EASTERN MICHIGAN UNIVERSITY
BULLETIN
1976

GRADUATE CATALOG

Ypsilanti, Michigan 48197

Statement of Mailing Privileges
Published four times a year by Eastern Michigan University and entered as second class matter at the Post Office at Ypsilanti, Michigan.
DIRECTIONS FOR CORRESPONDENCE

Please address specific inquiries to the following offices:

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

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

Dean of the College of Arts and Sciences 411 Pray-Harrold 487-4341

Dean of the College of Business 508 Pray-Harrold 487-4140

Dean of the College of Education 117 Boone 487-141

Dean of College of Human Services
   King Hall

Student Accounting: University fees and financial aids
   Briggs Hall 487-335

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

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

Director of On and Off-Campus Housing
   Basement-Dining Commons #1 487-1360
   Center of Educational Resources (Library) 487-0020

Director of Career Planning & Placement Center
   Teaching vacancies; registration of applicants for teaching, business and industrial positions; opportunities for earning a portion of University expenses
   420 W. Forest 487-0410

Foreign Student Adviser: Information and counseling
   Starkweather Hall 487-2466

International Studies 212 Goodison 487-2411

Graduate School Office
   Clyde LeTarte, Acting Dean 116 Pierce Hall 487-0011
   Neal F. Hoover, Assistant Dean
   Graduate Admissions 487-3400
   Graduate Records 487-0093
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THE INSTRUCTIONAL YEAR

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

GRADUATE SCHOOL CALENDAR

Winter Semester, 1976
Classes begin ........................................... January 5
Winter recess ............................................. February 28–March 2
Easter recess .............................................. April 15 (Noon), 16, 17, 18
Final Examinations ..................................... April 20–24
Commencement .......................................... April 24
Winter semester closes ................................ April 24

Spring Session, 1976
Classes begin ............................................. May 3
Memorial Day (no classes) .............................. May 31
Final examinations ..................................... June 22–23
Spring session closes ................................ June 23
Graduation date (no commencement exercises) ... June 23

Summer Session, 1976
Classes begin ............................................. June 28
Independence Day recess ............................... July 3–5
Final examinations—Six week session ................ August 5–6
Six week session closes ................................ August 6
Final examination—Seven and one-half week session August 17–18
Summer session closes ................................ August 18
Graduation date (no commencement exercises) ... August 20

Fall Semester, 1976
Classes begin ............................................. August 30
Labor Day recess ........................................ September 6
Thanksgiving recess ..................................... November 24 (Noon), 25, 26, 27, 28
Mid-Year Commencement .............................. December 12
Final examinations ..................................... December 14–18
Fall semester closes .................................. December 18
EASTERN MICHIGAN UNIVERSITY
Ypsilanti, Michigan 48197

ACCREDITATION

Eastern Michigan University is accredited by the North Central Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education and the American Assembly of Collegiate Schools of Business. The Specialist's Degree is the highest degree approved.

GOVERNMENT OF THE UNIVERSITY

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

BOARD OF REGENTS

Richard N. Robb, Chairman and Presiding Officer .......................................................... Ypsilanti
Beth Wharton Milford, Vice-Chairman .................................................................................. Ypsilanti
Timothy J. Dyer ..................................................................................................................... Wayne
Edward J. McCormick ........................................................................................................... Monroe
Carleton K. Rush ..................................................................................................................... Romulus
Mildred Beatty Smith ............................................................................................................ Flint
George E. Stripp ...................................................................................................................... Ypsilanti
John Ullrich .......................................................................................................................... Dearborn

Gary D. Hawks, Secretary
Vincent J. Carillot, Treasurer

EXECUTIVE OFFICERS

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James S. Magee ....................................................................................................................... Vice-President for Academic Affairs
Vincent J. Carillot .................................................................................................................... Vice-President for Business and Finance
Laurence N. Smith ..................................................................................................................... Vice-President for Student Affairs
Gary D. Hawks ....................................................................................................................... Vice-President for University Relations

ADMINISTRATIVE OFFICERS

Raymond A. LaBounty ........................................................................................................... Assistant Vice-President for Academic Affairs
Clyde LeTarte .......................................................................................................................... Acting Dean, Graduate School
Donald F. Drummond ............................................................................................................ Dean, College of Arts and Science
Earl A. Roth ............................................................................................................................ Dean, College of Business
Jack D. Minzey ....................................................................................................................... Acting Dean, College of Education
Robert Baissoneau ........................................ Dean, College of Human Services
Everett L. Marshall ........................................ Dean, Academic Records and Teacher Certification
Ralph F. Gilden ........................................... Dean, Admissions and Financial Aids
A.P. Marshall ................................................ Dean, Academic Services
L. Sandy MacLean ........................................... Dean of Students

DEPARTMENT HEADS

College of Arts and Sciences

Art ........................................... Kingsley M. Calkins
Biology ......................................... Herbert H. Caswell, Jr.
Chemistry ........................................ Clark G. Spike
Economics ....................................... Young-joob Chung
English Language and Literature ........... Milton P. Foster
Foreign Languages and Literature ............ Jean Bidwell
Geography and Geology ......................... Ross N. Pearson
History and Philosophy ........................ Ira M. Wheatley
Mathematics ..................................... (Acting) James H. Northev
Music ............................................. James B. Hause
Physics and Astronomy ........................ Robert Silver
Political Science ................................ (Acting) Leonas Sabaliunas
Psychology ........................................ Samuel Karson
Sociology ....................................... Marcello Truzzi
Speech and Dramatic Arts ....................... Thomas J. Murray

College of Business

Accounting and Finance .......................... (Acting) Maurice Stark
Administrative Services and Business Education ........................ Robert A. Ristau
Management ....................................... Claude I. Shell
Marketing ........................................... David L. Kurtz
Operations Research and Information Systems ...................... Robert Holland

College of Education

Curriculum and Instruction ...................... W. Scott Westerman, Jr.
Department of Education ........................ Francis M. Daly, Chairman
Educational Leadership .......................... Kenneth Grinstead
Educational Psychology .......................... Wilbur A. Williams
Guidance and Counseling ....................... John G. Pappas
Health, Physical Education and Recreation ........ Patric L. Cavanaugh
Special Education ................................ (Acting) Gary B. Navarre

College of Human Services

Home Economics ................................... Billie Louise Sands

Applied Science Departments

Industrial Education .............................. James H. Rokusek
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, the College of Human Services, and by the Applied Science Departments.

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

Eastern Michigan University continues to establish new graduate programs whenever a demonstrated need exists. Currently the Graduate School offers more than thirty graduate programs leading to a master's degree. The University has also been cognizant of its educational responsibilities beyond the master's degree. Specialist in Arts degree programs have been established in a number of areas to provide advanced graduate study for persons seeking professional careers in educational institutions.

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

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

Students wishing to extend their social, cultural and recreational experiences beyond the campus will find extensive opportunities for doing so in Detroit—a forty-five minute drive from campus. The resources of the University of Michigan 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 18,000 students. A highly professional faculty provides excellent classroom instruction. On campus housing for almost 5,200 persons is provided in residence halls and both single and married student apartments.

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

ORGANIZATION

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

The Graduate 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. It consists of faculty, both elected and appointed, and four graduate students. A current roster may be obtained from the Graduate Dean's Office.

OBJECTIVES

The Graduate School at Eastern Michigan University desires to encourage graduate education that upgrades professional competence by providing programs designed to train students for careers in areas such as teaching, school administration, counseling, business, etc.; that prepares individuals for more advanced academic work, particularly in the academic disciplines; that provides research opportunities such that the student becomes knowledgeable regarding research techniques, as well as participating actively; and that serves the unique needs of students by providing post-baccalaureate educational opportunities for individuals and groups at convenient geographic locations and providing opportunities for those of special needs.

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

DEGREE PROGRAMS

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

I. MASTER'S DEGREE

A. College of Arts and Sciences
   Art Education
   Biology
   Chemistry

   Chemistry Education
   Dramatic Arts
   Economics
II. SPECIALIST’S DEGREE

Educational Administration
Guidance and Counseling
School Psychology
Special Education

ADMISSION

Prior to taking graduate classes one must be admitted to the Graduate School. These policies govern the 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 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 certi-
ficates, letters of recommendation and/or personal interviews and grade point averages above the minimum established by the Graduate School.

CATEGORIES OF ADMISSION TO GRADUATE SCHOOL

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

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

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

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

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

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

- seek to qualify for provisional/permanent/continuing certification only;
- and for those whose approved plan of work for the Continuing Certificate represents something other than a master's degree program.

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

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

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

ADMISSION PROCEDURES

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

- complete an Application for Admission form;
- submit official transcripts of undergraduate and graduate credits earned at other institutions; and
- present official scores on the Graduate Record Examination (GMAT for College of Business) and/or any additional test required in the selected degree program.

For Guest Admission, students must:

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

A guest student can earn up to six (6) credit hours, exclusive of Independent Studies. To earn credits beyond this limit requires that the student be admitted to Eastern Michigan University Graduate School.

ADMISSION OF FOREIGN STUDENTS

A number of foreign students are admitted to the Graduate School each year. For admission, foreign students must:

- meet the minimum academic requirements for admission to the Graduate School (e.g., a bachelor's degree or its equivalent from an accredited institution);
- submit evidence of proficiency in the English language;
- present a statement of financial responsibility;
- provide two letters of recommendation from administrators or professors in the college or university from which the applicant holds a bachelor's degree; and
- submit official scores in a standardized test if required for admission to the selected degree program.

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

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

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

English Language Institute  
University of Michigan  
Ann Arbor, Michigan 48104

The scores received on the TOEFL test or the English Language Institute test must be submitted to the Graduate School Office before consideration can be given to the student's application.

UNIVERSITY EXTENSION STUDENTS

Registration as a University extension student in classes offered through the Division of Field Services does not constitute admission to the Graduate School and/or a degree program; nor does it establish eligibility to register for on-campus classes.
Credits earned do not automatically apply toward satisfaction of a degree program, but are dependent upon admission to the Graduate School, the requirements of the program, recommendation by an adviser and the approval of the Graduate School.

GRADUATION REQUIREMENTS

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

GRADUATION FEE

A non-refundable graduation fee was effective with the fall semester of 1975. The fee is to be paid when a student makes application for graduation.

APPLICATION FOR GRADUATION

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

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

Failure to apply for graduation will result in a one-semester delay in receiving the degree.

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

GRADE POINT AVERAGE REQUIREMENTS FOR GRADUATION

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

The grade point average requirement for graduation applies to:

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

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

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

CREDIT REQUIREMENTS

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

RESIDENCY REQUIREMENT

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

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

TIME LIMITATIONS

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

GENERAL REGULATIONS

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

ADVISING

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

Each prospective degree student is therefore encouraged to make use of this service since a program of study is valid only when properly authorized by a designated adviser, and conforms with the minimum requirements of the Graduate School.

Students who are interested in completing a Professional, Permanent or Continuing Certificate should contact the Office of Academic Records and Teacher Certification for specific requirements. Because credits earned to satisfy certification do not automatically apply to a degree program, students seeking certification are also urged to contact a degree adviser if the completion of a master’s program is contemplated for a later date.
COORDINATORS OF ADVISING BY PROGRAM AREA

College of Arts and Sciences

Art: Art Education
Charles Fensch
118 Sill Hall, Tele. 487-0392

MFA
David Sharp
118 Sill Hall, Tele. 487-0392

Biology
Marlene Churchwell
316B Mark Jefferson, Tele. 487-0441

Chemistry
Stewart D. Work
239C Mark Jefferson, Tele. 487-2124

Economics
Thomas Anderson
703 Pray-Harrold, Tele. 487-0002

English
Martin Kornbluth
612D Pray-Harrold, Tele. 487-0145

French
Brigitte Muller
222 Ford Hall, Tele. 487-4081 or 487-0131

General Sciences
Charles Breedlove
316 Strong, Tele. 487-4144

Geography
Paul Buckholts
225 Strong, Tele. 487-0232 or 487-0218

History and Philosophy
Lee R. Boyer
702-H Pray-Harrold, Tele. 487-0066

Mathematics
Enoch Tse
601-D Pray-Harrold, Tele. 487-1290

Music
Mary I. Yost
204 Alexander, Tele. 487-1314

Physics
Walter Gessert
311 Strong, Tele. 487-4144

Psychology: Clinical/General
Francis Canter
537-N Jefferson, Tele. 487-0041

School Psychology
Robert L. Anderson
537 P Jefferson, Tele. 487-0047

Sociology
Ira Wasserman
712-R Pray-Harrold, Tele. 487-2330

Spanish
William J. Cline
237 Ford Hall, Tele. 487-4336

Speech and Dramatic Arts
Parker Zellers
102 Quirk, Tele. 487-1221

College of Business

Accounting and Finance
Robert K. McCabe
516N Pray-Harrold, Tele. 487-1232
Business Administration
Robert Hislop
517 Pray-Harrold, Tele. 487-4444

Business Education
Charles Duncan
511D Pray-Harrold, Tele. 487-0121

College of Education
Robert Tibbals
305 Pierce Hall, Tele. 487-4441

Curriculum, Elementary,
Middle School/Junior
High Education and
Secondary School Teaching
Doris Kilanski
101-C Boone Hall, Tele. 487-0255

Educational Leadership
N. Kishor Wahi
228 Boone, Tele. 487-0219

Educational Psychology
Paul A. Nau
13 Boone Hall, Tele. 487-3270

Guidance and Counseling
Betty Menzi
225 Warner, Tele. 487-0091

Physical Education
Robert Krebs
338 Pierce Hall, Tele. 487-1160

Reading
Francis M. Daly
129 Boone Hall, Tele. 487-3134

Social Foundations
Joe Coyner
230 Rackham, Tele. 487-3302

College of Human Services
Ruby Meis
202-B Roosevelt, Tele. 487-2490

Applied Sciences
Delmar Larsen
122 Sill Hall, Tele. 487-4330

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

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

Adviser’s Signature on the Enrollment Plan—An adviser’s signature is required for students majoring in business, economics, geography, history, industrial edu-
cation, mathematics, music, psychology, social foundations, sociology and speech patholoby and audiology. Other students enrolling in either business or industrial education courses also must obtain departmental adviser's signature before registering. A student on a degree program who does not obtain the adviser's signature assumes full responsibility for his/her 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.

Registration in Undergraduate Courses—Graduate students who enroll in an approved upper division undergraduate course for graduate credit must obtain Graduate Office authorization of credit type prior to registering for the class. Otherwise, the course will default to undergraduate credit.

ACADEMIC LOAD

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

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

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

AUDITING COURSES

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

WITHDRAWAL

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

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

Fourth through Tenth Weeks—During this period a student completes an appropriate withdrawal form in the Graduate School office. The student will receive a grade of "W" in each course if officially withdrawn during this period.

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

Withdrawal forms are obtained from the Graduate School office. Prior to considering withdrawal, a student should consult with the instructor(s). Policies governing the refund of tuition and fees are to be found in another section of this catalog.

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

See pages 31 and 32 for tuition and fee information.

**GRADING SYSTEM**

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Points per semester hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Outstanding Performance</td>
<td>8</td>
</tr>
<tr>
<td>A−</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>B+</td>
<td>Good Performance</td>
<td>6</td>
</tr>
<tr>
<td>B−</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>C+</td>
<td>Inadequate Performance</td>
<td>3</td>
</tr>
<tr>
<td>C−</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>Failing Performance</td>
<td>0</td>
</tr>
</tbody>
</table>

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

"I"—Incomplete—An "I" grade is awarded when these conditions prevail:

- illness or extenuating circumstances beyond the control of the student have prevented completion of the required components of the course;
- academic performance for the completed portion of the course was equivalent to a grade of B or better.

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

An "I" grade must be removed within one calendar year from the end of the semester or session in which that grade was given. The time for removal of an "I" may be extended upon written recommendation of the instructor and department head, and approval of the Graduate Dean. Such an extension will be granted only under unusual circumstances. The initiative for conversion of an "I" to a letter grade rests with the student. If not converted to a letter grade by the end of the one year period, the "I" will remain as a permanent part of the student's academic record.

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

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

ACADEMIC PROBATION AND DISMISSAL

A graduate student will be placed on academic probation when the cumulative grade point average in courses taken for graduate credit at Eastern Michigan University is less than 5.00 (B average). Grades in courses taken for undergraduate credit and in courses accepted as transfer credit from other institutions are not used in computing the grade point average.

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

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

TRANSFER OF CREDITS TO DEGREE PROGRAMS

From Other Institutions

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

be applicable to the degree program;
have associated with each course a grade of B or higher;
be on an official graduate transcript from an accredited degree granting institution.
be upon recommendation of the adviser and the approval of the Graduate School.

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

From Non-Degree Admission Status

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

Credits earned while on a non-degree or certification status do not apply automatically to the requirements of a degree program. Transfer of credits depends upon the requirements of the program, the recommendation of the adviser, and the approval of the Graduate School office. A student transferring from non-degree admission status must complete a minimum of 10 graduate hours after admission to a degree program.
From a Previous Master's Degree

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

the degree be in a field different from the previous master's degree;
not more than six (6) semester hours of appropriate credit applied to meet the cognate requirement of the second degree program;
any credit utilized on the second degree from the first must meet the six (6) year time requirement for the second degree.

