitation following injuries.
PED 696 Seminar in Athletics I. Two sem hours
A lecture-demonstration course in the problems and techniques of advanced coaching theories; emphasis on football and track.

PED 696 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.

IV. 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.

V. Health Courses

PED 540 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.

PED 595 Health Education Workshop. Two sem hours
Developing concepts of health education and total health programs.

PED 595 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 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 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.

VI. Physical Education Courses

PED 548 Physical Education Travel Study Tour. Four-six 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.
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 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 585 Physical Education in Elementary Schools. Two sem hours
Curriculum development, teaching methods, program planning and evaluation for the physical educator and the elementary school teacher; purposes and principles of organization and development of a physical education program for elementary schools.

PED 586 Physical Education in Secondary Schools. Two sem hours
Developing a physical education curriculum for secondary schools; problems involved in supervision.

PED 587 Philosophy of Physical Education. Two sem hours
The development of concepts of physical education and their impact on the society in which we live.
Prereq: Major/minor.

PED 588 Administrative Problems in Physical Education. Two sem hours
The case study approach to the understanding of problems in physical education and athletics; planning, organizing, developing, staffing, coordinating and budgeting programs.
Prereq: Major/minor.

PED 589 Advanced Physical Testing. Two sem hours
The application and interpretation of advanced physical tests in the areas of health, physical education, recreation and athletics.
Prereq: Major/minor.

PED 660 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 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 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.

VII. 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 595 Workshop in Total Activity. Two sem hours
Physiological aspects of man related to his involvement in everyday activities in the modern accelerated pace of life.
PED 595 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 595 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 596 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 596 Seminar in International Physical Education. Two sem hours
A continuation of PED 678, studying additional selected countries. A comparative analysis of physical education, recreation and sports of each country in depth, using the seminar approach.
Prereq: PED 678 Comparative Physical Education.

PED 596 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 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.

PED 695 Workshop: Trends in Physical Education. Two sem hours
Basic issues and current trends in physical education and its related areas; local and national programs.
Prereq: Graduate major.

PED 695 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 696 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 696 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.
SPECIAL EDUCATION and OCCUPATIONAL THERAPY

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, in order that the student may perceive the total picture of exceptionality; to provide foundations upon which to build administrative techniques and procedures; to provide the needed course work and experiences necessary to 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 to 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 the University's special education equivalents, or 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, requires 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 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.

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 unstable 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 identification, 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.

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 Relationships 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.

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
Admission only by consent of instructor.

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.
Admission by consent of instructor.

SGN 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.

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.

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.

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 objectives, classroom management and procedures, program coordination and evaluation, parent counseling, professional personnel, legislation, housing, transportation, sheltered workshop and other ancillary services.

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 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.

C. LEARNING DISABILITIES

SLD 567  Education of Children With Learning Disabilities.  Two sem hours

(Formerly LE 567 Education of the Brain-Injured Child)

Planning and effecting educational programs for brain-injured children who have disturbances in perception, thinking and emotional behavior. Pathology of the central nervous system; teaching techniques, classroom management, case studies, research and teacher-child and parent relationships.
Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 468 Education of the Brain Injured Child.
SLD 595 Workshop Diagnostic Procedures 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 595 Diagnostic Practicum.
Prereq: SGN 596 Seminar Special Education I and consent of instructor.

SLD 595 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 consent of instructor.

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 permission of the instructor.

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.
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 CORRECTION

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 502 Introduction to Audiology. Two sem hours
Structure and functions of the auditory mechanisms. Included is a study of sound as the
auditory stimulus; anatomy and physiology of the hearing mechanisms; disease of the ear
and treatment; pure tone audiometry. Graduate credit to non-majors only.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>SPA 504</td>
<td>Anatomy of the Speech and Hearing Mechanisms. Two sem hours</td>
<td></td>
<td>The anatomy and physiology of normal speech production and auditory reception; the physical processes of speaking and listening as dynamic, interdependent processes. Graduate credit to non-majors only.</td>
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<tr>
<td>SPA 506</td>
<td>Applied Phonetics. Two sem hours</td>
<td></td>
<td>The International Phonetic Alphabet; physiology of sound production, ear training and broad transcription of normal and deviant speech. Graduate credit to non-majors only.</td>
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<tr>
<td>SPA 508</td>
<td>Black Language in the Educational Process. Three sem hours</td>
<td></td>
<td>Survey of black language and culture from historically descriptive and practical perspectives, and the implications in education.</td>
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<tr>
<td>SPA 516</td>
<td>Speech Pathology Lab. Two sem hours</td>
<td></td>
<td>Supervised clinical experience in diagnosing speech problems. Directed observation and practice in obtaining a case history; testing articulation; diagnosing retarded speech, stuttering and voice; testing for cleft palate; cerebral palsy and aphasia. Prereq: Concurrent enrollment in SPA 515 Speech Pathology.</td>
</tr>
<tr>
<td>SPA 518</td>
<td>Directed Observation. One sem hour</td>
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<td>Observation and evaluation of the methods and materials used in treating speech and hearing disorders. Opportunity for supervised clinical practice. Prereq: SPA 515 Speech Pathology and concurrent enrollment in SPA 520 Speech Correction Clinical Methods I.</td>
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<tr>
<td>SPA 520</td>
<td>Speech Correction Clinical Methods I. Two sem hours</td>
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<td>Diagnosis and treatment of functional articulatory problems, stuttering, language impairment and functional voice disorders. Prereq: SPA 515 Speech Pathology.</td>
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<tr>
<td>SPA 521</td>
<td>Speech Correction Clinical Methods II. Two sem hours</td>
<td></td>
<td>Treatment of speech disorders associated with cerebral palsy, cleft palate, hearing losses and mental handicaps. Prereq: SPA 520 Speech Correction Clinical Methods I.</td>
</tr>
<tr>
<td>SPA 522</td>
<td>Speech Correction Clinical Practice I. Two sem hours</td>
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<td>Supervised clinical experience with children and adults in an individual and group setting. Functional articulation and voice disorders and rhythm problems. Prereq: Concurrent enrollment in SPA 521 Speech Correction Clinical Methods I.</td>
</tr>
<tr>
<td>SPA 523</td>
<td>Speech Correction Clinical Practice II. Two sem hours</td>
<td></td>
<td>Clinical experience with speech disorders associated with organic impairment; problems of children with cerebral palsy, cleft palate, hearing losses and mental handicaps. Prereq: SPA 522 Speech Correction Clinical Practice I.</td>
</tr>
<tr>
<td>SPA 524</td>
<td>Speech Correction Clinical Practice III. Two sem hours</td>
<td></td>
<td>A minimum of 30 clock hours of supervised clinical experience with a variety of speech and hearing disorders. Prereq: 343 and 344 Clinical Practice in Speech Correction I and II.</td>
</tr>
</tbody>
</table>
SPA 532 Psychology of Speech and Hearing. Two sem hours
Speech, language and hearing as a part of child development; social and emotional implications of communication disorders.