REGARDING CERTIFICATION

Provisional Certificate for Students who hold a bachelor's degree:

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

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

B. Graduates from an out-of-state institution: Persons who have completed 13 or more hours on an education program at a regionally accredited out-of-state institution may apply to the State Department of Education for an evaluation of their credentials to ascertain what courses they will need to take to qualify for a Michigan Provisional Certificate. An application form is available in EMU Records Office, Room 5, Pierce Hall.

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

C. All others: Graduates who do not fit category A or B must be recommended for certification by a Michigan teacher training institution. Although requirements vary depending upon the curriculum pursued, the basic minimum requirement for recommendation for certification is normally 30 hours study with EMU. Information about the specific requirements for certification may be obtained from the EMU Records Office. A written plan of study will be provided on request, following admission to the Graduate School. Contact:

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

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

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

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

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

Major—a minimum of 30 hours in courses appropriate to the pure major or 36 hours for a group major.

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

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

G. Certification in special fields (art education, physical education, industrial education, special education, home economics and music): Persons seeking certification in a special field should contact the appropriate department to obtain information about "special field" certification. A copy of the approved plan of study must be placed on file in the Records Office and the Graduate Office.

Permanent Certificate

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

Continuing Certification

Persons who received their Provisional Certificate after July 1, 1970, apply for the "Continuing" Certificate upon completion of three (3) years of successful teaching and 18 semester hours of credit earned on a planned program of study after the date of issuance of the state provisional certificate.

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

All other students who wish to be recommended for continuing certification by Eastern Michigan University must have a plan of study approved by the dean of Academic Records and Teacher Certification on file in the Graduate Office before classes are begun.

**Use of Credit**

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

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

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

**ENROLLMENT IN GRADUATE COURSES BY SENIORS**

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

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

A student may not use graduate credit for both.

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

Permission to enroll in graduate courses as a senior should not prolong the completion of the undergraduate degree requirements.

The maximum number of graduate hours that can be taken as a senior is 10. Graduate courses which qualified seniors may take are identified by an asterisk (*) in the course description section of this catalog. Seniors are not permitted to enroll in graduate level independent study courses.

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

- Permission to take graduate courses does not represent admission to the Graduate School.
- Students desiring to continue graduate study and utilize the graduate credit earned in courses taken as a senior must apply and meet all requirements for admission to the Graduate School and degree program.
- Graduate courses taken for either undergraduate or graduate credit and taken prior to receipt of a Provisional Teaching Certificate cannot be used to satisfy any requirement of the Permanent or Continuing Certificate.
INDEPENDENT STUDIES

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

A graduate student wishing to enroll for independent study must secure permission to register from the adviser for the approved program of study.

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

THESIS

Aside from independent studies, more opportunity for the degree student to demonstrate individual initiative and creativity is provided by a number of departments where the writing of the thesis is offered either as an option or as a requirement. Offered toward 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.

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

WORKSHOPS, INSTITUTES AND TRAVEL COURSES

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

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

MAJOR BUILDINGS

-Richard G. Boone Building houses the College of Education and a post office substation.
-John D. Pierce Hall houses major administrative offices.
-Frederic H. Pease Auditorium seats 1,700 and is the location of the Frederick Alexander Memorial Organ, a stage, practice rooms, classrooms and faculty studios.
-Frederick Alexander Music Hall is adjacent to Pease Auditorium and houses the Department of Music offices, faculty and practice studios, classrooms, a recital hall and large rehearsal halls.
-Roosevelt Building houses the Departments of Home Economics and Military Science.
-Sherzer Hall houses the Division of Field Services and the University observatory and astronomy laboratory.
-Strong Physical Science Building houses the Departments of Physics and Astronomy and Geography and Geology.
-Daniel L. Quirk Jr. Dramatic Arts Building contains an instructional theater seating 381, radio facilities, an outdoor amphitheater, classrooms and offices housing dramatic and speech activities and the University radio stations.
-Walter O. Briggs Building houses registration and the Student Accounting Office.
-Joseph E. Warner Physical Education Building is adjacent to Bowen Field House and contains gymnasiums, classrooms, offices, special purpose rooms and a swimming pool.
-Wilbur P. Bowen Field House is one of the largest and most functional in the state. It houses a complete field house with an eight-lap-to-a-mile track, a basketball court and tennis, volleyball and badminton courts. The seating capacity is 4,350.
-Glenadine C. Snow Health Center provides the clinical services of the University Health Service.
-Charles McKenny Union offers dining and recreational facilities for students, faculty, staff and guests. It provides meeting and conference rooms, food catering facilities, the bookstore and a ballroom.
-Mary Ann Starkweather Hall is the center of campus religious activities.
-J.M.B. Sill Building houses classroom and offices for the Departments of Fine Arts and Industrial Education, as well as the University Bookstore Annex, art galleries and two large lecture halls.
-Center of Educational Resources opened at the beginning of the spring semester, 1967. It has seating space for 1,800 and houses more than 400,000 volumes. Almost all books are available to students from the open stacks.
-Pray-Harrold Classroom Building houses the Departments of English Language and Literature, History and Philosophy, Mathematics, Sociology and the College of Business.
—R. Clyde Ford Hall (formerly Mark Jefferson Library) provides office and classroom space for the Educational Television and Foreign Languages and Literature Departments.

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

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

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

STUDENT ACADEMIC RIGHTS AND RESPONSIBILITIES

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

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

CIVIL RIGHTS POLICY

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

UNIVERSITY HOUSING/FOOD SERVICE

University Housing and Food Service is pleased to offer a variety of housing and dining accommodations to both married or single graduate students.

Married students will find that the life style offered in the University's three family housing communities is convenient, low cost, and apartment style, in an environment that shares the appreciation of the basic needs of the married student. One and two bedroom furnished apartments are available at rates (1975-76) of $122.00 and $138.00 for one bedroom, $140.00 and $155.00 for two bedrooms (rental rates include basic utilities).

Although unmarried graduate students are welcome in any of the residence hall facilities which appropriately meet their life style needs, most reside in the University Graduate Student Center. The Center (conceptually designed in cooperation with members of the graduate student council) is located in the Hoyt Conference and Guest Housing facility. The Center offers exclusive residence to the graduate student within the unit.
The Hoyt facility, two upperclass residence halls and a dining commons form the Towers Complex, newest of Eastern Michigan University campus residential facilities.

Students may reside in the residence halls or the Graduate Center for $710 per academic year (double occupancy) or at package rates to include meal programs, (20 meals/week—$1380, 15 meals/week—$1350, 10 meals/week—$1320). Single rooms are also available to the graduate student at a cost of $375 additional per academic year. All quoted rates are for the 1975–76 academic year.

The unmarried graduate student interested in apartment style living will be particularly pleased with the Brown-Munson apartments. These furnished apartments, located in the heart of campus, rent from $120-$340/month, depending upon apartment size. All apartments are carpeted, air-conditioned, include basic utilities, and have security monitored front entrances.

Applications or additional information may be obtained from the University Housing/Food Service Office (313-487-1300).

FINANCIAL AID FOR GRADUATE STUDENTS

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

ASSISTANTSHIPS AND FELLOWSHIPS

One source is through graduate assistantships and teaching fellowships which are administered by the individual departments and are awarded solely on the basis of the qualifications and merit of the applicant. The number of appointments and deadline for receipt of applications varies from department to department. The stipend for a full time appointment ranges from about $2,500 to $3,300. Graduate students wishing to apply for such positions should write to the head of the department in the area of specialization chosen for study.

NATIONAL DIRECT STUDENT LOANS
AND COLLEGE WORK-STUDY PROGRAM

A second source of aid is administered by the Office of Admissions and Financial Aids. Graduate students are eligible for National Direct Student Loans (NDSSL), up to $2,500 per year and for employment through the College Work-Study (CWS) Program. Both the NDSSL and CWS Programs are based on financial need. To establish eligibility, a student must apply through the Office of Admissions and Financial Aids.

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

MICHIGAN HIGHER EDUCATION ASSISTANCE
AUTHORITY (GUARANTEED) LOANS

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

The maximum loan for full-time graduate studies is $1,500 per academic year,
to a combined total of $7,500. If the student has financial need as determined by
the Office of Admissions and Financial Aids, the Federal government will pay the
total interest charge while the student is in school or in an eligible deferment
status (military, Peace Corps or VISTA service).

STUDENT EMPLOYMENT OPPORTUNITIES

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

UNIVERSITY CAREER PLANNING AND
PLACEMENT CENTER

The services of the Center are designed to assist students and graduates with
their career planning and employment needs from the time they are enrolled at
EMU through their alumni years.

The Career Planning section offers vocational testing, an occupational resources
library, vocational and career counseling and career exploration groups.

The Career Placement sections aid graduates and alumni in securing positions
and in obtaining professional advancement through the services of the University
Career Planning and Placement Center. The Placement Center seeks to serve both
graduates and employers by identifying the person best qualified for each posi-
tion, 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 Career Planning and 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 mat-
ters of interest to the veteran, please contact the Veterans Affairs Office, 225 Pierce
Hall.

CENTER OF EDUCATIONAL RESOURCES

The University Library serves the graduate student by offering a wide variety of
research materials and special services. A modern air-conditioned building, or-
ganized on an open-stack divisional basis, provides a pleasant environment for
research. Collections and services are divided among the divisions of Education
and Psychology, Science and Technology, and Humanities and Social Sciences.
The collection numbers more than 400,000 volumes of books, bound periodicals and documents, and some 200,000 microforms. Special collections include a large Instructional Materials Center in the Education and Psychology Division, a Map Library in the Science and Technology Division, the University Archives and a collection of United States Government Documents in the Social Sciences Division. Special facilities are available for the use of microform materials, study in small groups and typing of papers. Inter-library loan services are available through the Humanities Division.

The Audio-Visual Center, located in the Library, and the Television Center, in Ford Hall, comprise Media Services. All types of audio-visual, television and film equipment, materials and services are available for individual or group use. Film, filmstrip, audio tape, record and video tape libraries exist for graduate student use. Production services in all areas are provided.

INSTRUCTIONAL COMPUTER SERVICES

The Office of Instructional Computer Services, located in Room 117 Pray-Harrold Building, operates a DEC System 10 computer with customary batch services and facilities to operate 24 time-sharing terminals. The office also operates optical scanning equipment.

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

DIVISION OF FIELD SERVICES

In response to the continuing education needs, Eastern Michigan University, through the Division of Field Services, offers credit courses at 17 centers in 14 counties throughout southeastern Michigan. These classes are undergraduate and graduate courses conducted by regular instructors of the University. Presently, there are classes in practically any field connected with professional education. A list of the courses offered for fall, winter, spring and summer sessions may be acquired from the director of the Division of Field Services. The Division of Field Services also offers courses on a contract basis. 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 to another college or university, (2) wishes to earn graduate credit at EMU to be transferred to his/her present institution, (3) files an Application for Guest Admission and (4) has had Part 2 of the Guest Student application form—Recorder Action—filled out by the dean of the Graduate School at the parent institution, or by its designated agent.
THE OFFICIAL SEAL OF THE PARENT INSTITUTION MUST BE AFFIXED.

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

Tuition assessment for off-campus classes is $35.00 per credit hour.
TUITION AND FEES

FEES SUBJECT TO REVISION

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

FINANCIAL OBLIGATIONS

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

OFFICIAL REGISTRATION DAY

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

REGISTRATION FEE

A registration fee of $20 for each of the fall and winter semesters, and $15 for each of the spring and summer sessions is charged to each student. This fee is assessed and collected at the time the student registers for the semester or session and is non-refundable.

TUITION SCHEDULE—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>MICHIGAN RESIDENT</th>
<th>NON-RESIDENT</th>
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<tbody>
<tr>
<td><strong>Credit Hours</strong></td>
<td><strong>Tuition</strong></td>
</tr>
<tr>
<td>1</td>
<td>$30.00</td>
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<tr>
<td>2</td>
<td>60.00</td>
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<tr>
<td>3</td>
<td>90.00</td>
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<td>4</td>
<td>120.00</td>
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<td>5</td>
<td>150.00</td>
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<td>6</td>
<td>180.00</td>
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<td>7</td>
<td>210.00</td>
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<td>8</td>
<td>240.00</td>
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<td>9</td>
<td>270.00</td>
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<td>10</td>
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<td>11</td>
<td>330.00</td>
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<tr>
<td>12</td>
<td>360.00</td>
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<td>13</td>
<td>390.00</td>
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<tr>
<td>14</td>
<td>420.00</td>
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<tr>
<td>15</td>
<td>450.00</td>
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</tbody>
</table>

No additional charge for hours in excess of 15.

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

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

AUDITING OF COURSES

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

WORKSHOP SESSIONS

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

A credit adjustment of 100% of the workshop tuition will be made to those students who withdraw from a workshop prior to noon of the first day of the session. No other adjustment will be granted.

PAYMENT OF TUITION

Tuition and other University fees are due and payable prior to the beginning of each semester or session. The exact due date is printed on the invoice from Student Accounting. To insure a correct billing address, it is the responsibility of the student to inform the University of any address changes by completing a change of address form in the Registration Office.

For those students who prefer to make installment payments, the University provides an optional installment payment plan. The installment payment plan applies only to tuition and room and board. It consists of a minimum initial payment of 40% of the room and board and tuition assessments for the semester and two additional installments, each consisting of a minimum of 30% of the assessments for the semester. Students who register after the initial invoice date for each semester are required to pay 40% of assessed tuition, room and board, and miscellaneous fees at the time of registration.

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

STUDENT ACCOUNTS

Tuition, room and board and other assessments are recorded to an account established for each student. A statement is provided each student prior to the initial payment due date and prior to each subsequent installment. The due date of each payment is indicated on the statement. For students who register after the issuance of the initial account statement, payment of at least 40% of the tuition assessment is required at the time of registration.

Students becoming delinquent in the payment of their accounts subject themselves to cancellation of their enrollment.

A late payment fee of $6.00 is assessed if the second payment is not received by the due date. Being late with the final payment makes the student ineligible for further registration, release of transcripts or other University services.
If a student’s account is past due for a current semester, enrollment, University housing and other University services are subject to suspension until the account is brought into current status. Payment of assessments for current semester does not relieve the student of the obligation for payment of any balance from a prior semester.

WITHDRAWAL FROM THE UNIVERSITY

Withdrawal during the first 21 calendar days of a semester. If a registered graduate student finds it impossible to return to the University, he must sign a cancellation of registration form in the Registration Office. This is necessary for adjustment of tuition assessment and for any tuition refund to which the student may be entitled. If the student has applied for University housing, he must also cancel the contract in the Housing Office. This is necessary for cancellation of room and board assessments.

Withdrawal after the 21st calendar day of a semester. If a graduate student finds it necessary to withdraw from the University after the 21st calendar day of a semester, he must initiate a withdrawal in person or by letter through the Graduate Office.

Adjustments to Tuition:

1. A credit adjustment of 100 percent of the tuition assessment for the fall and winter semesters will be made to those students who cancel their registration or reduce their academic load prior to the seventh (7th) calendar day after the first day of classes. For the spring and summer sessions, a 100 percent credit adjustment will be made during the first three days of classes. Actual dates are printed in the class schedule for each semester and session.

2. A credit adjustment of 60 percent of the tuition assessment for the fall and winter semesters will be made to those students who withdraw from the University or reduce their academic load on and after the seventh (7th) calendar day, but before the 22nd calendar day after the first day of classes. For the spring and summer sessions, a 60 percent credit adjustment will be made during the fourth through seventh class days of the session. Actual dates are printed in the class schedule for each semester and session.

3. No further credit adjustment will be made.

QUALIFICATIONS FOR MICHIGAN RESIDENCE

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

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

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

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

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

**LATE REGISTRATION FEE**

A late registration fee of $5.00 is charged to those students who, for any reason, do not complete registration prior to the official first day of classes each semester. Checks returned by a bank constitute late registration and the late registration fee is charged.

**PROGRAM ADJUSTMENT FEE**

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

**APPLIED MUSIC FEE**

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

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

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

The applied music fee is payable each semester to the Student Accounting Office with the student’s tuition. This fee is not refundable after the first lesson.

**OTHER COURSE FEES**

Fees are assessed at the close of the program adjustment period to cover extra
costs and materials involved with certain courses. At present these courses carry special fee assessments:

**Fine Arts Department** — Graphics, Ceramics, Jewelry, Sculpture, 3-D Design, Multi-Media.

**IPER** — Bowling, Trap and Skeet, Recreational Shooting

**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 Safety Department during the first week of each semester.

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

GRADUATION FEE

A non-refundable graduation fee was effective with the fall semester 1975. The fee is to be paid when a student makes application for graduation.

Master's and Specialist Degrees $10.00

HEALTH CENTER FEES

A schedule of fees for Snow Health Center became effective September 1, 1975. The general consultation and examination fees are:

<table>
<thead>
<tr>
<th>Service</th>
<th>Students</th>
<th>Non-Students*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor Consultation (Daytime)</td>
<td>$ 3.00</td>
<td>$ 7.00</td>
</tr>
<tr>
<td>Doctor Consultation (Evening)</td>
<td>7.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>15.00</td>
<td>15.00</td>
</tr>
</tbody>
</table>

The schedule of fees for other services is available at Snow Health Center

*Non-students eligible for Health Center services are student spouses, faculty and staff, and their spouses.

FEES SUBJECT TO REVISION

All University fees and assessments 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 Philosophy
Mathematics
Music
Physics and Astronomy
Political Science
Psychology
Sociology
Speech and Dramatic Arts
The Art Department offers two programs leading to the master's degree; the Master of Fine Arts and the Master of Art Education. The Art Department's graduate coordinator of advising will recommend admission to the department and assign each student to an adviser.

I. ADMISSION REQUIREMENTS

Master of Fine Arts

The Master of Fine Arts applicant must hold an undergraduate degree with a major in art from an accredited institution as a prerequisite for admission. Application for the M.F.A program involves two steps:

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

2. Send the application for admission to the M.F.A. program, a portfolio of 10—35mm color slides or photographs of representative examples of recent work, and three letters of recommendation to: Master of Fine Arts Program, Art Department, Eastern Michigan University, Ypsilanti, Michigan 48197.

The deadline for admission for fall term is March 15 of each year. The deadline for admission for the winter term is November 1 of each year.

Master of Art Education

Application for graduate work in art education should be made to the Graduate School, 116 Pierce Hall, Eastern Michigan University. The requirements are a minimum of 34 semester hours of art education and studio art with a 2.8 average in these classes. In addition each student will be evaluated on the basis of a portfolio submitted to the Art Department. The portfolio will be in the form of at least 12 slides, presented in a clear plastic holder. All slides should be individually labeled and identified. Each applicant should also submit a letter of purpose outlining his aspirations in graduate work. Each applicant is expected to hold a teaching certificate for the teaching of art.

The deadline for admission for summer session and fall semester is April 15 of each year. The deadline for admission for the winter semester is November 15 of each year.

II. DEGREE REQUIREMENTS

The graduate adviser will meet with each student to construct a program of study. The Master of Fine Arts Program will contain a minimum of 48 semester hours beyond the bachelor's degree and the Master of Art Education Program will contain a minimum of 30 semester hours beyond the bachelor's degree. The Art Department offers concentrations in drawing, painting, sculpture, ceramics, jewelry, weaving and graphics.
A. Fine Arts
1. Two years of residence is required.
2. At the end of the first year the work of each M.F.A. student will be reviewed by the M.F.A. Committee. The student is either allowed to continue or is formally asked to withdraw from the program.
3. Course requirements:
   - FA 630 Graduate Studio  8 hrs.
   - FA 631 Graduate Studio  8 hrs.
   - FA 632 Graduate Studio  8 hrs.
   - FA 633 M.F.A. Exhibition  9 hrs.
   - FA 634 Seminar in Contemporary Ideas in Art  3 hrs.
   - FA 635 Seminar in Contemporary Ideas in Art  3 hrs.
   - Elective courses in art  3 hrs.
   - Cognate courses outside art chosen in consultation with the adviser  6 hrs.
   (maximum of 6 credit hours transferable)
   Total 48 hrs.

B. Art Education Requirements
   - FA 596 Art Education Seminar  2 hrs.
   - FA 507 Crafts Workshop  4 hrs.
   - FA 505 Workshop in Two-D Media  4 hrs.
   - FA 506 Workshop in Sculptural Media  4 hrs.
   - FA 608 Exhibition in Art Education  2 hrs.
   Total 16 hrs.

   Electives (Fine Arts)
   - FA 504 Elementary Art Studio  2 hrs.
     (This course is recommended for the elementary art teacher)
   - Cognate Courses
     (Graduate level courses selected with adviser’s permission)
   Total 6 hrs.

   Total 30 hrs.

III. COMPLETION OF THE DEGREE

The student should follow closely the Graduate School requirements for “Application for Diploma.”
If the degree program includes a final exhibition of work, it is necessary to apply for gallery space one semester prior to the proposed exhibition.
Further information about these programs may be obtained from the Art Department.
Master of Art Education candidates should address requests for information to Professor Charles Fensch.
Master of Fine Arts candidates should address requests to Professor David Sharp.

*FA 501 Art Education Workshop. Two sem hours
This course is primarily designed for the classroom teacher. A variety of media, applicable to classroom utilization, will be employed with an emphasis in

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
innovative selections such as filmmaking, batik, weaving and other three-dimensional activities. Special problems and independent research may be arranged within the format of the class. Not open to students who have a major in art.

FA 504 Elementary Art Studio. Two sem hours
Elective course specifically designed for candidates for the Master of Art Education degree who are interested in elementary art. Project-oriented. New materials stressed. The problems will be tailored to individual student’s needs and related to public school teaching. Art majors only.

FA 505 Two-D Media Workshop. Four sem hours
Required course in two-dimensional art work for candidates for the Master of Art Education degree. Project-oriented. New media and materials stressed. The problems will be tailored to individual student’s needs and related to public school teaching. Art majors only.

FA 506 Sculptural Media Workshop. Four sem hours
A workshop to afford the student a chance to explore new sculptural media. The problems will be tailored to individual student’s needs and related to public school teaching. Art majors only.

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

FA 509 Design for Tapestry. Two sem hours
Weaving with adherence to the disciplines inherent in tapestry, giving emphasis to creativity and contemporary innovations.
Prereq: Art majors only.

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

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

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

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

FA 550 Graphics. Two sem hours
Advanced studio course in graphics. Art majors only.

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

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

FA 580 Oil Painting. Two sem hours
Advanced studio course in oil painting. Art majors only.
FA 595 Workshop in Art. Three sem hours
A workshop in art history focusing on personal observation of the visual arts of a particular area.
Prereq: Department permission.

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

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

FA 608 Exhibition in Art Education. Two sem hours
The requirements of this course may be satisfied by completing one of the following: A project, thesis, or an exhibition of the degree candidate’s work. These guidelines may be obtained from the Graduate Coordinator. To be elected in the last semester before receiving a master’s degree.
Prereq: Department permission.

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

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

FA 628 Exhibition in Fine Arts. Two sem hours
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 Graduate Studio. Eight sem hours
The first of the four graduate studio courses leading to the MFA degree. Course is conducted on a one to one basis. Instructor is selected for the student for this first course upon his acceptance into the program by the Graduate Acceptance Committee.
Prereq: Department permission.

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

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

FA 633 Graduate Thesis and Exhibition. Nine sem hours
A culmination of the three sequential Graduate Studio courses. The ideas developed in these courses result in a body of work which comprises the
graduate exhibition. A written thesis is optional. An oral defense of the ideas presented in the exhibition is required. The University reserves the right to retain work from the graduate exhibition to be added to the E.M.U. collection. A set of 35 mm. slides of all the works in the exhibition will be taken by the MFA candidate and will become part of the Art Department files. 
Prereq: 630, 631, 632 Graduate Studio.

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

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

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

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

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

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

OTHER COURSES

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

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

PHILOSOPHY, OBJECTIVES AND PROGRAMS

The Department of Biology is philosophically committed to the educational objective of providing all students with a broad background of knowledge and scientific skills and attitudes. However, within this framework, graduate programs in biology provide for research, internships and specialized course work in the following career-oriented areas of concentration: General Biology, Aquatic Biology, Physiology and Community College Biology Teaching. These areas are reflective of departmental strengths and interests.

DEGREES

The Master of Science is the conventional degree for majors in the Department of Biology.

ADMISSION REQUIREMENTS

(1) Bachelor's degree, (2) 20 semester hours in biology including seven hours in botany and seven hours in zoology, (3) one year of college chemistry and (4) an academic record of B (3.0) or better during the junior and senior years. Students deficient in one or more of the above admission requirements may be granted conditional admission subject to removing deficiencies while beginning a graduate program. Hours earned in deficiency courses may not apply toward degree requirements.

REQUIREMENTS FOR THE DEGREE

Plan A: A minimum of 30 credit hours of graduate work is required. These hours added to those already taken at the undergraduate level are distributed so as to insure that at least 12 hours in biology, ten hours in botany, and ten hours in zoology are taken. At least 24 hours of graduate work must be in courses in the department approved by the student's guidance committee. In addition, six hours of approved 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 four credit hours may be earned for thesis research.

Plan B: A minimum of 30 credit hours of graduate work is required. These hours added to those already taken at the undergraduate level are distributed so as to
insure that at least 12 hours in biology, ten hours in botany, and ten hours in zoology are taken. At least 24 hours of graduate work must be in courses approved by the student’s guidance committee. Two credit hours in independent study, including a written report, and six graduate credit hours in a cognate field outside of the department are required. A comprehensive written examination over the major fields of biology will be taken by the student near the completion of his academic work. To qualify for the examination a student must have completed all required courses (those in the area of concentration) and at least 80% of his/her total course work in Biology.

GUIDANCE COMMITTEE

The Guidance Committee for each student includes three faculty members of the Biology Department. Under Plan A the chairperson is usually selected by the student. The other two members are then chosen by the chairperson in consultation with the student. Plan B students are under the guidance of the Plan B Advisory Committee, consisting of three graduate faculty members, usually including the Graduate Coordinator.

The Guidance Committee and the student will develop a personalized program acceptable to the Department of Biology (i.e., meeting the requirements mentioned in the previous paragraph) and the Graduate School. A temporary graduate adviser will be assigned to a graduate student until the chairperson has been selected or upon entering a specific program.

Principal advisers in the areas of concentration are Dr. Dale Wallace, Aquatic Biology and Community College Biology Teaching; Dr. Marlene Churchwell, General Biology; and Dr. Merlyn Minick, Physiology.

FACILITIES

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

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

COURSES FOR NON-MAJORS

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

* **BOT 500 Survey of the Plant Kingdom. Two sem hours**
The major types of plants from algae to seed plants; emphasis on development of structure. Not open to students who have credit in 205 Field Biology or 221 General Botany.

* **ZOO 501 Survey of the Animal Kingdom. Two sem hours**
A survey of the major animal groups from protozoans to mammals. Structure function; the basis for classification and the evolutionary relationships of the several groups. Not open to students who have credit in 205 Field Biology or 222 General Zoology.

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

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

* **ZOO 504 Field Zoology. Two sem hours**
Animals in their natural habitats; identification, behavior and environmental relations. Field study and observations in woods, fields, ponds and streams; collecting and displaying living and preserved material.

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

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

**COURSES SPECIALLY FOR TEACHERS**

* **ESC 505 Science in the Elementary School. Two sem hours**
A survey of subject matter and grade placement utilizing current science texts and courses of study; reading in current literature; the construction and use of science materials; and supply and equipment needs for elementary science. Should not be taken by students who have taken 302 Elementary School Science within the last five years.

* **BIO 506 Methods in Teaching Biology. Two sem hours**
Salient techniques and methodology in presenting biological principles; text

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
analysis, test construction, course content, planning and equipping a modern high school biology laboratory. Not open to students who have credit in 403 Methods and Materials for Teaching Biology.

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

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

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

COURSES FOR NON-SPECIALIZING STUDENTS

The following courses are primarily for non-specializing students who have not had equivalent courses as undergraduates:

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

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

ADVANCED COURSES

The following advanced courses are intended only for students with the equivalent of an undergraduate major or minor in some field of biology.

BIOLOGY

* BIO 509 Biometry. Three sem hours
A general course designed to study the statistical methodology and the practical application of such statistics in biology.
Prereq: A course in college algebra, 15 hours in biology. Not open to students with credit in 313 Biometry.

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

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

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

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

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

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

*BIO 526 Immunobiology. Two sem hours
The properties and behavior of antisera to foreign antigenic substances such as bacteria, viruses and toxins; the rationales and procedures of antigen-antibody reaction in vitro; and the mechanism of immunity to infectious diseases. Application of such reactions in identification and classification of microbes in clinical work and in biological research. Lecture, but provision of time should be make for laboratory experimental work. 
Prereq: 331 Microbiology; biochemistry desirable.

*BIO 528 (428) Tropical Ecology. Three sem hours
Important biotic communities of the tropics. Investigation in both marine and terrestrial environments; lectures, laboratory and field work. Field course. 
Prereq: Botany, zoology, some concept of ecological principles and some familiarity with use of taxonomic keys.

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

BIO 590, 591, 592 Practicum in Biology. One, two and three sem hours
Practical experience in a particular field study, with each student responsible for the experimental design and the collection, analysis and interpretation of

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
field data for a specific area within a broader problem under group investigation. Prereq: Departmental permission, based on appropriate qualification.

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

* BIO 596 Seminar in Biology. One sem hour

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

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

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

BIO 610 Cytogenetics. Four sem hours

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

BIO 621 Electron Microscopy Laboratory. Three sem hours

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

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

BIO 695 Workshop in Advanced Biology. Two sem hours

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

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

BOT 697 Internship in Community College Biology Teaching. Six sem hours

An intensive internship experience consisting of supervised participation in teaching biology at the community college level. The intern will participate in all department and professional activities at a community college and will conduct specific courses. Prereq: Departmental permission.

BOTANY

* BOT 530 Plant Products in Industry. Two sem hours

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* BOT 537, 538, 539 Special Topics in Botany. One, two and three sem hours
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Prereq: Approval by the department.

* BOT 540 Mineral Nutrition of Plants. Two sem hours
A lecture course dealing with mineral nutrition in plants. Prereq: 221 General Botany and one year of chemistry.

* BOT 541 Mineral Nutrition of Plants Laboratory. One sem hour
Experimental studies dealing with inorganic nutrients of plants. Prereq or coreq: BOT 540 Mineral Nutrition of Plants.

* BOT 543 Plant Pathology. Three sem hours
A study of plant disease caused by fungi, bacteria, viruses, nematodes, phanerogams and environmental stress, with emphasis on the biology of the causal organisms, principles of pathogenesis, practical techniques of applied plant pathology and disease control. Prereq: 310/542 Plant Physiology desirable; no credit in 311 Plant Pathology.

* BOT 550 (302) Systematic Botany. Three sem hours
Collection, identification and classification of flowering plants. Familiarity with the major plant groups through lecture and herbarium study and field experience in varied habitats. Counts as a taxonomic field course. Prereq: 221 General Botany.

* BOT 551 (451) Freshwater Algae. Three sem hours
A survey of the freshwater algae divisions; their morphology, taxonomy, ecology and economic importance. Lectures will emphasize an evolutionary approach. Laboratory work will stress the identification of representative algal taxa. A class field study will be required. Counts as a taxonomic field course. Prereq: 221 General Botany or equivalent.

* BOT 552 (450) Aquatic Tracheophyta. Three sem hours
Identification in the laboratory and field of herbaceous and shrubby vascular plants growing in aquatic habitats and in both vegetative and reproductive phases. Counts as a taxonomic field course. Prereq: 221 General Botany or equivalent.

* BOT 554 (354) Trees and Shrubs. Three sem hours
A taxonomic field course on identification of native trees and shrubs in winter and spring condition. Prereq: 221 General Botany or 205 Field Biology.

* BOT 593, 594, 595 Workshop in Botany. One, two and three sem hours
* BOT 596 Seminar in Botany. One sem hour
Presentation of special reports and group discussions on selected topics. Prereq: Twenty hours of credit in biology, including botany and zoology.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
BOT 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.

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

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

BOT 650 Phycology. Two sem hours
Structure, function, distribution and classification of the major groups of algae. Special attention to forms which may be found locally; opportunities for field collections, culturing algae.
Prereq: Fifteen hours of credit biology including general botany and plant anatomy, or approval of the department.

BOT 651 Advanced Plant Taxonomy. Three sem hours
Comparison of modern systems of classification of Angiosperms. Newer techniques of characterization of plants, including morphometry, leaf architecture, biochemical systematics, cytogenetics and numerical analyses. The student will apply one or more of these in a field or herbarium problem.
Prereq: General Botany, systematic botany; biometry and organic chemistry desirable.

ZOOLOGY

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

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

* ZOO 571 (310) Natural History of Vertebrates. Three sem hours
Vertebrates, their adaptations and natural history; the taxonomic classification, identification and distribution of local and other forms. Field work, sometimes under adverse weather conditions and at night; accurate observation and per-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
manent recording of original data on local species. Counts as a taxonomic field course.
Prereq: 222 General Zoology.

* ZOO 572 (422) Ichthyology. Three sem hours
A study of some aspects of the biology, classification, distribution and evolution of fishes. Attention is given to the morphology, physiology, behavior, natural history and ecology of fishes through work in lecture, laboratory and 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.

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

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

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

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

* ZOO 583 Field Parasitology. Three sem hours
The helminth, protozoan and arthropod parasites of animals, both vertebrate and invertebrate; collection, preparation and identification of parasites of local animals. A collection and a project is required.
Prereq: 222 General Zoology; 360 Parasitology; 430 Invertebrate Zoology or 300 (570) Natural History of Invertebrates; and 310 (571) Natural History of Vertebrates or 324 Comparative Anatomy. Department permission required.