SPA 536 Audiometric Testing. Two sem hours
Advanced techniques of testing the auditory function. Consideration is given to interpretation of audiograms, hearing aid evaluations and use of differential hearing assessment techniques for children and adults with hearing disorders.
Prereq: SPA 502 Introduction to Audiology.

SPA 537 Clinical Practice in Hearing Testing. Two sem hours
Supervised practice in hearing testing, including aid and bone conduction, special procedures and speech audiometry.
Prereq: SPA 536 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.
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.

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 Pathology. Two 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 622 Diagnostic Methods in Hearing. Two sem hours
Evaluation of auditory dysfunctions with special emphasis on the multiple-handicapped child. Demonstrations and case studies will be an integral part of the course.
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.

G. DEAF AND HARD OF HEARING

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 of speech 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. Two 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 Speech Reading 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.

SDH 594 Public School Internship. Four sem hours
Supervised clinical practice 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 student teaching.

SDH 596 Advanced Seminar in Education of Child with Impaired Hearing. Two sem hours
For teachers of deaf or hard of hearing, speech correctionists, counselors and teachers; an auditory approach to diagnosis, therapy and educational management of the child with impaired hearing from infancy through high school. Effects of hearing impairments and rehabilitation procedures for speech reading, language and speech. Practicum with children of different ages. Summer session only.
Prereq: Undergraduate major in deaf and hard of hearing.

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 instructor.

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 instructor.

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.
H. OCCUPATIONAL THERAPY

SOT 528  Adaptive Equipment and Appliances. Two sem hours
Techniques of creating braces and splints for the upper extremities through the use of such materials as aluminum, royalite, plastic, celsag, plaster of paris, wood and leather. The neuromuscular theory of hand splinting with emphasis on necessary precautions. How to make, repair, fit and purchase adaptive equipment and appliances.

WORKSHOPS

SGN 595  Sensory Training for Perceptually Handicapped Children. Two sem hours
SGN 595  Rehabilitation in Special Education. Two sem hours
SGN 595  Gessell Testing. Two sem hours
SGN 595  Parent-Child Counseling in Special Education. Two sem hours
SGN 595  Unit Teaching for Exceptional Child. Two sem hours
SGN 595  Supervising Teaching in Special Education. Two sem hours
SGN 595  The Application of New Materials in Teaching Special Education. Two sem hours
SGN 595  Workshop for Training of Supervising Teachers: 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
SLD 595  Workshop in Diagnostic Procedures in Learning Disabilities. Two sem hours
SLD 595  Diagnostic Practicum Learning Disabilities. Six 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
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. applicant selects from four-eight hours in four major areas of home economics for a total of 24 hours
   b. applicant selects 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. applicant selects sixteen hours in a specialized area
   b. applicant selects an additional eight hours in general home economics outside the specialization area
   c. applicant selects six hours of cognate courses (outside home economics)
   d. minimum of 30 hours required for the master's degree
   e. specializations available in clothing, textiles and related arts; family life and child development; foods and nutrition; consumer management; home economics education
   f. 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, graduate adviser of the Department of Home Economics, 104E Welch Hall.

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.

HED 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 cultures of the world; special social and ethnic groups in America and their food habits, agriculture and climate, religion and economics.

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 Food and Nutrition Problems of the Low-Income Family. Two sem hours
Social and economic factors relative to the dietary patterns of the underprivileged family and its members; dietary conditions and supplementary community food programs.

HEC 509 Family Clothing Management. Two sem hours
Clothing and textile problems 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 511 Curriculum Development in Homemaking 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: 206 Contemporary Family Relations, 208 Aesthetics of the Home and Family or equivalent, 371 Methods and Materials in Homemaking Education, 375 Methods and Materials in Family Life Education or equivalent, EDU 320 Human Growth and Development.

HEC 516 Federal Legislation for Wage Earner Programs in Home Economics. Two sem hours
Current legislation providing vocational training in home economics related positions for youth and adults. Processes of area studies, implementing programs and roles of personnel involved.
Prereq: Permission of the instructor.

HEC 518 Special Problems in Homemaking 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.

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: 269 Housing the Family or the equivalent.

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.
Prereq: HEC 104 Contemporary Family Relations or equivalent.

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.
Prereq: 320 Human Growth and Development or equivalent.

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.
Prereq: 105 Introductory Sociology or equivalent.
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.
Prereq: 105 Introductory Sociology or equivalent.

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.

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 the equivalent.