* ZOO 584 (480) Protozoology. Three sem hours
Survey of the protozoa, both free living and parasitic; their life cycles, morphology and ecology. Techniques of collecting, culturing and preserving pro-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
tozoans and their identification. Counts as a taxonomic field course.
Prereq: 222 General Zoology.

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

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

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

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

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

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

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

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

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
ZOO 673 Animal Cell Physiology. Two sem hours
A lecture course on animal cell physiology. A study of the physiochemical relationships which are responsible for the properties of cell irritability, conductivity, metabolism, respiration, excretion, growth and reproduction. Lab course is available but not required.
Prereq: 222 General Zoology, laboratory physiology (general, plant or animal) and organic chemistry. Chemistry, biochemistry, elementary physics desirable.

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

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

Biology
302 Genetics Laboratory. (2)
320 General Physiology. (4)
329 General Cytology. (3)
400 Biological Techniques. (1)
401 Biological Techniques Lab. (2)
403 Methods and Materials for Teaching Biology. (2)
405 Organic Evolution. (2)
412 Biogeography. (2)
427 Introductory Molecular Genetics. (3)
442 Microbial Ecology. (3)
480 Radiation Biology. (3)

Botany
304 Mycology. (3)
310 Plant Physiology. (3)
312 Plant Anatomy. (3)
330 Microbiology Lab. (2)
331 General Microbiology. (3)
345 Medical Mycology. (4)
430 Plant Morphology of Algae and Fungi. (4)
431 Plant Morphology of Mosses through the Vascular Plants. (4)
444 Microbial Physiology. (3)

Zoology
305 Neuroanatomy. (3)
306 Physical Anthropology. (3)
323 Animal Embryology. (3)
**324 Comparative Anatomy of Vertebrates. (4)**

**327 Vertebrate Physiology. (3)**

**360 Parasitology. (3)**

**404 Histology. (3)**

**430 Invertebrate Zoology. (4)**

**460 Economic Zoology. (2)**

**Elementary Science**

**302 Elementary School Science. (3)**

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### Tentative Schedule of Regularly Offered Graduate Courses

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*† Courses offered on a two (2) year cycle.*
Tentative Schedule of Regularly Offered Graduate Courses

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+ Courses offered on a two (2) year cycle.

CHEMISTRY

MASTER OF SCIENCE IN CHEMISTRY EDUCATION

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

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

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

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

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

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

MASTER OF SCIENCE IN CHEMISTRY

Objectives: To provide individually prepared programs of advanced professional training for industrial chemists and to prepare students to enter a doctoral degree program.
Admission Requirements: Application for admission to this program will be considered from all applicants who have an undergraduate degree with either a major or a strong minor (approximately 25 semester hours) in chemistry. All entering M.S. candidates on this program are required to have credit in the following advanced undergraduate courses: 371-4, 461-3, and 481, along with either 432 or 451. Equivalent courses from other academic institutions are acceptable. If deficiencies exist, a maximum of four semester hours of graduate credit will be allowed for courses taken to correct these deficiencies. If uncertainties exist regarding the equivalency of prior courses, or if a student desires to establish competency without prior credit in any of these areas, placement examinations may be taken. The graduate adviser will use the results of these exams to ascertain advanced standing or the need for remedial work.

Degree Requirements:

1. Satisfactory completion of a minimum of thirty semester hours of graduate credit. The exact distribution of these credits will vary, depending on whether the thesis plan or the non-thesis plan is selected. All M.S. candidates are encouraged to follow the thesis plan. The non-thesis plan is intended primarily for part-time students whose professional experience constitutes a reasonable substitute for the academic research and thesis requirement. In addition, on either plan the student may elect the general program of study which provides for course work in all disciplines within chemistry, or a dual major may be designated which provides for concentrated study in only two disciplines.

Thesis Plan

A. Dual major program—two areas of specialization are designated from among analytical, biochemistry, inorganic, nuclear, organic, physical, and polymer chemistry.
   a. Twelve semester hours of approved courses in the two disciplines selected for the dual major, with a minimum of two courses in each discipline.
   b. Two semester hours (i.e., two separate enrollments) in CHM 596 Seminar.
   c. Six semester hours of courses outside the chemistry department. These courses must be approved by the graduate adviser.
   d. Ten semester hours of research (i.e., enrollments in CHM 597-9) culminating in a written thesis. (See the thesis guidelines)

B. General program
   a. Twelve semester hours or demonstrated proficiency* in four of the following five courses: CHM 451, CHM 532, CHM 561, CHM 571, and CHM 581.
   b. Two semester hours (i.e., two separate enrollments) in CHM 596 seminar.
   c. Six semester hours of courses outside the chemistry department. These courses must be approved by the graduate adviser.
   d. Ten semester hours of research (i.e., enrollments in CHM 597-9) culminating in a written thesis. (See the thesis guidelines)

*Credit is not given for demonstrated proficiency; instead, the student may substitute an approved elective course(s).
Non-Thesis Plan

A. Dual major program—two areas of specialization are designated by the student from among analytical, biochemistry, inorganic, nuclear, organic, physical, and polymer chemistry.

a. Sixteen semester hours of approved courses in the two disciplines selected for the dual major, with a minimum of two courses in each discipline.

b. Two semester hours (i.e., two separate enrollments) in CHM 596 seminar.

c. Six semester hours of courses outside the chemistry department. These courses must be approved by the graduate adviser.

d. Six semester hours of electives in approved advanced courses.

e. Satisfactory performance on a comprehensive exam (details regarding the exam are available from the graduate adviser).

B. General program

a. Fifteen semester hours or demonstrated proficiency* in the five courses CHM 451, CHM 532, CHM 561, CHM 571, and CHM 581.

b. Two semester hours (i.e., two separate enrollments) in CHM 596 seminar.

c. Six semester hours of courses outside the chemistry department. These courses must be approved by the graduate adviser.

d. Seven semester hours of elective in approved advanced courses.

e. Satisfactory performance on a comprehensive exam (details regarding the exam are available from the graduate adviser).

*Credit is not given for demonstrated proficiency; instead, the student may substitute an approved elective course(s).

2. Demonstrated competence in the use of the chemical literature, either by examination or by satisfactory completion of CHM 490.

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

Prereq: Three courses in chemistry.

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

*CHM 530 X-Ray Crystallography. Three sem hours
Crystal symmetry including crystal classes, point groups and space groups. The origin and production of X-rays, the design of X-ray equipment and the diffraction of X-rays by crystals. The theory of single crystal and powder X-ray equipment and the diffraction of X-rays by crystals. The theory of single

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

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

* CHM 555 Biopolymers. Two sem hours
A lecture course concerned with the chemistry and function of proteins, nucleic acids and polysaccharides.
Prereq: 351 Introductory Biochemistry or 451 Biochemistry.

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

* CHM 565 Nuclear Chemistry. Three sem hours
The course will cover topics such as radioactive decay, decay systematics, nuclear models and nuclear reactions. Applications of radioactivity to chemical problems will be discussed. Techniques of nuclear chemistry, nuclear processes as chemical probes and other such topics will be 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 571 Advanced Organic Chemistry. Three sem hours
A lecture course providing intensive coverage of reaction mechanisms.
Prereq: One year of organic chemistry.

* CHM 572 Stereochemistry of Organic Compounds. Two sem hours
Study of the fundamentals of stereochemistry, including such topics as structure and symmetry, stereoisomerism, classification and separation of stereoisomers and stereospecific and stereoselective reactions.
Prereq: 372 Organic Chemistry.

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


Prereq or coreq: CHM 575 High Polymer Chemistry or permission of the department.

**CHM 581 Analytical Chemistry. Three sem hours**

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

Prereq: Instrumental analysis and one year of physical chemistry.

**CHM 594 Special Topics in Chemistry. Two sem hours**

An in-depth study of a specialized area of chemistry.

Prereq: Graduate standing or permission of the department.

**CHM 596 Seminar in Chemistry. One sem hour**

Discussions of specific topics in chemistry by graduate students, staff and visiting scientists. Attendance at all sessions is expected. Two enrollments are required for all Master of Science in Chemistry candidates. Each student makes one presentation per enrollment. One of these must be based upon research if the student is following the thesis plan.

Prereq: Graduate standing or permission of the department.

**CHM 597, 598, 599 Research in Chemistry. One, two and three sem hours**

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

**OTHER COURSES FOR CREDIT TOWARD THE MASTER’S DEGREE**

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

**361 Fundamentals of Physical Chemistry. (3)**

**362 Physicochemical Measurements. (1)**

**374 Organic Chemistry Laboratory. (2)**

410 Scientific Glassworking. (1)

432 Advanced Inorganic Chemistry. (3)

451 Biochemistry. (3)

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

** No credit given toward the M.S. in chemistry degree.
The graduate program in economics leading to the Master of Arts degree is designed to prepare students for responsible positions in business, industry, and government service at the state, local, and federal levels. It also provides training for students desiring to pursue the study of economics at more advanced levels.

**DEGREE ADMISSION**

Degree admission to the graduate program is available to those meeting the following requirements:

1. Admission to the Graduate School of Eastern Michigan University (hold a

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

† Courses offered on a two (2) year cycle.
bachelor's degree from an accredited college or university and indicate promise of success in graduate study).
2. Have an undergraduate grade point average of at least 2.5.
3. Submit a Graduate Record Examination aptitude test score of at least 900 (verbal plus quantitative) or Graduate Management Admission Test score of at least 400.
4. Have the equivalent of at least a minor in economics, including intermediate theory courses.

CONDITIONAL ADMISSION

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

DEGREE REQUIREMENTS

In addition to the general requirements established by the Graduate School, the student shall:

1. Complete a minimum of thirty (30) hours of graduate credit. This will normally include 24 hours of economics and 6 hours of cognates.
2. Demonstrate research ability by successfully completing either:
   (A) A master's thesis for which up to 6 hours may be earned or
   (B) The graduate research seminar (ECO 696) and submit either:
       (1) Two research papers written for graduate courses and approved by departmental faculty, or
       (2) An essay for which at least 2 hours of credit has been granted.
3. Complete three of the following as an undergraduate or graduate student:
   (A) Intermediate Microeconomic Analysis [ECO 302]
   (B) Intermediate Macroeconomic Analysis [ECO 301]
   (C) Development of Economic Analysis [ECO 506]
   (D) Microeconomic Analysis [ECO 602]
   (E) Macroeconomic Analysis [ECO 601]
4. Complete with a grade of B or higher at least one of the following courses as a graduate or undergraduate student:
   ECO 310 Economic Statistics
   ECO 415 Econometrics
   ECO 510 Advanced Economic Statistics
   ECO 511 Mathematical Economics
   ECO 515 Advanced Econometrics

INFORMATION

Any queries about the Master of Arts program in economics should be addressed to the director of graduate studies in the Department of Economics.
ECO 500 Economics: Principles and Institutions. Three sem hours
Study of major economic institutions, the basic analytic tools of economic theory and their use.
Prereq: Not open to students having had Principles of Economics (ECO 201 and 202 or equivalent).

ECO 501 Macroeconomic Theory and Policy. Three sem hours
National income analysis, employment theory, monetary theory and practice and their application to economic policy. This course is designed for graduate students majoring in fields other than economics, primarily those in the College of Business.
Prereq: Principles of Economics. Not open to students who have had Intermediate Macroeconomic Analysis (ECO 301).

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

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

* ECO 506 Development of Economic Analysis. Three sem hours
Review of major theories and concepts in the development of economics as a scientific discipline. Emphasis is directed toward changing methods and theories of economic analysis and their implications for economic policy, including Pre-classical, Classical and Neo-classical, Keynesian and Neo-Keynesian thought.
Prereq: Six hours of economics.

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

* ECO 511 Mathematical Economics. Three sem hours
Study of economic models, matrix algebra and linear economic models, linear programming and game theory, optimization problems and calculus of variations.
Prereq: Calculus (MATH 120 or 119) or Mathematics for Economics (ECO 210)

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
and Intermediate Macroeconomic Analysis (ECO 301) and Intermediate Microeconomic Analysis (ECO 302) or equivalent.

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

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

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

* ECO 526 Economics of Education. Three sem hours
Identification and measurement of economic value of education and its contribution to economic growth and development.
Prereq: Economic Theory and Policy (ECO 501 or ECO 502) or equivalent.

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

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

* ECO 550 Public Finance: Analysis and Policy. Three sem hours
A detailed, theoretical analysis of the problems of budgeting and budget techniques, methods to evaluate expenditures, efficiency and equity considerations in tax policy, problems of stabilization policy and growth policy, evaluation of the impact and importance of national debt.
Prereq: Nine credit hours of economics or department permission.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* ECO 551 State and Local Government Finance. Three sem hours
Economic analysis of expenditures, revenues and debt management of state and local governments.
Prereq: Principles of Economics (ECO 201 and 202 or equivalent) or permission of department.

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

* ECO 560 Economics of Industrial Organization. Three sem hours
The enterprise sector of a capitalist economy; incidence of competition and monopolistic tendencies in various industries and markets, market structure, conduct and performance, mergers and concentration and public policies.
Prereq: Six hours of economics.

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

* ECO 562 Government and Business. 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 575 The Economics of Socialism. Three sem hours
A survey of the economic thought bases of the various types of socialism followed by a comprehensive study of the planning and operation of modern socialist economies.
Prereq: Six hours of economics or equivalent or permission of department.

* ECO 580 International Trade: Theory and Policy. Three sem hours
Analysis of international trade theories and trade policy with reference to the effects of domestic fiscal and monetary policy on international economic problems.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* ECO 586 Economic Development Planning. Three sem hours
Analysis of the theory of economic development planning and its application in developed and underdeveloped countries. Major development planning models are discussed.
Prereq: Intermediate Macroeconomic Analysis and Intermediate Microeconomic Analysis (ECO 301 and 302 or equivalent).

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

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

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

ECO 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a member of the economics faculty.
Prereq: Permission of the graduate director in economics.

ECO 601 Macroeconomic Analysis. Three sem hours
National income accounting as a framework for economic analysis; determinants of consumption, investments and government expenditures; models of underemployment and inflation.
Prereq: Intermediate Macroeconomic Analysis (ECO 301 or equivalent) or permission of department.

ECO 602 Microeconomic Analysis. Three sem hours
Economic analysis of the behavior of individuals and firms; price determination in competitive and monopolistic markets; general static equilibrium and the allocation of resources.
Prereq: Intermediate Microeconomic Analysis (ECO 302 or equivalent) or permission of department.

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

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

OTHER COURSES

These upper division courses may also be taken for graduate credit and applied

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

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68 Graduate Catalog
on the department's degree program providing prior approval has been given by
adviser. See the Undergraduate Catalog for course descriptions.

301 Intermediate Macroeconomic Analysis (3)
302 Intermediate Microeconomic Analysis (3)
310 Economic Statistics (3)
321 Black Workers and Labor Market (3)
323 Labor and Government (3)
341 Money and Banking (3)
365 Public Utility Economics (3)
366 Economics of Transportation (3)
370 Comparative Economic Systems (3)
371 Latin American Economic Problems (3)
415 Econometrics (3)
420 Comparative Labor Unionism (3)
422 Union Leadership (3)
424 Seminar in Labor Issues (3)
445 Business Cycles (3)
455 Economic Efficiency in the Public Sector (3)
472 Soviet Economy (3)
480 International Economics (3)

All upper division (namely 300 and 400 level) courses may be taken for gradu­ate credit and are suitable for use as cognates by majors in other fields.

### Tentative Schedule of Regularly Offered Graduate Courses

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+ Courses offered on a two (2) year cycle during odd years.
++Courses offered on a two (2) year cycle during even years.
ENGLISH LANGUAGE
and LITERATURE

The Department of English Language and Literature offers courses leading to a Master of Arts in English with either a concentration in literature or a concentration in English language and composition. The department also offers several general courses not applicable to the master's degree in English but which may be elected as cognate courses by candidates for degrees in other departments.

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 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 one of the following ways:

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

b. by passing French 516, 517 Reading French for Graduate Students with a grade of B or better (recommended for students planning to do Ph.D. work in English).

c. by taking six hours of graduate work chosen from Old English, Old English Poetry, Old and Middle English Dialects, Chaucer, History of the English Language. (Students with equivalent undergraduate training may be excused by petition).

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

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

THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN LITERATURE

Objectives of the degree:

The M.A. in English with Concentration in Literature is designed to provide master's level competence in the study of literature through the dual requirements of depth and breadth of approach to the discipline. Candidates achieve depth through the selection of a major area of study defined in terms of three choices: national focus (English or American literature), or a major period focus, or genre focus (poetry and prose). Candidates are assured of breadth of approach through the choice of a minor area of study and of electives from the two areas of study not selected for the major.

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

Major and minor requirements for the M.A. in English with Concentration in Literature:

Ordinarily a candidate will complete a major of 12 hours in a field chosen from those listed under Groups I (a) or (b); II (a) or (b); and III (a) or (b), 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
(a) MEDIEVAL AND RENAISSANCE
(b) 17th and 18th CENTURIES

Group II
(a) 19th and 20th CENTURIES
(b) AMERICAN LITERATURE

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

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

COURSES FOR MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN LITERATURE

Medieval and Renaissance

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

* LIT 540 Elizabethan Drama. Three sem hours
  The plays of Marlowe, Jonson and Webster, considered primarily for their intrinsic literary and dramatic merit and secondarily for the light they throw on.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Shakespeare’s milieu. A greater understanding of the term “Elizabethan Drama.”
Prereq: Fifteen hours of credit in literature.