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 and 208 Aesthetics of the Home and Family or equivalent.

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 Fashion Design for the Home. Two sem hours
Advanced work in experimental design of fabrics with emphasis on use in the home.
Prereq: Permission of instructor.

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 equivalent.

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 instructor.
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.

HEC 580 Recent Developments in Foods. Two sem hours
The latest findings in research and technology in foods production, processing and distribution. Lectures, field trips and demonstrations.
Prereq: 211 Advanced Foods or the equivalent.

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
Experimental methods and scientific approaches to food problems. Laboratory and lecture.
Prereq: Six hours of credit in foods; inorganic and organic chemistry. Not open to students with credit in 391 Food Investigation without instructor's permission.

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 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 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.

HEC 611 Evaluation in Homemaking 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 Homemaking 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.
HEC 633 Home Management Problems for Disabled Homemakers. 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 or equivalent and 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 Textile Analysis.

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. provide some measure of flexibility in the selection of courses to meet the needs of each student
4. enable a student to acquire a broad knowledge of the literature in industrial education
5. 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 Admission to Candidacy to the Master’s Degree Program

An applicant for admission to candidacy must:
1. have completed at least 12, but no more than 18 semester hours of graduate study. All credit must be applicable to the program of study in industrial education.
2. have earned a grade point average of 5.0 (B) for all graduate credit accepted for the master's degree program.
3. receive the recommendation of his adviser, the Graduate School of the University, and the Graduate Council.

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 in industrial education courses and not less than 6 hours in cognate courses.
3. hold a 5.0 (B) grade point average for all graduate credit applicable to the master’s degree program.
4. receive the recommendation of his adviser, the Graduate Committee in the Department of Industrial Education, the Graduate School of the University and the Graduate Council.

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 industrial 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 foundations of industrial education, eight hours (maximum) in the areas of special concentration, two hours (minimum) in psychological foundations, four hours (minimum) in elective cognates, and four hours (maximum) in free electives.

For information regarding the previously offered specialist program, contact the coordinator of advising.

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 Industrial Arts in Elementary Education. Two sem hours
The theory and implementation of industrial arts content and method in the integration of elementary school subjects.

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. Not open to majors in industrial education.

IED 505 Graphic Arts. Two sem hours
General graphic arts including: letterpress, planographic, gravure and silk-screen printing; linoleum-block and carving and rubber-stamp making. Not open to students who have credit in 104 or 205 Graphic Arts or equivalent.

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.

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.

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 for evaluation.

IED 662 Cooperative Programs in Industrial Education. Two sem hours
Cooperative vocational programs in the secondary school; organization and 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 reported 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.
IED 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive individual Specialist in Arts study under the direction of a University faculty member. An approved written proposal is required.
Prereq: IED 592 Research in Industrial Education, Admission to candidacy, Specialist in Arts

XI. Practicum, Internship, Workshops, Seminars

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.

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 requires 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.
GRADUATE FACULTY
ART

Avedon, Barry (1966) ..................................  Assistant Professor
B.F.A., Rochester Institute of Technology; 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) ...........................  Associate 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 (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

Pappas, John N. (1962) ...............................  Professor
B.F.A., M.A., Wayne State 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

Bates, John (1966) ..................................  Associate Professor
B.S., Hillsdale College; M.A., University of Michigan

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., University of Missouri; M.A., University of Missouri; Ph.D.,
University of Michigan

Ghosheh, Najati S. (1965) ......................... Associate Professor
B.S., M.S., Kansas State University; Ph.D., University of Illinois

Giles, Richard A. (1947) .......................... Professor
B.S., M.A., Ph.D., University of Michigan

Johnston, 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

Milske, Paul W. (1967) .......................... Associate Professor
B.S., College of St. Thomas; M.A., University of Michigan

Minick, 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

Sinclair, Frank L. (1955) .......................... Assistant Professor
B.S., Eastern Michigan University; M.S., Michigan State University

Sperling, William D. (1960) ...................... Associate Professor
B.A., Eastern Michigan University; M.A., University of Michigan

Volz, Paul A. (1969) .......................... Associate Professor
B.A., Heidelberg College; M.S., Michigan State University; 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

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) .......................... Assistant 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

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 Trivandum; Ph.D., University of Michigan

Robbins, Omer Jr. (1961)  
Professor  
Dean, Graduate School  
B.S., M.S., Ph.D., University of Michigan

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. (1958)  
Professor  
Department Head  
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)  
Associate Professor  
B.A., Oberlin College; Ph.D., Duke University

Yamauch, Masanobu (1965)  
Associate Professor  
B.A., University of Hawaii; M.S., Ph.D., University of Michigan

**ECONOMICS**

Chung, Young-iob (1966)  
Professor  
Department Head  
B.S., University of California at Los Angeles; M.A., Ph.D., Columbia University

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

McCarthy, Mary F. (1959)  
Assistant Professor  
B.A., Vassar College; M.A., Columbia University; M.A., Eastern Michigan University

Pearson, Donald W. (1969)  
Assistant Professor  
B.A., Tulane University; M.A., Ph.D., University of Texas

Simmons, Harold (1960)  
Assistant Professor  
B.A., Western Michigan University; M.A., Michigan State University
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

ENGLISH LANGUAGE AND LITERATURE

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

Dume, Thomas L. (1957) .................................. Professor
B.A., University of Michigan; M.A., Columbia University; Ph.D., Temple
University

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

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

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

Lawniczak, Donald A. (1967) .............................. Assistant 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

Perkins, George B. (1967) ................................ Professor
B.A., Tufts College; M.A., Duke University; Ph.D., Cornell University

Pillsbury, Paul W. (1960) .................................. 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

Ruihley, Glenn R. (1968) ....................................... Assistant Professor
B.A., M.A., M.A., University of Michigan

Schreiber, O. Ivan (1950) ..................................... Professor
B.A., Wittenberg College; M.A., Ohio State University

Trowbridge, Ronald I. (1965) .............................. Assistant Professor
B.A., M.A., Ph.D., University of Michigan

Virtue, John B. (1946) .......................................... Professor
B.A., M.A., University of Nebraska; Ph.D., Yale University

White, Patrick T. (1967) ........................................... Associate Professor
B.S.S., M.A., George Washington University; Ph.D., University of
Michigan

FOREIGN LANGUAGES AND LITERATURE

Anderson, Robert F. (1969) ...................................... Associate Professor
B.A., Western Reserve; M.A., University of Michigan; Ph.D., Case-Western
Reserve

Bidwell, Jean S. (1962) ........................................ Assistant Professor
B.A., Brown University; M.A., University of Michigan; M.A., Eastern
Michigan University

Cline, William (1970) ........................................... Assistant Professor
B.A., University of California; M.A., State University of New York at
Buffalo

Gibson, Eugene M. (1956) ......................................... Professor
B.A., M.A., University of Oklahoma; Ph.D., University of California

Muller, Brigitte D. (1967) ..................................... Assistant 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

GEOGRAPHY AND GEOLOGY

Buckholts, Paul O. (1961) ........................................... Professor
B.A., M.A., Oklahoma University; Ph.D., Harvard University

Cichanski, Allen (1965) ....................................... Assistant Professor
B.S., M.S., Ohio State University

Ernst, Robert (1970) .............................................. Assistant Professor
B.S., M.A., St. Louis University
Hall, E. Lorene (1960) ..........................  Assistant Professor  
                           B.S., Eastern Michigan University; M.S., University of Michigan  

Howe, George M. (1969) ..........................  Professor  
                           B.S., California Institute of Technology; M.A., Oberlin College; Ph.D.,  
                           Clark University  

Kureth, Elwood J.C. (1968) ..........................  Assistant Professor  
                           B.A., Eastern Michigan University; M.A., University of Michigan  

Mancell, Robert B. (1969) ..........................  Assistant Professor  
                           B.A., M.A., University of Michigan  

McDonald, James R. (1965) ..........................  Professor  
                           B.A., Antioch College; M.A., Ph.D., University of Illinois  

McLennan, Marshall S. (1970) ..........................  Assistant Professor  
                           B.A., University of California at Los Angeles; M.A., San Francisco State  
                           University  

Nazzaro, Andrew A. (1969) ..........................  Assistant Professor  
                           B.A., Jacksonville University; M.S., Florida State University  

Ogden, Lawrence (1963) ..........................  Professor  
                           B.S.Ed., Northwest Missouri State College; B.Geol., University of Tulsa;  
                           M.S., University of Wisconsin; D.Sc., Colorado School of Mines  

Ojala, Carl F. (1970) ..........................  Assistant Professor  
                           B.A., Kent State University; M.A., University of Georgia  

Pearson, Ross N. (1969) ..........................  Professor  
                           Department Head  
                           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  

Ward, Robert M. (1969) ..........................  Assistant Professor  
                           B.A., Earlham College; M.A., Indiana University  

HISTORY AND SOCIAL SCIENCES  

Abbott, Richard H. (1966) ..........................  Associate 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  

Cassar, George H. (1968) ..........................  Assistant 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
Dean, College of Arts and Sciences
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) .......................... Assistant Professor
B.A., North Texas State University; M.A., Marquette University; Ph.D., Loyola University

Gimelli, Louis B. (1966) .................. Associate 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

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
Department Head
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) .......................... Assistant 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) .......................... Associate Professor
B.A., University of the Pacific; B.D., 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

**MATHEMATICS**

Badii, Larry L. (1965) ........................................ Associate Professor  
B.A., M.A., San Jose State College; Ph.D., Oregon State University

Buckeye, Donald A. (1968) ........................................ Associate Professor  
B.S.Ed., Ashland College; M.A.T., Ed.D., Indiana University

Early, Madeline L. (1956) ........................................ Professor  
B.A., Hunter College; M.A., Ph.D., Bryn Mawr College

Ginther, John L. (1965) ........................................ Professor  
B.Ed., University of Toledo; Ed.M., Ph.D., University of Illinois

Koo, Delia Z. F. (1965) ........................................ Associate Professor  
B.A., Saint John’s University; M.A., Michigan State University; M.A., Ph.D., Radcliffe College

Lauckner, Kurt F. (1963) ........................................ Assistant Professor  
B.S.E., M.S., 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

**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

Borroff, 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

Elwell, John (1948) ........................................ Associate Professor  
B.S., Eastern Michigan University; M.Mus., University of Michigan

Fitch, William D. (1944) ........................................ Professor  
B.S., Kansas State University; M.M., Ph.D., University of Michigan
Goldschmidt, Erich (1955) ........................................ Professor
Swiss Musikpaedagogical Society, Zurich, Basel Conservatory, Schola Cantorum Basiliensis, Basel

Gurt, Joseph (1967) ........................................ Associate Professor
B.S., M.S., Juilliard School of Music

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

Laney, Maurice (1968) ........................................ Professor
B.A., Albion College; M.Mus., Eastman School of Music; Ph.D., Indiana University

Mason, Thom D. (1968) ........................................ Assistant Professor
B.S., Mus.Ed., University of Wisconsin; M.Mus., DePaul University; Ph.D., Northwestern 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

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

Szabo, Edward J. (1968) ........................................ Associate 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
Department Head
B.S., Eastern Michigan University; M.S., Ph.D., Michigan State University