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

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

Seventeenth and Eighteenth Centuries

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

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

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

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

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

* Open to graduate students and qualified seniors—see “Enrollment in Graduate
Courses by Seniors.”
### Nineteenth and Twentieth Centuries

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

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

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

### American Literature

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

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

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

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

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
* LIT 525 Henry James. Three sem hours
Major novels, shorter fiction and literary criticism of Henry James.
Prereq: Fifteen hours of credit in literature.

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

Special Courses

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 ac­
cepted as a candidate for the master's degree in literature.
By permission of the Graduate Committee only.

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

* LIT 696 Seminars in Selected Topics. Three sem hours
Topics will be announced from time to time. The following are examples of
topics offered in recent years:
  Joyce, Yeats, and Shaw
  Early American Drama
  Medieval and Renaissance Allegory
  Hemingway, Fitzgerald, and Faulkner
Prereq: Fifteen hours of credit in literature. Further prerequisites may be re­
quired for some topics.

OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN
ENGLISH WITH CONCENTRATION IN LITERATURE

The following courses for advanced undergraduates are also available to gradu­
ate students. 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. (3)
314 Old English. (3)
315 Age of Chaucer. (3)
316 English Literature 1500-1600. (3)
317 English Literature 1600-1660. (3)
318 English Literature 1660-1744. (3)
319 English Literature 1744-1798. (3)
327 Milton. (3)

* Open to graduate students and qualified seniors—see "Enrollment in Graduat­
  Courses by Seniors."
THE MASTER OF ARTS IN ENGLISH WITH CONCENTRATION IN ENGLISH LANGUAGE AND COMPOSITION

Objectives of the degree:
The M.A. in English with Concentration in English Language and Composition offers candidates options for increasing their professional competence in several areas of language and literary study and in composition. Language as an affective medium of expression is emphasized in the areas of advanced composition, creative writing and literature; language as a consistent chronological progression is viewed in the study of the history of the language and in the historic periods of the language (Old English, Middle English); language as a coherent and discrete system of behavior is studied in grammar and syntax; methods and procedures of language analysis are studied in linguistic science courses.

The degree is an appropriate choice for candidates preparing for teaching who wish to increase their competence in the several areas of language and literary study and writing. It is also chosen by candidates who intend to undertake Ph.D. work in linguistics. The degree is an appropriate background for those who intend to proceed to such careers as editing, publishing, or writing, where analytical facility and effectiveness in communicating ideas are necessary. It is also chosen by those who will work with language on a cross-cultural basis, as in foreign service, international trade, translating and interpreting.

Requirements for the M.A. in English with Concentration in English Language and Composition:
12 hours: Major in language and composition, including three hours required in advanced composition and nine hours of restricted electives in English language, grammar, linguistics, and creative writing. (See courses listed on page 76 under Courses in English Language, Linguistics, and Composition and on page 76–77 under Other Courses for Credit toward M.A. in English with Concentration in English Language and Composition.) Students with strong undergraduate preparation in language or writing may replace three to six of these hours with literature electives.
12 hours: Electives in literature. (See courses listed under Courses for the M.A. in English with Concentration in Literature, pages 71–74, and Other Courses for Credit Toward M.A. in English with Concentration in Literature, pages 74–75.)

6 hours: Cognates, consisting of such courses as the teaching of composition, the teaching of reading, or other cognate courses applicable to the candidate's professional aims. RDG 502 Developmental Reading—Secondary is strongly recommended as a cognate course for students without this type of background.

Language Requirement: Candidates are referred to the language requirement printed as part of the general requirements for the master's degree in the Department of English Language and Literature on page 70.

COURSES IN ENGLISH LANGUAGE, LINGUISTICS AND COMPOSITION

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

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

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

* ENG 509 Old and Middle English Dialects. Three sem hours
A study of the dialectal differences of Old and Middle English exemplified in literary texts of the medieval period, with an investigation of their contributions to standard Modern English.
Prereq: 321 History of the English Language or 314 Old English.
Recommended: 315 Age of Chaucer.

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

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

The following courses for advanced undergraduates are also available to gradu-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Ordinarily a maximum of three undergraduate courses may be approved for graduate credit.

301 An Introduction to the English Language (3)
302 Modern English Syntax (3)
314 Old English (3)
320 Introduction to Linguistic Science (3)
321 The History of the English Language (3)
420 Old English Poetry (3)
422 Writer's Workshop (3)
425 Advanced English Syntax (3)

GENERAL COURSES

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

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

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

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

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

* LIT 508 Teaching of Children's Literature. Three sem hours
An intensive study of the major genres of children's literature with particular

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
emphasis on important representative examples. A significant part of the course is devoted to the discussion and demonstration of various techniques employed in teaching literature to children. Offered for anyone planning to work with children, pre-school through grade nine.

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

Tentative Schedule of Regularly Offered Graduate Courses

<table>
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<tr>
<th>Course #</th>
<th>Winter</th>
<th>Spring</th>
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<th>Fall</th>
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<td>ENG 502</td>
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<td>ENG 503</td>
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<td>LIT 609</td>
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*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
FOREIGN LANGUAGES
and LITERATURE

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

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

<table>
<thead>
<tr>
<th>FRENCH</th>
<th>SPANISH</th>
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<tbody>
<tr>
<td>12 to 18 hours</td>
<td>12 to 18 hours</td>
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<tr>
<td>History of French language</td>
<td>History of Spanish language</td>
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<tr>
<td>Syntax</td>
<td>Old Spanish</td>
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<tr>
<td>Stylistics</td>
<td>Spanish Grammar and Syntax</td>
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<tr>
<td>Graduate French Conversation</td>
<td>Graduate Spanish Conversation</td>
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<tr>
<td>Diction</td>
<td>Stylistics</td>
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<tr>
<td>Contemporary French Scene</td>
<td>Spanish Language in New World</td>
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<tr>
<th>LITERATURE</th>
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<tr>
<td>12 to 14 hours</td>
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<tr>
<td>16th through 19th centuries</td>
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<tr>
<td>20th century</td>
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</table>

COMPLETION OF DEGREE

Candidates for the degree shall present a minimum of thirty hours of graduate work. The program will include six hours in a related area, to be determined by the departmental adviser and the student, and approved by the dean of the Graduate School. The candidate shall pass satisfactorily written and oral examinations. These examinations shall be completed at least one month before the degree is to be awarded. The examination will be based upon a Reading List presented to the student upon his admission to candidacy.

RESEARCH PAPER

As an alternative to the thirty hours of graduate work, a student may elect a program of twenty-four hours, or more, plus the preparation of a research paper on a subject approved by his graduate committee. This alternative is recommended only for those students who plan to continue their graduate work toward the

* The student is expected to be conversant with both Peninsular and Latin-American literature, and his program must reflect this.
doctorate. Those selecting this alternative will be allowed a maximum of six hours of graduate credit for the completion of the research paper and will be required to submit at least twenty-four hours of graduate course work. The courses for credit in the preparation of the research paper are numbered 690, 691, and 692; they carry 1, 2 and 3 hours of credit respectively. The number of credit hours for this work in a given term will be recommended by the adviser in consideration of the scope and difficulty of the project and of the amount of time expended. The research paper must be approved by the graduate committee before a degree is recommended under this plan.

I. FRENCH

FRN 516, 517 Reading French for Graduate Students. Three sem hours each
Structure, basic vocabulary, and common idioms of French for reading proficiency. Open to beginning students. Does not count toward a degree in French.

*FRN 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. Oral reports.
Prereq: 444 Advanced French Conversation or equivalent.

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

*FRN 523 Contemporary French Scene. Two sem hours
An interdisciplinary approach to French language, culture and literature. Material to be read in the original and to serve as a basis for class discussion in French. Assigned reading and oral reports.
Prereq: 443, 444 Advanced French Conversation and two courses in literature.

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

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

FRN 594 Special Topics. Three sem hours
An intensive study of a specific area of French language or literature, to be

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
determined by the instructor's field of specialization and student interest. This course may be repeated for credit with departmental permission.
Prereq: Departmental permission.

FRN 597, 598, 599. One, two and three sem hours
Intensive study of a problem under the direction of a member of the graduate staff. Not to be elected until the student has been accepted as a candidate for the M.A. degree.
FRN 690, 691 and 692. Research Paper. One, two and three sem hours
For students who seek the degree through the alternative plan outlined under Research Paper. The amount of credit will be recommended by the adviser.
Prereq: Departmental permission.

II. OTHER COURSES FOR CREDIT TOWARD M.A. IN FRENCH

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

431 Studies in French Theatre. (3)
432 Studies in French Poetry. (3)
433 Studies in French Prose. (3)
441, 442 Nineteenth Century French Literature. (3 each)
443 French Syntax. (2)
444 Advanced French Conversation. (2)
445 French Diction. (3)
446 Business French. (3)
461, 462 Twentieth Century French Literature. (3 each)
471, 472 Eighteenth Century French Literature. (3 each)
481 History of the French Language. (3)
491, 492 Seventeenth Century French Literature. (3 each)

III. SPANISH

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

* SPN 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.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*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 at the 400 level or department permission.

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. The descriptions of the courses are given in the Undergraduate Catalog.

351, 352 Survey of Spanish-American Literature. (3)
443 Advanced Spanish Composition. (2)
444 Advanced Spanish Conversation. (2)
445 Spanish-American Prose. (3)
446 Spanish-American Theatre. (3)
447 Modern Novel. (3)
448 Modern Drama. (3)
449 Romanticism. (3)
453 Drama of the Golden Age. (3)
454 Modernism in Spanish America. (3)
455 The Generation of 1898. (2)
463 Don Quixote. (3)
481 History of the Spanish Language. (2)

GEOGRAPHY and GEOLOGY

The Department of Geography and Geology offers courses leading to the degree of Master of Arts and to the degree of Master of Science. Students who complete programs emphasizing man and his works receive the degree of Master of Arts; those whose programs stress climatology, geology and other aspects of the natural environment receive the Master of Science degree.

Objectives. The objectives of programs leading to a master's degree are aimed at

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
helping each individual student to prepare for further study toward a doctoral degree; a professional career using geography after earning a master's degree; or teaching at elementary, secondary or community college level with master's degree competence in geography. Geographers are employed by government agencies, from local to federal levels, to work in urban and regional planning, analysis of foreign areas, resource management, agricultural and transportation surveys, cartography, climatology, and general economic geography. Some opportunities also exist in private business for geographically trained persons who can do research in marketing and industrial location.

Admission Requirements. For admission to a master's degree program in geography the student must have a bachelor's degree from an accredited institution, and must have attained at least a 2.5 grade point average in his major field or in the equivalent of a geography minor during his last two undergraduate years or must have scored at least 1000 on the aptitude test of the Graduate Record Examination. Students who have majored in a field other than geography may be admitted to a program with the understanding that they must satisfactorily complete between 44 and 48 semester hours of undergraduate and graduate work in geography for the master's degree.

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

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

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

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

* GEO 505 Aerial Photograph Interpretation and Remote Sensing.

Two sem hours

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

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* 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 510 The New Earth Science. Two sem hours
Study of planet Earth—its interior, surface, and atmosphere—emphasizing the new theories of Continental Drift, Sea Floor Spreading, and Weather Modification.
Prereq: GEO 102 or 108 or 508 and 509.

* GEO 522 Processes of Landform Development. Two sem hours
Interrelations of climate, microclimate, vegetation, near-surface materials, soil formation and types and landforms in Michigan, emphasizing direct observation in the field.

* GEO 528 Plant and Animal Geography. Two sem hours
A description of world vegetation and wildlife regions including the relationship of habitat to geologic, climatic and soil factors. The latter part of the course will deal with dispersal mechanisms, domestication, and the introduction of new species.

* GEO 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 the earth, its relationship to the solar system, time, earth change and the succession of life. Not open to students who have credit in 230 Historical Geography.

GEO 531 Introduction to Coastal Environments. Two sem hours
Description and analysis of the physical and biogeographical processes of the coastal ocean, Great Lakes and inland lakes. Distribution and origin of the coastal environments, natural and human modification of beach, river valley, estuary, marsh, delta and coral reef environments. Classroom demonstrations and field trips.
Prereq: Approval of the department.

* GEO 539 Special Topics in Geography. Two sem hours
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
elect this course several times as long as different topics are studied. Information on content can be obtained at department office.

**Prereq:** Approval by the department.

* **GEO 541 South American Lands. Two sem hours**
  A regional study of the countries of South America; resources, people and national cultures are stressed.
  **Prereq:** Fifteen hours of credit in geography or approval by the department.

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

* **GEO 544 Problems in Urban Geography. Two sem hours**
  Selected geographic problems: urban sprawl, deterioration of the urban environment, changing urban functions and others. Acquisition of analytical techniques and geographical insights.
  **Prereq:** Fifteen hours of credit in geography, including one course in urban geography, or approval by the department.

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

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

* **GEO 552 Historical Geography of Michigan. Two sem hours**
  Geographical changes and developments in Michigan from pre-colonial times to the present. The geography of the state in each of the important stages of its history.
  **Prereq:** One geography course and one American history course.

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

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

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* GEO 561 Physical Landscapes. Two sem hours
An examination of the processes involved in creating and modifying the earth's surface and the theoretical approaches used in examining the problems of selected landscapes.
Prereq: Permission of the department.

* GEO 562 Weather. Two sem hours
Aimed at understanding the atmospheric processes which generate all weather; applies observations of weather elements to analysis of weather phenomena; 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 569 The American Midwest. Two sem hours
A regional treatment. The natural setting, the distribution of the people, the important occupations and the present and future problems in each of the several regions.
Prereq: Fifteen hours of credit in geography, including a course in geography of Anglo-America, or approval by the department.

* GEO 571 Teaching of Social Studies. Two sem hours
Subjects included: selecting, securing, organizing, presenting and evaluating materials. Not open to students who hold credit in 348 Teaching Social Studies in Elementary Schools.

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

* GEO 585 City and Regional Planning. Two sem hours
Philosophy, history, legal aspects and techniques of the planning process. Case studies in the United States and Europe illustrating the impact of planning on man's economic, social and political activities.
Prereq: Ten hours of credit in geography or approval by the department.

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
GEO 596 Seminar in Geography. Two sem hours
Research, reports and group discussions emphasizing the distinctive concerns and methodology of geography. The particular topic that is examined will vary from semester to semester. Students may elect this seminar several times as long as the topics studied are different. Information regarding the content of a particular seminar may be obtained at the department office.
Prereq: Approval by the department.

GEO 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Approval by the department.

GEO 649 Problems in Economic Geography. Two sem hours
Research problems and techniques dealing with the production, distribution and consumption aspects of economic geography.
Prereq: Fifteen hours of credit in geography, including a course in economic geography, or approval by the department.

GEO 655 Field Studies in Michigan. Two sem hours
The geographic and geologic environment: on-campus sessions and field trips include both subject matter and methodological concern. Write department for information on content. Offered as a two-week workshop in the summer session.

GEO 660 Area Analysis. Two sem hours
Advanced geography field research. A philosophy of field geography; selected problems concerned with industry, recreation, agriculture and commerce.
Prereq: Fifteen hours of credit in geography, including 303 Field Geography, 403 Field and Project Geography or GEO 557 Field and Project Geography or approval by the department.

GEO 670 History of Geographic Thought. Two sem hours
The main themes of geographic thought from ancient times to the present day; the evolution of ideas fundamental to modern American geography.
Prereq: Approval by the department.

GEO 690, 691, 692 Thesis. One, two and three sem hours
An intensive study of a problem or problems under the direction of a faculty member.
Prereq: Approval by the department.

GEO 694 Internship in Geography-Geology. Four sem hours
Supervised internship in some aspect of geography or geology which is of mutual interest to the student and the public or private agency that would "employ" the student. This experience is designed to integrate academic training with practical application. This course may be taken once only.
Prereq: Permission of the department.

GEO 696 Seminar in Methods and Research. Two sem hours
Basic research techniques applicable to geography. Location and identification of source materials, statement and analysis of problems, and preparation and presentation of results of research.
Prereq: Approval by the department.
OTHER COURSES FOR CREDIT TOWARD A MASTER’S DEGREE IN GEOGRAPHY

A maximum of three advanced undergraduate courses from the following list are also available to graduate students. For descriptions of these courses see the Undergraduate Catalog. These courses are also suitable for use as cognates by majors in other fields.