Breedlove, Charles B. (1964) ........................................ Professor
Coordinator, Science Education
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
Hochman, Lawrence D. (1966) .................. Associate Professor
B.S., M.A., Wayne State University; Ph.D., Adelphi University
Johnson, Fred T. (1967) ......................... Associate 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) .............................. Assistant 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) .............................. Associate Professor
B.S., Rickhurt College; M.A., Ph.D., Princeton University
Silver, Robert (1966) .............................. Professor
B.S., Wayne State University; Ph.D., University of California
Wooley, Jon K. (1967) .............................. Assistant Professor
B.S., M.S., University of Michigan; M.A., Swarthmore College

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
Racz, Barnabas A. (1968) ....................... Associate Professor
J.D., University of Budapest; M.A., Ph.D., University of Michigan
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
Canter, Francis M. (1967) .................. Professor
B.A., Ph.D., Washington University
Delprato, Dennis J. (1969) .................. Assistant Professor
B.A., Washington and Jefferson College; M.S., Ohio University; Ph.D.,
Michigan State University
Emery, Anne C. (1969) .................. Assistant Professor
B.A., Carleton College; M.A., State University of Iowa; Ph.D., Wayne State University
Friedman, Monroe P. (1964) .............................. Professor
B.S., Brooklyn College; Ph.D., University of Tennessee
Director, Contemporary Issues Center
Gallatin, Judith E. (1968) ............................ Assistant Professor
B.A., M.A., Ph.D., University of Michigan
Holmes, Peter A. (1968) .............................. Assistant Professor
B.A., Franklin and Marshall College; M.A., Bryn Mawr College; Ph.D.,
University of Delaware
Jackson, Donald E. (1967) .............................. Professor
B.A., M.A., Ph.D., University of Alabama
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)
Knight, Richard (1969) .............................. Assistant Professor
B.S., M.A., Ph.D., Michigan State University
Marshall, Joan (1970) .............................. Assistant Professor
B.A., M.A., University of Toronto; Ph.D., Western Reserve University
Meisels, Murray (1965) .............................. Associate 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
Pool, Kenneth B. (1969) .............................. Associate Professor
B.A., University of California at Santa Barbara; Ph.D., University of
California at Berkeley
Rosenwein, Robert E. (1968) .............................. Assistant Professor
B.A., University of California; M.A., Ph.D., University of Michigan
Stern, Ferdinand (1968) .............................. Associate Professor
L.L.D., University of Vienna; Ph.D., University of Washington
Youssef, Zakhour I. (1965) .............................. Associate Professor
B.A., M.A., Ph.D., Wayne State University

SOCIOLOGY

Ehrlich, Allen S. (1968) .............................. Assistant 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) .......................... Assistant Professor
B.A., Wayne State University; M.A., Ph.D., University of Michigan

Green, Edward (1963) .......................... Professor
Department Head
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

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) .......................... Assistant Professor
B.A., Alma College; M.A., Ph.D., University of Michigan

Watts, Leroy R. (1969) .......................... Associate Professor
B.A., University of Dubuque; M.A.S.W., State University of Iowa

SPEECH AND DRAMATIC ARTS

Bird, P. George (1955) .......................... Professor
Technical Director, Quirk Theatre
B.S., M.S., University of Wisconsin

Bowen, Harry W. (1967) .......................... Associate Professor
B.A., Westminster College; M.A., Ohio State University; Ph.D., University of Pittsburgh

Compton, Gail (1969) .......................... Associate Professor
B.A., University of Evansville; M.S., Ph.D., University of Wisconsin

Gousseff, James W. (1963) .......................... Professor
Director, University Theatre
B.S., Iowa State College of Agriculture and Mechanic Arts; M.A., Cornell University; M.F.A., Yale University; Ph.D., Northwestern University

Kaufman, Alvin S. (1968) .......................... Associate Professor
B.A., Ohio Wesleyan; M.A., University of Washington; Ph.D., Stanford University

Koste, Virginia G. (1962) .......................... Associate Professor
B.A., Vassar College; M.A., Wayne State University

Martin, Annette (1968) .......................... Assistant Professor
B.A., Eastern Michigan University; M.S. University of Wisconsin

McCraken, Sally R. (1968) .......................... Assistant Professor
B.A., Muskingum College; M.A., Bowling Green State University; Ph.D., Wayne State University

McDaniel, Thelma (1961) .......................... Assistant Professor
B.F.A., State University of Iowa; M.A., Eastern Michigan University

McElya, Mitchell R. (1967) .......................... Associate Professor
B.S., M.F.A., University of Wisconsin

Murray, Thomas J. (1963) .......................... Professor
B.A., M.A., Ph.D., University of Michigan
Sattler, John W. (1947) .............................. Professor
B.A., Yankton College; M.A., University of Michigan; Ph.D., Northwestern University

Swisher, William V. (1965) ......................... Associate Professor
B.A., M.A., University of Michigan

Yahrmatter, Arthur J. (1968) ....................... Assistant Professor
B.S., M.A., Wayne State University; Ph.D., Southern Illinois University

Zellers, Parker R. (1964) ......................... Professor
B.A., Emerson College; M.A., Indiana University; Ph.D., State University of Iowa

ACCOUNTING AND FINANCE

Bryan, William C. (1960) .......................... Associate Professor
B.S., Oklahoma State University; M.B.A., University of Michigan; C.F.A.

Jennings, James P. (1970) ........................ Associate Professor
B.S.C., St. Louis University; M.S.B.A., Ph.D., University of Missouri

Kennedy, Herbert M. (1967) ....................... Assistant Professor
B.S., Principia College; M.B.A., University of Michigan

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

Trussell, Larry R. (1968) ......................... Assistant Professor
B.A., M.S., Fort Hays Kansas State College

Underwood, William (1963) ...................... Professor
B.A., Eastern Michigan University; M.B.A., Wayne State University; C.P.A., State of Michigan

BUSINESS EDUCATION

DeLoach, Rosemary (1967) ........................ Professor
B.A., Northern Michigan University; M.A., Ph.D., University of Michigan

Duncan, Charles H. (1965) ......................... Professor
Department Head
B.S., Indiana State College; M.Ed., Ed.D., University of Pittsburgh

Graziano, Louis R. (1966) ......................... Assistant Professor
B.A., Fairmont State College; M.Ed., Wayne State University

Ogden, Russell L. (1956) .......................... Professor
B.S., Eastern Illinois University; M.A., Ed.D., Colorado State College

Robek, Mary F. (1958) ............................ Professor
B.Ed., Wisconsin State College; M.A., Northwestern University; M.B.A., Ph.D., University of Michigan

Wingo, Rosetta C. (1968) ....................... Associate Professor
B.S., Morgan State College; M.A., New York University; Ph.D., Michigan State University
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
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

Robinson, Julius M. (1947) ............................. Professor
B.S., Southwest Missouri State College; M.A., Northwestern University;
Ed.D., New York University

Thornhill, Jack (1970) ...................................... Associate Professor
A.B., Wittenberg University; M. Litt., University of Pittsburgh; Ph.D.,
Louisiana State University

Tschappat, Edward V. (1970) .............................. Assistant Professor
B.Ed., University of Toledo; M.S.T., Cornell University; M.S.E.S.,
University of Toledo

Zeller, Ronald J. (1967) .................................. Associate Professor
B.S., LaSalle College; J.D., Ohio 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

Hostiuck, K. Tim (1970) ................................. Assistant Professor
B.S., M.B.A., Miami University; Ph.D., Ohio State University

Klatt, Lawrence A. (1969) .............................. Associate Professor
B.S., M.B.A., University of Detroit; Ph.D., University of Missouri

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
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

Hansz, James E. (1966) ................................. Assistant Professor
B.A., Albion College; M.B.A., Michigan State University

Kurtz, David L. (1967) .................................. Associate Professor
B.A., Davis and Elkins College; M.B.A., Ph.D., University of Arkansas

Parsons, M. Godfrey (1967) .......................... Associate Professor
Director, Bureau of Business Services & Research
B.S., M.S., University of Missouri

Roth, Earl A. (1954) .................................. Professor
Dean, College of Business
B.S., M.A., Ohio State University; Ed.D., Indiana University

Spitz, A. Edward (1970) ................................. Associate Professor
B.B.A., City College of New York; M.S., Columbia University; Ph.D.,
University of Kentucky

Williams, Robert J. (1966) .......................... Professor
Department Head
B.S., M.S., Ph.D., Cornell University

CURRICULUM AND INSTRUCTION

Adams, Leah (1969) .................................. Assistant Professor
B.S., Ohio State University; M.A., Ph.D., Wayne State University

Allen, Irene (1968) .................................. Assistant 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; Ph.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

Cocco, Victor (1964) .................................. Assistant Professor
B.A., Eastern Michigan University; M.A., University of Michigan; Ed.S.,
Wayne State University

Daly, Francis M. Jr. (1964) .......................... Assistant Dean of College Education
B.S., M.A., Ed.D., Wayne State University
Elmes, Robert (1969) ............................ Assistant Professor
B.A., M.S., Ed.D., Indiana University

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

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) ................................. Associate 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

Jones, Imogene (1969) ................................. Assistant Professor
B.A., Jarvis Christian College; M.A., Ball State University

Krebs, Robert E. (1968) ................................. Associate Professor
B.S., Kent State University; M.A., Western Reserve University; Ed.D., Columbia University

Langman, Muriel P. (1950) ............................ Professor
B.A., Barnard College; M.A., Ph.D., Columbia University

Moore, N. Samuel (1965) ............................. Associate Professor
B.A., Central Michigan University; M.A., University of Michigan; Ed.D., Wayne State University

Neeb, Leon (1966) ................................. Assistant Professor
B.S., Huntington College; M.Ed., Ed.S., Bowling Green 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

Wilmoth, Juanita M. (1968) ........................ Assistant Professor
B.A., M.A., Marshall University; Ed.D., University of Missouri

Ylisto, Ingrid P. (1953) ............................. Associate 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

EDUCATIONAL MEDIA

Carpenter, Arthur L. (1964) .......................... Assistant Professor
B.S., Eastern Michigan University; M.S., Michigan State University
Cook, Frances (1960) .......................... Assistant Professor
B.A., M.A.L.S., University of Michigan
Peterson, Ralph G. (1946) .......................... Associate Professor
B.S., Northern Michigan University; M.A., University of Michigan
Taylor, Donna (1970) .......................... Assistant Professor
B.A., M.Ed., Wayne State University

EDUCATIONAL LEADERSHIP

Brower, George (1954) .......................... Professor
Department Head
B.S., Western Michigan University; M.A., University of Michigan; Ph.D.,
Cornell 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
LeTarte, Clyde (1969) .......................... Assistant Professor
Associate Dean, Graduate School
B.A., Hope College; M.A., Ph.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 PSYCHOLOGY

Brenner, Anton (1968) .......................... Professor
B.S., University of Munich; Ph.D., University of Tuebingen
Bushey, Thomas (1969) .......................... Assistant Professor
Ph.B., M.A., University of Detroit; Ed.D., Wayne State University
Dellas, Marie (1970) .......................... Assistant Professor
B.S., M.Ed., Ph.D., State University College of New York at Buffalo
Haddan, Eugene E. (1965) .......................... Professor
B.A., M.A., Ed.D., North Texas State College
LaBenne, Wallace D. (1967) ........................... Associate Professor
B.S., Temple University; M.A., Ph.D., University of Michigan