301 Cartography. (3)
303 Field Geography. (3)
312 Geography of Canada. (2)
313 Geography of Michigan. (2)
321 Geography of Latin America. (3)
322 Geography of Africa. (3)
323 Geography of Australia and the Pacific Islands. (3)
324 Geography of South Asia. (3)
325 Geomorphology. (3)
326 Structural Geology. (3)
327 Introduction to Soil Science. (2)
329 Petrology. (3)
330 Sedimentation and Stratigraphy. (3)
331 Introduction to Paleontology. (3)
332 Urban Geography. (3)
333 Settlement Geography. (3)
359 Geography of the U.S.S.R. (3)
360 Cultural Geography. (3)
361 Population Geography. (3)
365 The Cultural Basis of the City. (3)
370 Glacial Geology. (3)
423 Land and People in Southeast Asia. (2)
424 Climatology. (2)
425 Mid East. (2)
428 Optical Minerology. (4)
430 Petroleum Geology. (3)
431 Historical Geography of the United States. (3)
432 Political Geography. (3)
433 Case Studies in Political Geography. (3)
438 Manufacturing Geography. (3)
439 Economic Geography. (3)
440 Agricultural Geography. (3)
441 Transportation Geography. (3)
448 Ground Water. (3)
449 Mineral Deposits. (3)
462 Meteorology. (2)
466 Advanced Physical Geology. (3)
470 Quantitative Methods in Geography and Geology. (2)
475 Computer Mapping. (3)
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 2.25 (4.0=A) for all undergraduate courses and 2.50 for all undergraduate history courses.

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

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HISTORY and PHILOSOPHY
A. twenty-four hours of history courses carrying graduate credit including:

1. a course in historical method (students entering the program without such credit will register for History 505 during their first semester).
2. a concentration (at least three courses) in each of two fields, the fields being chosen from two different areas.*
3. at least two courses in the area not covered by courses elected under No. 2.*
4. a course in historiography.
5. a seminar with a formal research paper.

B. an oral examination in each of the two fields of concentration.

C. six hours of cognate courses.

*Students with records of superior upper division undergraduate performance in these areas may be permitted to substitute elective hours for some or all of these requirements. The approval of the graduate adviser is required.

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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<th>Area 1</th>
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<td>Michigan</td>
<td>Europe 1500–1815</td>
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A limited number of graduate assistantships are available. Interested students should direct their inquiries to the head of the department.

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

For admission to a Master of Arts degree program in social studies, the student shall present a bachelor's degree from an accredited institution, a grade point average of 2.5 either in all undergraduate work in the social studies or in his/her prospective social studies area of concentration, and not less than 30 semester hours of undergraduate credit in social studies. Candidates for the degree must also possess a teacher's certificate for the elementary or secondary level. Students who do not meet these qualifications will make up the deficiency. For completion of the Master of Arts degree in social studies, the applicant must present a total of not less than 30 semester hours of graduate credit. This may include up to 15 hours in approved upper division undergraduate courses. The credit must be distributed as follows:

1. Twelve semester hours in one social studies area of concentration (economics, history, political science, sociology/anthropology 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 the area of concentration.
3. Six elective semester hours of graduate work. The elective hours may be social studies or any other graduate courses offered by the University.
4. All course elections must be approved by the departmental graduate adviser. The departmental graduate adviser is Dr. Lee R. Boyer, 702-H Pray-Harrold Building.
I. HISTORY

A. Graduate Courses (open to students on the M.A. in history or social studies, and to students from other disciplines who wish to take cognate hours in history.)

AREA 1: UNITED STATES

* HIS 531 Studies in Black History. Three sem hours
Selected major developments in the history of black Americans from 1619 to the present.

* HIS 533 Studies in Michigan History. Three sem hours
Intensive study of differing periods and topics in Michigan history.
Prereq: 313 Michigan History, 414 Michigan in the Twentieth Century or permission of the department.

* HIS 538 Studies in Colonial American History. Two sem hours
Colonial American political, economic and social institutions; current scholarship and interpretation.
Prereq: 223 American History to 1877 or permission of the department.

* HIS 541 The United States, 1825-1860; Ferment and Reform. 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 Studies in 20th Century U.S. Reform. Two sem hours
Selected treatment of the Reform movements in the 20th century with special emphasis on the Progressive Era and the New Deal.
Prereq: 224 American History 1877 to the Present or equivalent.

* HIS 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 United States Constitutional History, or Political Science 312 American Constitutional Law I, or 313 American Constitutional Law II.

* HIS 583 Studies in the Civil War and Reconstruction. Three sem hours
Major problems of interpretation in the period from 1850 to 1877.

* HIS 584 Studies in the Gilded Age. Two sem hours
The United States moving into a modern phase after the Civil War, leaving behind the old frontier and the blacksmith economy to enter an era characterized by factories, large cities, a race for colonies and socio-political unrest.

* HIS 586 United States in World Politics. Two sem hours
American foreign policy in the twentieth century; the nation's transition to great-power status and its adjustment to the demands of that role.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
AREA 2: EUROPE

* HIS 511 Studies in Ancient History. Two sem hours
Intensive study of selected topics in Classical Greek and Roman history during the period 500 B.C.-A.D. 600.

* HIS 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 522 Studies in Twentieth Century Europe. Three sem hours

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

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

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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. Three sem hours
The development of India from mid-19th century to the post-independence period; major problems confronting contemporary India.
Prereq: 375 Modern India or permission of the department.

* HIS 557 Intellectual History of the Far East. Two sem hours
Major schools of Chinese classical thought; Japanese 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.
Prereq: One course in Far Eastern history or permission of the department.

* HIS 558 Diplomatic History of the Far East. Two sem hours
The international relations of China, Japan and Korea with each other and with the Western powers from the beginning of the nineteenth century to the present; stresses arising from East Asia's enforced entry into the modern state system.
Prereq: One course in Far Eastern history or permission of the department.

* HIS 561 Studies in Latin American History I. Two sem hours
Selected political, economic, social and intellectual aspects of Spanish Ameri-

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
can and Portuguese American history from the period of discovery to the inde­
pendence 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, economics, social and intellectual aspects of the history of
Spanish and Portuguese America during the National Period, from indepen­
dence to the present.
Prereq: One course in Latin American history or permission of the depart­
ment.

SPECIAL COURSES

HIS 505 Historical Method. Three sem hours
This course, the first in the student’s graduate program, treats the relationship
of history to the humanities and social sciences, the use of the library, stan­
dard bibliographical aids and collected source materials and the skills and ex­
perience necessary to evaluate historical writing critically and to conduct his­
torical research in a mature and professional manner.

* HIS 593, 594 Special Topics in History. Two or three sem hours
Subject matter will change from semester to semester. Course may be repeated
for credit, up to a limit of six hours.

HIS 597, 598, 599 Independent Studies. One, two or three sem hours
An intensive study of a problem or group of problems under the direction of a
University faculty member. A maximum of six hours may be applied toward a
degree program. A maximum of three hours may be taken in any one semester
or session. Approval of department head or graduate adviser is required as
first step in registration process.

HIS 688 Historiography. Two sem hours
A critical study of the writings, philosophy and influence of major historians.
Prereq: Fifteen hours of graduate credit in history.

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

OTHER COURSES FOR CREDIT TOWARD THE MASTER’S DEGREE
B. Undergraduate Courses
The following upper division undergraduate courses may also be taken for
graduate credit and applied toward the degree programs in history and social
studies. Note that a maximum of 15 hours of such credit may be used in any
one degree program. For detailed course descriptions, please consult the
Undergraduate Catalog.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate
Courses by Seniors.”
Area 1: United States

300 Topics in History. (3)
303 History of American Religion. (3)
305 History of Indians in the United States. (3)
313 Michigan History. (3)
315 History of Black Americans. (3)
350 History of Canada. (3)
360 United States Labor History. (3)
361 Foreign Relations of the United States. (3)
362 American Urban History. (3)
365 The Old South. (3)
368 Social and Intellectual History of the United States to the Civil War. (3)
369 Social and Intellectual History of the United States since the Civil War. (3)
380 American Colonies to Independence. (3)
382 The Age of Washington and Jefferson. (3)
383 The Age of Jackson. (3)
385 Civil War and Reconstruction. (3)
387 The United States as an Emerging World Power. (3)
411 United States Constitutional History. (3)
414 Michigan in the Twentieth Century. (3)
425 The United States in the 20th Century: Prosperity, Depression and World War II. (3)
426 The United States since World War II. (3)

Area 2: Europe

300 Topics in History. (3)
309 France to 1789. (3)
310 France since 1789. (3)
311 England to 1689. (3)
312 England 1689 to Present. (3)
323 Greek History. (3)
324 Roman History. (3)
327 Europe in the Making, 500-1300. (3)
330 Europe in the Renaissance and the Reformation. (3)
331 Europe from Absolutism to Revolution, 1648-1815. (3)
332 Modern Europe 1815-1919. (3)
333 Europe since 1919. (3)
335 History of Women in Europe. (3)
337 German History to 1815. (3)
338 German History since 1815. (3)
343 Russia to 1855. (3)
344 Russia since 1855. (3)
390 Multimedia Approaches to History. (3)
435 Italy since 1815. (3)
471 Social and Intellectual History of Nineteenth Century Europe. (3)

Area 3: Other

300 Topics in History. (3)
301 The Religions of South and East Asia. (3)
302 Near Eastern and Western Religions. (3)
340 The Middle East and North Africa to 1798. (3)
341 Middle Eastern History, 1798–Present. (3)
342 North Africa, 1798 to Present. (3)
355 Latin America: Colonial Period. (3)
356 Latin America: National Period. (3)
357 History of Mexico. (3)
371 The Far East to 1800. (3)
373 History of Modern China. (3)
374 History of Modern Japan. (3)
375 Modern India. (3)
377 History of Sub-Saharan Africa. (3)
378 Twentieth Century Africa. (3)
403 History of the Ancient Near East. (3)

II. PHILOSOPHY

The following courses may be elected as cognate hours by students in other disciplines, subject to the approval of their graduate advisers.

A. Graduate Course

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

B. Undergraduate Courses
For detailed course descriptions, please consult the Undergraduate Catalog.

310 Aesthetics. (3)
355 Philosophy of Law. (3)
380 Philosophy of Science. (3)
381 Symbolic Logic. (3)
400 Philosophy Seminar. (2)
442 Philosophy of Mind. (3)
460 Philosophy of Language. (3)
470 Contemporary European Philosophy. (3)

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 admit-
ted to the program after meeting requirements specified by the Graduate Committee.

C. acceptance by the Graduate Committee after individual consultation with member(s) of the Committee.

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

Students seeking a Master of Arts in mathematics and having primary interest in computing and numerical analysis should take the following suggested courses: Such students should have credit for a first course in computer programming and the equivalent of 420 or 425 before entering the program. They should then complete 416 or 418, 436 or MTH 537, 437, MTH 511 and MTH 512. The remaining courses should be chosen from the following list, unless written permission for each deviation is obtained from the student's assigned adviser: 421, 422, 426, 470, 471, MTH 506, MTH 521, MTH 526, MTH 527, MTH 528, MTH 546, MTH 574, MTH 575, MTH 576, MTH 577.

For information or advising please call the Department of Mathematics for an appointment.

*MTH 500 Modern Mathematics Content, K-6. Two sem hours

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

*MTH 501 New Topics in Modern Mathematics, K-8. Two sem hours

New topics in modern mathematics programs; the materials of various study groups; practical problems in teaching mathematics in grades K-8. Not applicable to program M.A. in Mathematics. Not open to students who have credit in MTH 500 Modern Mathematics Content, K-6.
Prereq: Teaching experience or 381 The Teaching of Mathematics, K-6.

*MTH 503 Arithmetic Methods. Two sem hours

Current problems in teaching arithmetic. Evaluating pupil achievement; new topics. Not applicable to program M.A. in Mathematics.
Prereq: Teaching experience or 381 The Teaching of Mathematics, K-6.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* **MTH 506 Introduction to Mathematical Logic. Two sem hours**
  Propositional and first order predicate calculi and rules of deduction; application in mathematical systems and proofs.
  Prereq: A minor in mathematics.

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

* **MTH 511 Linear Algebra I. Two sem hours**
  Vector spaces, dimension, linear transformations, matrices and determinants with application to linear equations. Equivalence of matrices and an introduction to similarity theory.
  Prereq: A minor in mathematics.

* **MTH 512 Linear Algebra II. Two sem hours**
  The theory of finitely generated modules over a ring of polynomials, as applied to similarity theory; canonical forms for similarity. Scalar products, the dual space, Sylvester's Theorem and the Spectral Theorem.
  Prereq: MTH 511 Linear Algebra I.

* **MTH 516 The Theory of Numbers. Two sem hours**
  Elementary properties, divisibility, congruences, powers and other topics.
  Prereq: A minor in mathematics.

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

* **MTH 519 Group Theory II. Two sem hours**
  Homomorphy and groups with operators, construction of composite groups, Sylow p-groups and p-groups, transfers into subgroups and other topics. (Not offered currently.)
  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 521 Elements of Set Theory. Two sem hours**
  Sets, set operations, relations and functions, cardinal numbers, order, axiom of choice and other topics.
  Prereq: A minor in mathematics.

* **MTH 522 Fourier Analysis. Two sem hours**
  An introduction to Fourier series and their application to the solution of

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
boundary value problems in the partial differential equations of physics and engineering. (Not offered currently.)

Prereq: 320 Differential Equations I and 420 Advanced Calculus I, or equivalents.

* MTH 524 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. (Not offered currently.)
Prereq: 420 Advanced Calculus I or MTH 526 Real Analysis I or equivalent.

* MTH 525 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. (Not offered currently.)
Prereq: MTH 524 Complex Analysis I.

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

* MTH 527 Real Analysis II. Two sem hours
Uniform convergence; Stone-Weierstrass theorem; measure, measurable functions, Lebesgue integration on the real line. (Not offered currently.)
Prereq: MTH 526 Real Analysis I.

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

* MTH 529 Introduction to Topology II. Two sem hours
Connectedness, local connectedness, product and quotient spaces, metrizability, completeness, generalized convergence and homotopy. (Not offered currently.)
Prereq: MTH 528 Introduction to Topology I.

* 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

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
course concentrates on development of algorithmic problem solutions and their
descriptions via flow charts and the FORTRAN IV language. The students will
obtain experience using a digital computer by running several programs. Not
open to students who have credit in 137 Introduction to Computer Programming
or 237 Computer Programming and Numeric Methods.
Prereq: College algebra and permission of the department.

* MTH 537 Introduction to Numerical Analysis. Two sem hours
Review of current computer language in use on campus, errors, evaluation of
functions, root determination, numeric integration, interpolation, solution of
ordinary differential equations and simultaneous linear equations. Not open to
students who have credit in 436 Numerical Analysis I.
Prereq: A course in computer programming and 221 Calculus with Analytic
Geometry IV.

* MTH 542 Non-Euclidean Geometry. Two sem hours
Foundations of geometry and historical development. A study of hyperbolic
and elliptic plane geometries. These compared with parabolic plane geometry.
Prereq: A minor in mathematics.

* MTH 543 Analytic Projective Geometry. Two sem hours
Projective geometry as defined on a vector co-ordinate space. The correspond­
ing 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 in­
cluding connectivity and traversibility. Associated matrices, groups and rela­
tions 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. (Not offered currently.)
Prereq: An undergraduate major in mathematics.

* 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, sam-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."
pling theory and other topics. Not open to students who have credit in 470 Introduction to Mathematical Statistics I.

Prereq: Fifteen hours of undergraduate credit in mathematics.

* MTH 575 Statistical Problems. Two sem hours
Probability densities, mathematical expectation, multivariate distribution theory, sampling distributions, point and interval estimations, test of hypotheses, an introduction to the analysis of variance and statistical decision problems. Not open to students who have credit in 471 Mathematical Statistics II. (Not offered currently.)

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

* MTH 576 Selected Topics in Probability and Statistics. Two sem hours
Topics selected from: analysis of variance and regression, Bayesian Statistics, multivariate analysis, games and decisions, non-parametric methods, sequential analysis. (Not offered currently.)


* 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. (Not offered currently.)

Prereq: 470 Introduction to Mathematical Statistics I or MTH 574 Probability, and permission of the department.

* MTH 581 Modern Mathematics Methods, K-6. Two sem hours
Effective techniques in presenting materials, planning class activities and creating good learning situations; current problems in a modern mathematics curriculum for grades K-6. Not applicable to program M.A. in Mathematics.

Prereq: MTH 500 Modern Mathematics Content, K-6 or permission of the department.

* MTH 583 Modern Mathematics Methods, Junior High School. Two sem hours
Effective techniques in presenting materials, planning class activities and creating good learning situations; current problems in a modern mathematics curriculum for junior high school.

Prereq: MTH 531 Modern Mathematics Content, Junior High School or permission of the department.

* MTH 585 Modern Mathematics Methods, Senior High School. Two sem hours
For students lacking an undergraduate high school methods course in mathematics. Not applicable to program M.A. in Mathematics. Not open to students who have credit in 306 Teaching of High School Mathematics. (Not offered currently.)

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

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
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. (Not offered currently.)
Prereq: 306 Teaching of High School Mathematics or MTH 585 Modern Mathematics Methods, Senior High School or MTH 586 Teaching of Modern High School Mathematics, and MTH 561 Modern Mathematics Content, Senior High School.