Marshall, Everett L. (1938) ............................ Professor
Dean, Records and Teacher Certification
B.Ed., Northern Illinois University; M.A., Ph.D., State University of Iowa

Metler, 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) ............................... Assistant Professor
B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D.,
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Wahi, Kishor (1961) ................................. Associate Professor
B.A., Punjab University; M.A., Ph.D., University of Michigan

Williams, Warren S. (1969) ........................ Assistant Professor
B.A., Hobart College; M.A., Ed.D., University of Rochester

Williams, Wilbur A. (1948) ........................ Department Head
B.S., M.A., Ph.D., University of Michigan

Woronoff, Israel (1956) .............................. Professor
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GUIDANCE AND COUNSELING

Beeler, Kent David (1970) .............................. Assistant Professor
B.S., M.A., Ball State University; Ed.D., Indiana University

Gaston, Hugh P. (1967) .............................. Assistant Professor
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Kloosterman, Winton A. (1962) ........................ Professor
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Miller, Gary M. (1969) .............................. Assistant Professor
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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
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Stanley, Kenneth W. (1961) ........................ Associate Professor
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Thayer, Louis C. (1969) .............................. Assistant Professor
B.S., M.S., Nebraska State College at Kearney, Ph.D., University of
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Tothill, Herbert (1960) .................................................. Professor  
B.A., University of Rochester; M.A., University of Hawaii; Ph.D., Syracuse University

VanRiper, Benjamin W. (1968) ........................................ Associate Professor  
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Waidley, John W. (1968) ........................................ Assistant Professor  
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SOCIAL FOUNDATIONS

Gwaltney, Thomas M. (1964) ........................................ Associate Professor  
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Jones, Alan H. (1968) ........................................ Assistant Professor  
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Leatherman, Roger L. (1963) .................................... Professor  
B.A., M.A., Ohio State University; Ph.D., University of Michigan

Michael, Calvin B. (1956) .................................... Professor  
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  
Chairman, Social Foundations Division, Department of Education  
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Robinson, Robert S. (1959) .................................... Assistant Professor  
B.A., M.A., 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

HEALTH, PHYSICAL EDUCATION AND RECREATION

Adams, John R. (1960) ........................................ Associate Professor  
B.S., Eastern Illinois University; M.S., University of Illinois; Ph.D., University of Michigan

Bell, Mary I. (1949) ........................................ Associate Professor  
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Buckner, William P. (1970) ................................ Associate Professor  
B.A., DePauw University; M.S., HSD, University of Indiana

Cavanaugh, Patric L. (1968) .................................. Professor  
Department Head  
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Faculty 211

Ferzacca, 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

Menzi, Elizabeth A. (1964) .......................... Professor
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Sheard, John E. (1963) .............................. Professor
B.S., M.S.Ed., Miami University; P.E.D., Indiana University
Chairman, Graduate and Men's Division

Steig, Peggy A. (1956) .............................. Professor
B.S., Miami University; M.A., Ph.D., Ohio State University
Chairman, Women's Division

Willoughby, Robert J. (1956) ....................... Associate Professor
B.S., M.A., University of Michigan

Witten, Charles X. (1969) .......................... Assistant Professor
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SPECIAL EDUCATION AND OCCUPATIONAL THERAPY

Albritton, Thelma (1961) ............................ Assistant Professor
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Angelocci, Angelo A. (1965) ......................... Professor
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Barach, George (1969) .............................. Assistant Professor
B.S., Wayne State University; M.Ed., Boston College; Ph.D., Wayne State University

Caputo, George E. (1965) ............................ Assistant Professor
B.S., Washington and Jefferson College; M.Ed., University of Pittsburgh

Covington, Ann (1969) .............................. Assistant Professor
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Coyner, Joe (1969) ................................. Assistant Professor
Administrative Assistant

French, Sophie (1948) .............................. Assistant Professor
B.A., Bryn Mawr College; M.A., Columbia University

Fulton, C. Wayne (1956) ............................ Professor
B.A., Grinnell College; M.A., Ph.D., Western Reserve University
Audiologist, Rackham School

Garber, Carl E. (1967) .............................. Associate Professor
B.S., Manchester College; M.A., University of Michigan; Ph.D., Ohio State University