MTH 591 Special Topics in Mathematics. Two sem hours
A graduate level course in a specific area of mathematics, to be determined by the field of specialization of the instructor and the interest of the students.
Prereq: Completion of a minimum of 10 hours of graduate credit in mathematics and overall graduate G.P.A. in mathematics 6.0 or above, and permission of the department.

MTH 595 Workshop. Two sem hours
Usually not applicable to program M.A. in mathematics.
Prereq: Permission of the department.

MTH 597, 598, 599 Independent Studies. One, two and three sem hours
A report on an approved subject in the field of mathematics, the history of mathematics or the teaching of mathematics, under the guidance of Mathematics Department staff.
Prereq: Completion of a minimum of 10 hours of graduate credit in mathematics and overall graduate G.P.A. in mathematics 6.0 or above, and permission of the department.

MTH 610 Rings and Ideals I. Two sem hours
Polynomial rings, ideals and homomorphisms, imbedding theorems, prime ideals, the radical, minimal and maximal prime ideals belonging to an ideal. (Not offered currently.)
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. (Not offered currently.)
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. (Not offered currently.)
Prereq: MTH 518 Group Theory I or equivalent.

MTH 681 The Teaching of Junior College Mathematics. Two sem hours
Current problems in a junior college mathematics program. The role of alge-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Mathematics 103

bra and trigonometry, elementary functions, analytic geometry, the calculus and linear algebra; content and techniques of instruction. CUPM recommendations for a college program. (Not offered currently.)

Prereq: Permission of the department.

OTHER COURSES

The following courses may also be elected for graduate credit and course descriptions may be found in the Undergraduate Catalog. A selected maximum of 12 such hours may be applied to the program M.A. in Mathematics. INFORMATION ABOUT 400 LEVEL COURSES IN COMPUTER SCIENCE NOT LISTED HERE MAY BE OBTAINED FROM THE COMPUTER SCIENCE ADVISER.

400 History of Mathematics. (3)
403 Current Research in Elementary School Mathematics. (3)
411 Modern Algebra. (3)
416 Elements of Matrices. (3)
418 Applied Linear Algebra. (3)
420 Advanced Calculus I. (3)
421 Advanced Calculus II. (3)
422 Differential Equations II. (3)
423 Elements of Functions of a Complex Variable. (3)
425 Mathematics for the Scientist I. (3)
426 Mathematics for the Scientist II. (3)
436 Numerical Analysis I. (3)
437 Numerical Analysis II. (3)
441 College Geometry. (3)
445 Solid Analytic Geometry. (2)
446 Synthetic Projective Geometry. (2)
470 Introduction to Mathematical Statistics I. (3)
471 Mathematical Statistics II. (3)
491 Special Topics in Mathematics I. (2)
496 Special Topics in Computer Science. (2)

Tentative Schedule of Regularly Offered Graduate Courses

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** Spring-Summer offerings are not indicated because of the many unpredictable factors that influence Spring-Summer scheduling.
Tentative Schedule of Regularly Offered Graduate Courses

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** Spring-Summer offerings are not indicated because of the many unpredictable factors that influence Spring-Summer scheduling.
† Courses offered on a two (2) year cycle.

MUSIC

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

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

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

ADMISSION

Application for admission should be made to the Graduate School, where undergraduate transcripts are evaluated. Transcripts should be forwarded directly to the Graduate School at the time of application. In addition, students wishing to major in performance should send a tape to the Department of Music or write for information on auditions. An undergraduate degree in music or its equivalent is required to enter a Master of Arts program in music.

Upon entering the Department of Music, each student is assigned to an adviser who assists in planning a curriculum based on student needs and future plans. Admission to a specific music degree program is contingent upon: a) completion of all graduate placement examinations and auditions; b) successful completion
of the course 501 Introduction to Graduate Study; and c) successful completion of six credit hours of graduate study in music at Eastern Michigan University. After completing six credit hours, the student requests permission to pursue one of the music degree programs. Requests should be directed to the chairman of the Graduate Committee of the Department of Music.

Placements tests in theory-literature-history and performance are given each semester, and students are expected to complete these tests before decisions on course elections are made. The results of the placement tests are used by advisers in determining the course needs of students. Students with deficiencies may be required to take remedial courses without graduate credit.

**AUDITIONS AND PLACEMENT TESTS**

Placement tests for admission to the graduate music program will be held in the year 1975–1976 on the following dates:

**Fall Semester**
- November 11, 1975

**Winter Semester**
- April 2, 1976

**Spring Session**
- June 9, 1976

Auditions are arranged with the adviser and area chairman.

In addition to regular tuition, students accepted for private music lessons will be assessed an applied music fee described under the section on tuition and fees.

**I. OPEN TO GRADUATE MUSIC MAJORS**

**MUS 642 History and Philosophy of Music Education. Two sem hours**
The study of the development of music education in the United States and the influence of philosophy upon this development.
Prereq: Permission of the department.

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

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

**MUS 654 Advanced Techniques and Materials for Developing the Secondary School Band Program. Two sem hours**
Current trends in techniques and materials for the high school band.

**MUS 655 Advanced Techniques and Materials for Orchestras in the Secondary Schools. Two sem hours**
Selected problems and their solution pertaining to the improvement of the musical performance of the school orchestra. Major emphasis is placed on the string section and its problems.
MUS 691, 692 Thesis. Two, three sem hours
A substantial and original undertaking in scholarly research designed to reflect, focus and deepen the student's individual interests and to provide a culminating work leading to a master's degree in music.
Prereq: Permission of the department.

MUS 694 Final Project. Two sem hours
A substantial and original undertaking designed to reflect, focus and deepen the student's individual interests and to provide a culminating work leading to a master's degree in music.
Prereq: Permission of the department.

MUS 696 Seminar in Music. Two sem hours
Topics may be in some area of music education, theory, literature, history, musicology or performance. May serve for the development of research proposals, literature reviews, research techniques or other similar purposes. May be repeated for credit with permission of adviser.
Prereq: Permission of the department.

Performance Courses

* AMU 601, 602, 603, 604 Applied Music—Performance.
  One, two, three, and four sem hours
  Open to performance majors and graduate students who completed an undergraduate concentration in performance. May be repeated for credit.
  Prereq: Audition.

MUS 689 Graduate Recital. Two sem hours
Required in partial fulfillment of the Master of Arts degree for those students concentrating in performance and for those students who qualify for and select Recital as a culminating option. Student must be enrolled in AMU 601/602/603/604 concurrently.

II. OPEN TO GRADUATE STUDENTS AND QUALIFIED SENIORS

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

* MUS 504 America's Music. Two sem hours
The diversified styles of music made and continuously used by the people of the United States in terms of our historical cultural traditions.

* MUS 510 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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* 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 six-
teenth 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 me-
dia.
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; compro-
sition 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.

* 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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."
* MUS 536 World Music I. Two sem hours
The study of music literature from a variety of times and cultures. Discussion of experimentation and improvisation characteristic of soloists and small groups in the history of world music. To include solo song, chamber music, madrigal, piano, lute, sitar (and other non-Western music). Open to majors and non-majors.

* MUS 537 World Music II. Two sem hours
A continuation of the study of music from a variety of times and cultures with emphasis on large groups. To include instrumental ensembles, orchestra, band, choir, composite groups, theatrical and festival music. Discussion of the culmination of style characteristic of large groups in the history of world music. Open to majors and non-majors.

* MUS 538 The New Music. Two sem hours
Examination of the new music; its sound, sources, structures, notation, 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 551 The General Music Class. Two sem hours
The place of music in the education of adolescents, involving methods and materials for the general music classes.

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

* MUS 577 Advanced Instrumental Conducting. Two sem hours
Interpretative factors and more subtle baton techniques; greater understanding of style and form through analysis of representative scores. Prereq: 327 Conducting or equivalent.

* MUS 578 Advanced Choral Conducting. Two sem hours
Choral conducting techniques, styles and materials, organization, balance of choral groups, score reading, control of voices for blending flexibility, vocal poise and musical discipline for both church and school singing groups. Prereq: 328 Conducting or equivalent.

* MUS 595 Workshop in Music. Two sem hours
Topic to be announced in the schedule of classes. Topics will usually relate to some aspect of music education or performance such as Choral Workshop, String Workshop, Band Workshop, Keyboard Workshop, General Music Workshop, Chamber Music Workshop or some similar topic. May be repeated for credit.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* MUS 596 Seminar in Music. Two sem hours
Topic to be announced in the schedule of classes. Seminar topics may be in
some area of music education, theory, literature, history, musicology or per­
formance. May be repeated for credit.

MUS 597, 598 Independent Studies. Two sem hours each
An intensive study of a problem or group of problems under the direction of a
University faculty member.
Prereq: Permission of adviser and study director.

Performance Courses

* MUS 546 Collegium Musicum. One sem hour
Various ensembles of soloists-instrumental, vocal and mixed. Opportunity to
perform old and new music infrequently heard.
Prereq: Departmental permission.

* MUS 547 Collegium Musicum. Two sem hours
Various ensembles of soloists-instrumental vocal and mixed. Opportunity to
perform old and new music infrequently heard. Credit beyond one semester
hour is earned through individual projects and research.
Prereq: Departmental permission.

* MUS 550 Ensemble. One sem hour
Participation in any regular departmental ensemble as a means of expanding
knowledge of literature, observing techniques of conducting, and increasing
efficiency in principal or secondary performance areas. May be repeated for
additional credit. Open to qualified students upon satisfactory audition.

AMU 500 Applied Music—Secondary Performance. One sem hour
Open to majors and non-majors. May be repeated for credit.
Prereq: Audition.

III. UPPER DIVISION COURSES OPEN TO GRADUATE STUDENTS

MUS 448 Opera Performance. One sem hour
MUS 449 Opera Performance. Two sem hours
A laboratory-performance course which will deal with performance of opera
scenes and, when feasible, complete works. The musical, technical and dra­
matic aspects of production will be stressed.
Prereq: Permission of the department.

MUS 451 Vocal and Instrumental Accompanying. Two sem hours
Provides pianists with experience in accompanying singers and instrumen­
talists through acquisition of basic skills and repertoire. Course may be repeated
for credit.
Prereq: Audition.

MUS 460 Studies in Pedagogy. Two sem hours
Topics may be selected from the following: piano, organ, voice, vocal diction,
brass, woodwinds, strings, theory, literature, percussion or similar subjects.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate
Courses by Seniors."
Topics to be offered will be announced in the schedule of classes. May be repeated for credit with permission of adviser.

**MUS 461 Studies in Performance Literature. Two sem hours**
Topics to be selected from the following: piano, organ, vocal repertoire, band, orchestra, choir, solo song, chamber ensemble, opera or similar topics. Topics to be offered will be announced in the schedule of classes. May be repeated for credit with permission of adviser.

| Tentative Schedule of Regularly Offered Graduate Courses |
|---------------|-----|-----|-----|-----|
| **Course #** | **Winter** | **Spring** | **Summer** | **Fall** |
| MUS 501      |       | X    | X    | X    |
| MUS 511      | †    | †    |       | X    |
| MUS 513      | X    | †    |       |       |
| MUS 517      | X    |       | X    |       |
| MUS 518      | X    |       | X    |       |
| MUS 519      | X    |       | X    |       |
| MUS 531      |       | †    |       |       |
| MUS 532      | †    |       |       |       |
| MUS 533      | †    |       |       |       |
| MUS 534      | †    |       |       |       |
| MUS 535      |       | †    |       |       |
| MUS 536      |       |       |       | X    |
| MUS 537      | X    |       |       |       |
| MUS 538      |       | †    |       |       |
| MUS 546      | X    |       |       | X    |
| MUS 547      | X    |       |       | X    |
| MUS 550      | X    | X    | (Voc) | X    |
| MUS 551      |       |       |       | †    |
| MUS 558      | X    |       |       |       |
| MUS 571      | X    | X    | X    | X    |
| MUS 572      | X    | X    | X    | X    |
| MUS 573      | X    | X    | X    | X    |
| MUS 574      | X    | X    | X    | X    |
| MUS 575      | X    | X    | X    | X    |
| MUS 576      | X    | X    | X    | X    |
| MUS 581      | X    | X    | X    | X    |
| MUS 582      | X    | X    | X    | X    |
| MUS 583      | X    | X    | X    | X    |
| MUS 584      | X    | X    | X    | X    |
| MUS 585      | X    | X    | X    | X    |
| MUS 642      |       |       | †    |       |
| MUS 652      |       |       | †    |       |
| MUS 653      |       |       | †    |       |
| MUS 654      | †    |       |       |       |
| MUS 655      | †    |       |       |       |
| MUS 681      | X    | X    | X    | X    |
| MUS 682      | X    | X    | X    | X    |

† Courses offered on a two (2) year cycle.
The Department of Physics and Astronomy offers three programs leading to the degree of Master of Science.

1. **THE PHYSICS PROGRAM** is designed to prepare students for advanced graduate study in physics, for a professional career in physics or for a teaching career in physics at the community college level. Those entering this program should have an undergraduate major in physics or be prepared to take courses without credit to achieve an equivalent to the major. Graduation requirements include an undergraduate and graduate combined total of 50 approved semester hours in physics and 22 approved semester hours in mathematics, as well as a research problem culminating in a written report and satisfactory performance in an oral examination. Further information may be obtained from Dr. Walter Gessert or Dr. Robert Silver, graduate advisers, Department of Physics and Astronomy.

2. **THE PHYSICS EDUCATION PROGRAM** is designed to improve the preparation of in-service and pre-service secondary school physics teachers. Those entering the program should have at least an undergraduate physics minor together with appropriate mathematics. Admission is restricted to either in-service teachers or to those intending to enter the teaching profession. Graduation requirements include an undergraduate and graduate combined total of 44 approved hours of physics, mathematics through Calculus and Analytic Geometry IV, 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 elementary and middle school science teachers. Prerequisites for admission to the program include a minimum of 30 semester hours of work in science and mathematics with basic course preparation in the sciences. Graduation requirements include teaching experience or the completion of state certification requirements and the completion of a minimum of 60 semester hours (graduate and undergraduate combined) of approved work in science and science teaching with 20 semester hour concentrations (graduate and undergraduate combined) in each of two science departments. Candidates holding an elementary teacher's certificate may elect the elementary teacher option, while others must follow the middle school teacher option. Further information may be obtained from Dr. Charles B. Breedlove or Dr. Jean R. Moore, general science advisers, Department of Physics and Astronomy.
A limited number of graduate assistantships is 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 and care of lecture and laboratory equipment and similar duties. Applications for these assistantships may be obtained by writing to the department head.

**PHY 505 Physical Science for Elementary Teachers I. Two sem hours**
A course which emphasizes both the content and the processes of the physical sciences. Discussions and demonstrations leading to an understanding of basic concepts through the processes of discovery and inquiry.
Prereq: Two (2) courses in physical science (such as PHY 100 or CHEM 101).

**PHY 506 Physical Science for Elementary Teachers II. Two sem hours**
A course which emphasizes both the content and the processes of the physical sciences. Discussions and demonstrations leading to an understanding of basic concepts through the processes of discovery and inquiry.
Prereq: PHY 505 Physical Science for Elementary Teachers I.

**PHY 511 Mechanics, Sound and Heat for Teachers. Three sem hours**
A study of motion, forces, heat and sound for teachers of general science who have had little or no previous experience with physics.

**PHY 512 Light, Electricity and Magnetism for Teachers. Three sem hours**
A study of light, electricity, and magnetism for teachers of general science who have little previous experience with physics.
Prereq: 511 Mechanics, Sound and Heat for Teachers or equivalent; may be taken concurrently.

**PHY 514 Instrumentation for Teachers. Three sem hours**
This course treats the fundamentals of electrical instruments and the care and use of those instruments commonly encountered in secondary school science and in general science courses.
Prereq: Lab required.

**PHY 515 Atomic and Nuclear Physics I. Two sem hours**
Electron physics, radiation, atomic structure, x-rays, the quantum properties of waves and particles, relativity, the Bohr atom and atomic spectra, wave mechanics and the Schroedinger equation.
Prereq: One year of college physics.

**PHY 516 Atomic and Nuclear Physics II. Two sem hours**
Nuclear structure, radioactive decay, detection and measurement of nuclear radiation, fission, fusion, cosmic rays, production of radioisotopes in Neutron howitzer.
Prereq: One year of college physics.

**PHY 520 Teaching of Physical Science. Two sem hours**
Scientific attitudes for use with elementary pupils; the scientific method; a selected group of physical principles; simple experiments which may be used in the elementary school.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”*
* PHY 522 New Approaches to the Teaching of Science in the Junior High School I. Two sem hours
Emphasis will be placed on the philosophy, content, teaching strategies, and implementation of newer science curriculum materials designed for use in the junior high or middle school. Needed subject matter background will be provided. Extensive hands-on experience with demonstration and laboratory equipment will be included.
Prereq: Science Teaching Experience or three laboratory courses.

* PHY 523 New Approaches to the Teaching of Science in the Junior High School II. Two sem hours
Emphasis will be placed on the philosophy, content, teaching strategies and implementation of newer science curriculum materials designed for use in the junior high or middle school. Needed subject matter background will be provided. Extensive hands-on experience with demonstration and laboratory equipment will be included.
Prereq: Science teaching experience or three laboratory science courses.