Geffen, Lawrence (1968) ............................ Assistant Professor
B.Ed., Fredonia State Teachers College; M.A., New York University; Ph.D., George Peabody College
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree(s)</th>
<th>Position</th>
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<tbody>
<tr>
<td>Gottwald, Henry L.</td>
<td>B.S., Eastern Michigan University; M.A., University of Michigan; Ed.D., Wayne State University</td>
<td>Professor</td>
</tr>
<tr>
<td>Herrick, Frances E.</td>
<td>B.S., Eastern Michigan University; B.A., M.A., University of Michigan</td>
<td>Associate Professor</td>
</tr>
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<td>Lake, Marylynn</td>
<td>B.S., M.A., Eastern Michigan University</td>
<td>Assistant Professor</td>
</tr>
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<td>Martin, Nora</td>
<td>B.S., M.A., Eastern Michigan University</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Moses, Gerald</td>
<td>B.S., Loyola University; M.A., Western Michigan University; Ph.D., Ohio State University</td>
<td>Assistant Professor</td>
</tr>
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<td>Motto, Joseph</td>
<td>B.S., Central Michigan University; M.A., University of Detroit; Ph.D., University of Michigan</td>
<td>Professor</td>
</tr>
<tr>
<td>Myers, Allen</td>
<td>B.M., M.M., North Texas State College; M.A., Ph.D., State University of Iowa</td>
<td>Dean, College of Education</td>
</tr>
<tr>
<td>Navarre, Gary</td>
<td>B.S., Eastern Michigan University; M.S., University of Oregon; Ed.D., Wayne State University</td>
<td>Assistant Professor</td>
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<td>Palasek, James</td>
<td>B.A., Western Michigan University; M.S., Purdue University; Ph.D., Syracuse University</td>
<td>Associate Professor</td>
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<td>Palmer, David E.</td>
<td>B.A., M.A., University of Michigan</td>
<td>Associate Professor</td>
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<tr>
<td>Quinn, Kathleen S.</td>
<td>B.S., Washington University; M.A., Eastern Michigan University</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Rice, Dale L.</td>
<td>B.A., M.S.W., University of Michigan; Ph.D., University of Michigan</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Rogers, Agnes L.</td>
<td>B.A., University of Tennessee; M.A., George Peabody College</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Seabert, Margaret P.</td>
<td>B.S., M.A., Eastern Michigan University</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Treado, Bernard M.</td>
<td>B.A., Northern Michigan University; M.A., University of Michigan</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Wallace, Merry Maude</td>
<td>B.S., University of Wisconsin; M.A., University of Michigan</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Wawrzaszek, Frank</td>
<td>B.S., State University of New York; Ed.M., Boston University</td>
<td>Professor</td>
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<tr>
<td>Wright, Sara E.</td>
<td>B.S., Syracuse University; M.A., New York University</td>
<td>Associate Professor</td>
</tr>
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</table>
**HOME ECONOMICS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Title</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barber, Betty L.</td>
<td>1969</td>
<td>Assistant Professor</td>
<td>B.S., Michigan State University; M.A., Eastern Michigan University</td>
</tr>
<tr>
<td>Bornemeier, Betty L.</td>
<td>1965</td>
<td>Professor</td>
<td>B.S., M.A., Ph.D., Texas Woman’s University</td>
</tr>
<tr>
<td>Emerson, Marian R.</td>
<td>1969</td>
<td>Assistant Professor</td>
<td>B.S., Syracuse University; M.S., Ph.D., Michigan State University</td>
</tr>
<tr>
<td>Evers, Sandra</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.S., Iowa State University; M.A., University of Minnesota</td>
</tr>
<tr>
<td>Fielder, Anita L.</td>
<td>1963</td>
<td>Professor</td>
<td>B.Ed., Eastern Illinois University; M.S., Ed.S., University of Illinois</td>
</tr>
<tr>
<td>Lloyd, Madeleine M.</td>
<td>1963</td>
<td>Professor</td>
<td>B.A., Monclair State College; M.A., Ed.D., Columbia University</td>
</tr>
<tr>
<td>McMullen, Elsa A.</td>
<td>1965</td>
<td>Assistant Professor</td>
<td>B.S., M.S., Syracuse University</td>
</tr>
<tr>
<td>Meis, Ruby L.</td>
<td>1964</td>
<td>Professor</td>
<td>B.S., Central Michigan University; M.A., University of Michigan; Ed.D., Pennsylvania State University</td>
</tr>
<tr>
<td>Miller, Karen</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.S., M.A., Indiana State University</td>
</tr>
<tr>
<td>Williams, Arthur R.</td>
<td>1970</td>
<td>Associate Professor</td>
<td>B.A., M.A., University of Illinois; Ed.D., Columbia University</td>
</tr>
</tbody>
</table>

**INDUSTRIAL EDUCATION**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Title</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baird, Ronald J.</td>
<td>1966</td>
<td>Professor</td>
<td>B.S., Bowling Green State University; M.Ed., University of Missouri; Ed.D., Michigan State University</td>
</tr>
<tr>
<td>Delventhal, Norman L.</td>
<td>1964</td>
<td>Assistant Professor</td>
<td>B.A., M.A., Colorado State College</td>
</tr>
<tr>
<td>Griess, Jerald A.</td>
<td>1967</td>
<td>Associate Professor</td>
<td>B.A., Wesleyan University, Nebraska; M.S., Oklahoma State University; Ed.D., Pennsylvania State University</td>
</tr>
<tr>
<td>Jennings, Gerald L.</td>
<td>1963</td>
<td>Professor</td>
<td>B.S., M.A., Ball State University; Ph.D., Michigan State University</td>
</tr>
<tr>
<td>Kicklighter, Clois E.</td>
<td>1966</td>
<td>Associate Professor</td>
<td>B.S.E., University of Florida; M.S., Indiana State University; Ed.D., University of Maryland</td>
</tr>
<tr>
<td>Kuwik, Paul</td>
<td>1970</td>
<td>Assistant Professor</td>
<td>B.S., M.S., State University of New York at Buffalo; Ph.D., Ohio State University</td>
</tr>
<tr>
<td>LaBounty, Raymond A.</td>
<td>1945</td>
<td>Professor</td>
<td>Department Head</td>
</tr>
</tbody>
</table>

B.S., Eastern Michigan University; M.A., Ed.S., University of Michigan
Larsen, Delmar L. (1964)  Associate Professor  
B.A., State College of Iowa; M.A., Ball State University; Ph.D., Ohio State University

Minton, Gene D. (1968)  Assistant Professor  
B.S., M.A., Ball State University; Ed.D., University of Maryland

Nelson, Herbert (1965)  Assistant Professor  
B.S., Central Michigan University; M.A., Michigan State University

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

Roth, Alfred C. (1967)  Assistant Professor  
B.S., Kent State University; M.A., Ohio University

Weeks, John A. (1968)  Assistant Professor  
B.S., M.S., Bradley University

Wescott, John T. (1951)  Associate Professor  
B.S., Eastern Michigan University; M.A., Wayne State University

Wilson, Herbert H. (1966)  Assistant Professor  
B.S., Kent State University; M.A., West Virginia University
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