* PHY 525 Physical Science. 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 540 The History of Physics and Astronomy. Two sem hours
A course designed to give students an understanding of the contributions made by selected scientists to the development of physics and astronomy and the relationship of these ideas to the period in which the scientists lived.
Prereq: Three courses in physics and/or astronomy (one may be taken concurrently).

* PHY 550 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, planning and evaluating the K-12 science program.
Prereq: Graduate standing.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
PHY 553 Recent Science Curricular Developments. Two sem hours
Problems in development and implementation of materials, methods and content of recent curricular efforts.
Prereq: Science teaching experience and graduate standing.

*PHY 562 Advanced Mechanics. Three sem hours
An overall view of the theoretical structure and the experimental foundations of physics. The methods of vector calculus and related mathematics concepts are applied to mechanics, vibrations and fluid systems. Recommended for physics teaching majors.
Prereq: 430 Intermediate Mechanics I or equivalent.

*PHY 571 Electromagnetic Theory. Three sem hours
Provides the student with a foundation in the classical theory of the Maxwell field equations and indicates the many current applications. Typical topics covered are: Maxwell's equation, conservation laws, plane waves, wave guides, resonant cavities, dipole radiation, diffraction, radiation by moving charges, Bremsstrahlung, Cerenkov radiation, multipole fields, plasma electrodynamics.
Prereq: 450 Electricity and Magnetism or permission of the department.

*PHY 582 Quantum Mechanics. Four sem hours
The 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 593 Workshop. Three sem hours
Laboratory and/or field experience guided toward problems and new curricula in physics and physical science.

*PHY 594 Special Topics. Two sem hours
An experimental or innovative approach to subjects in physics and physical science.

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

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

PHY 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Prior approval of the physics graduate adviser and permission of the department.

PHY 697, 698, 699 Research in Physics. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Undergraduate major or equivalent and permission of the department.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
AST 503 Astronomy I. Two sem hours
A non-mathematical descriptive course in astronomy to acquaint the teacher with the general field of astronomy. Many of the topics considered can be used in the elementary classroom. A study of the sun and its family of planets as well as the stars and nebulae in the universe beyond the solar system. Naked eye observations of the constellations and telescopic observations of the moon, planets, double stars and clusters. Not open to students who have credit in 303 Introduction to Astronomy.

AST 504 Astronomy II. Two sem hours
A non-mathematical descriptive course in astronomy to increase the teacher's acquaintance with the general field of astronomy and the work of the astronomer. Many of the topics covered can be used in the elementary and junior high school classroom. The stellar system; a review of the solar system and the motions of the earth. Naked eye and telescopic observations constitute the laboratory phase of the course.
Prereq: AST 503 Astronomy I or 303 Introduction to Astronomy or equivalent.

OTHER COURSES FOR CREDIT TOWARD M.S. IN PHYSICS OR PHYSICS EDUCATION

The following courses for advanced undergraduates are also available to graduate students for credit depending on the background, needs, and curriculum of the student. On this matter the student should, before completing his registration, have a clear understanding with his adviser in the Department of Physics and Astronomy. For descriptions of these courses, see the Undergraduate Catalog.

430 Intermediate Mechanics I. (3)
431 Intermediate Mechanics II. (3)
436 Vibration and Sound. (3)
440 Optics. (3)
441 Modern Optics. (3)
450 Electricity and Magnetism. (4)
452 Electrical Measurements. (4)
456 Electronics for Science Students. (4)
460 Heat and Thermodynamics. (3)
462 Kinetic Theory and Statistical Mechanics. (3)
471 Nuclear Physics. (4)
475 Introduction to Quantum Mechanics. (3)
476 Solid State Physics. (3)
481 Mathematical Physics. (3)

Tentative Schedule of Regularly Offered Graduate Courses

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† Courses offered on a two (2) year cycle in odd years.
‡‡ Courses offered on a two (2) year cycle in even years.
# Tentative Schedule of Regularly Offered Graduate Courses

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## POLITICAL SCIENCE

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

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

* **PLS 539 Special Topics in Political Science. Two sem hours**
  An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Information on content can be obtained at department office.
  Prereq: Approval of the department.

* **PLS 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.

† Courses offered on a two (2) year cycle in odd years.

‡‡ Courses offered on a two (2) year cycle in even years.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* PLS 545 International Relations. Two sem hours
Relations between nations; factors affecting behavior in the state system and possibilities of developing a viable international system.
Prereq: 112 American Government or 202 State and Local Government.

* PLS 546 Studies in International Law. Two sem hours
Selected problems in International Law; the Law of the United Nations; world law; the law of war and peace; the International Court of Justice; national concepts of International Law.

* PLS 549 Comparative Administrative Systems. Two sem hours
Processes of administrative adaptation to development goals in newly independent non-Western countries; current approaches and theories of administrative modernization and development in the light of Western and non-Western experiences.
Prereq: 210 Comparative Political Analysis or 211 European Political Systems, or permission of the department.

* PLS 580 American Executives: The Presidency and the Governorship. Two sem hours
A survey of the development of these two offices, individually and comparatively, including the historical evolution of the Presidency and the Governorship; problems relating to the powers, responsibilities and limits of these respective offices; current trends in White House and State House activities; the impact of "The New Federalism" on Federal-State and other intergovernmental relationships.

* 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.
Prereq: Permission of the department.

UPPER DIVISION COURSES THAT MAY BE TAKEN FOR GRADUATE CREDIT AND APPLIED ON THE DEGREE PROGRAM IN SOCIAL STUDIES OR AS COGNATES BY MAJORS IN OTHER FIELDS.

301 American Legal System. (3)
310 Scope and Methods. (3)

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

The Department of Psychology offers graduate programs leading to the Master of Science degree with emphasis in general psychology, the teaching of psychology and clinical psychology. The curriculum is designed to produce a master’s level psychologist with general knowledge of psychology that includes a variety of content areas, research methodologies and theoretical formulations. Students completing these programs should be able to:

1. Continue their training in doctoral programs.
2. Take teaching positions in community and four-year colleges.
3. Gain employment in a wide variety of industrial and institutional settings.

ADMISSION REQUIREMENTS

Admission to the graduate program of the Psychology Department is available to those students who meet the requirements of both the Graduate School of Eastern Michigan University and the Department of Psychology. The primary criterion on which the selection is made is the promise of successful completion of the program requirements based on previous academic performances and acceptable scores on the Graduate Record Examination.

To qualify for consideration for degree admission status in the graduate program in psychology the student must:

1. Meet the academic requirements for admission to the Graduate School.
2. Present a minimum of 20 semester hours of credit in psychology, including courses in statistics and experimental psychology.

3. Present an undergraduate academic record of good quality (approximately "B" average or better).

4. Submit a transcript of scores from the Graduate Record Examination which include the Verbal, Quantitative and the Advanced (Psychology) tests.

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

PROGRAM REQUIREMENTS

I. Master of Science Degree in General Psychology

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

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

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

2. Minimum of one course from Group A and one from Group B
   - Group A (Three sem hours)
     - PSY 601 Psychological Statistics II
     - PSY 605 Research Design
     - PSY 623 Experimental Analysis of Behavior
     - PSY 626 Motivation and Emotion
     - PSY 629 Physiological Psychology
     - PSY 632 Sensation and Perception
   - Group B (Three sem hours)
     - PSY 635 Cognitive Processes
     - PSY 637 Social Psychology
     - PSY 640 Developmental Psychology
     - PSY 643 Psychopathology
     - PSY 650 Clinical Psychology
     - PSY 660 Theory of Psychological Testing
3. Electives (12 sem hours)
   - Psychology courses within the department
   - Cognate courses from outside the department

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

5. Comprehensive Examination

TEACHING EMPHASIS

In addition to completing the basic program requirements, students wishing to prepare for teaching positions in psychology will be required to participate in a practicum experience in teaching psychology either as a teaching assistant at Eastern Michigan University or in a school or college setting under supervision.

II. Master of Science Degree in Clinical Psychology

This program offers specific training for the development of knowledge and skills required of the master's-level clinician functioning in a variety of institutional and community mental health settings. This program is designed as a terminal degree, although it will not prevent the student from continuing graduate study.

The program objective is to produce graduates capable of recognizing, assessing and ameliorating client problems under the supervision of doctoral-level clinical psychologists. It is intended that the graduate will be able to undertake and complete research problems typically found in the clinical setting. The practicum experiences are designed to provide opportunities to develop a variety of skills in assessment, diagnosis, psychotherapy and research commensurate with the master's level of training, and to provide the opportunity for professional growth through interaction with professional people from the various allied areas, such as medicine, social work, psychiatry and public health.

This program requires the completion of forty-five (45) graduate credits consisting of the basic master's course requirements, plus nine (9) credits in clinical assessment courses which include Psychology 662, 663, 670 and 671, and six (6) credits in practicums. The research project completed as a part of the second practicum experience replaces the thesis requirement. Preliminary pre-clinical practicum experience, not included in the six credit hours of practicum, may be required of certain students if, in the judgement of the clinical faculty, such experience is necessary to prepare the student to take best advantage of the practicum experience.

SPECIALIST IN SCHOOL PSYCHOLOGY

Purpose and Objectives

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

Program

This program is an interdisciplinary effort among the Departments of Psychology, Educational Psychology and Special Education. It is coordinated through the Department of Psychology. Course work and educational experiences are designed to provide a depth of understanding and ability in evaluation and diagnosis, instructional methods and programs, communication skills, administration and organization, community resources, research and group work.

Admission

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

GRADUATE COURSES OPEN TO SENIORS

PSY 520 Coping With Problem Behavior. Two sem hours
The application of psychological principles of learning to school (and school-related) problem behaviors. Emphasis is on procedures that can be implemented with minimal cost by classroom teachers, principals, and other school-related personnel.
Prereq: One course in psychology.

PSY 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 hu-
man mortality and suicide and its relevance to life adjustment, aging, religion
and other areas.
Prereq: 360 Abnormal Psychology or PSY 543 Abnormal Psychology and PSY
552 Theories of Personality.

PSY 552 Theories of Personality. Two sem hours
Major theories of personality including Freud, Jung, Adler, Rank, Sullivan,
Kelly, Holistic and learning theorists.
Prereq: One course in psychology.

PSY 553 Existential Psychology. Two sem hours
Origins, growth, major contributors and foci of concern of the existen-
tial movement(s) in psychology and psychotherapy.
Prereq: Two courses in psychology. PSY 552 Theories of Personality is recom-
manded.

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

PSY 580 Psychology of Individual Differences. Two sem hours
The objective and quantitative investigation of human variability in behavior
phenomena and the factors influencing these 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 under-
standing of a selected psychological problem.
Prereq: One course orienting student to the problem area and permission of the
department.

PSY 595 Workshop in the Scientific Approach to Problem Solving.
Two sem hours
The scientific approach to the solving of problems; the application of psycho-
logical principles.
Prereq: One course in psychology.

COURSES OPEN ONLY TO GRADUATE STUDENTS

PSY 600 Psychological Statistics I. Three sem hours
A study of statistical techniques including small sample theory, analysis of
variance and non-parametric statistics.
Prereq: 205 Quantitative Methods in Psychology or equivalent.

PSY 601 Psychological Statistics II. Three sem hour
More complex analysis of variance models plus various correlational proce-
dures.
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 and department permission.

PSY 620 Learning. Three sem hours
Research methods, experimental findings and theories of learning.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 623 Experimental Analysis of Behavior. Three sem hours
The principles and parameters of respondent and operant conditioning and their application. Lecture and laboratory.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 626 Motivation and Emotion. Three sem hours
A review of major findings, theories and recent research developments in the areas of motivation and emotion.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 629 Physiological Psychology. Three sem hours
An examination of physiological processes and their relationships to behavior. Lecture and laboratory.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 632 Sensation and Perception. Three sem hours
A review of research and theory dealing with sensory experience and perception.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 635 Cognitive Processes. Three sem hours
A review of theoretical and empirical developments in the area of thinking, problem solving, concept formation, creativity and decision making.
Prereq: Twenty hours in psychology, including 301 Introductory Experimental Psychology or equivalent and department permission.

PSY 637 Social Psychology. Three sem hours
The study of the processes underlying social interaction and behavior in social contexts.
Prereq: Twenty hours in psychology and department permission.

PSY 640 Developmental Psychology. Three sem hours
Biological, intellectual, social and emotional changes through the life span. Major concepts and problems related to development stages of life.
Prereq: Twenty hours in psychology and department permission.

PSY 643 Psychopathology. Three sem hours
A study of behavior disorders with emphasis upon current research method-
ologies, special problems and theoretical formulations, including controversial issues and social and ethical considerations. 
Prereq: Twenty hours in psychology, including 360 Abnormal Psychology or equivalent or permission of the department.

**PSY 646 Personality: Theory and Research. Three sem hours**
Advanced study of concepts and empirical research in personality.
Prereq: Twenty hours in psychology, including 451 Dynamics of Personality or equivalent and department permission.

**PSY 650 Clinical Psychology. Three sem hours**
Theory, rationale and application of various psychotherapeutic techniques. Examination of critical issues involved in the practice of clinical psychology.
Prereq: Twenty hours in psychology and department permission.

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

**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 and department permission.

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

**PSY 670 Personality Evaluation I. Three sem hours**
An introduction to individual clinical tests in the study of personality diagnosis. Includes learning to administer, score and interpret the MMPI and 16 PF. Entails a knowledge of the clinical assessment research literature covering the reliability of each testing method.
Prereq: PSY 662 Individual Testing I and department permission.

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

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

**PSY 681 Practicum in Clinical Psychology II. Three sem hours**
Supervised psychological testing and counseling in a clinical setting, plus completion of a research project in that setting.
Prereq: PSY 680 Practicum in Clinical Psychology and department permission.
PSY 690, 691, and 692 Thesis. One, two and three sem hours
Completion of research problem, writing thesis and defense of thesis.
Prereq: Permission of the department.

PSY 696 Seminar in School Psychology. Four sem hours (one hour per sem)
Bi-weekly seminar for presentation and discussion of critical issues and problems in school psychology, including case studies, role definitions, ethical problems, inter and intra-professional relationships and research findings.
Prereq: Admission to the School Psychology Program.

SOCIOMETRY

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.

COURSE REQUIREMENTS

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>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>2</td>
</tr>
<tr>
<td>Additional graduate sociology electives as approved by graduate adviser in the Sociology Department</td>
<td>9</td>
</tr>
<tr>
<td>Independent study or thesis credit</td>
<td>4</td>
</tr>
<tr>
<td>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>Cognate courses in other fields, as approved by graduate adviser in the Sociology Department</td>
<td>6</td>
</tr>
</tbody>
</table>

Any 300 or 400 level undergraduate course may be taken for graduate credit in consultation with the graduate adviser. Graduate students in sociology may take courses SOC 500–509 for elective credit as part of their course requirements only upon the approval of the graduate adviser in the Sociology Department. Graduate students not majoring in sociology but desiring a cognate in the department may also elect these courses for cognate credit in consultation with their advisers.
All graduate students in sociology are required to have their programs approved by the graduate adviser in the Sociology Department prior to registration each semester.

*NOTE: Courses required to make up deficiencies in sociology will be arranged with the graduate adviser in the Sociology Department and will be above and beyond (and sometimes prior to) these 30 hours of requirements.
THESIS REQUIREMENT

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

INFORMATION

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

Prerequisites may not be taken concurrently with courses for which they are required.

I. SOCIOLOGY

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

* SOC 501 Contemporary Society. Two sem hours
Basic sociological concepts and principles in an understanding of contemporary society; sociological research studies will be analyzed in detail. Not open to students who have credit in more than two courses in sociology.
Prereq: SOC 105 Introduction Sociology or SOC 500 Man in Society.

* SOC 502 Racial and Cultural Minorities. Two sem hours
Racial and cultural minorities in the modern world with particular references to the Negro and to European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems. Not open to students with credit for 214 Racial and Cultural Minorities.
Prereq: 105 Introductory Sociology, or SOC 500 Man in Society.

* SOC 503 Marriage and Family. Two sem hours
The course highlights changes in marriage, family composition, social relations and roles, as well as the mutual interdependence between these and other institutions of society. It begins with the traditional pre-industrial or pre-urban family, showing how and why the family began changing at a rapid rate and exploring the problems of transitional phases. The present family with its middle class ideals, is then examined closely. Finally, several trends in modern families are identified and some tentative predictions about future families and alternate family forms are made. Not open to students with credit in SOC 405 Social Theory and Social Structure.
Prereq: SOC 105 or SOC 500.

* SOC 504 Population. Three sem hours
An examination of the determinants and consequences of population dynamics, with specific emphasis on fertility, mortality, and migration. Also examination of the relationship between human numbers and resources and its

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
polito-economic implications. Makes use of computer simulation to better understand these concepts. Not open to students with credit in SOC 334 Population.
Prereq: SOC 105 or SOC 500.

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

* SOC 506 Criminology. Two sem hours
An examination of the types of crime and theories of criminal causation and prevention. Attention is given to the functioning of police and court systems and problems of penology including parole. Not open to students with credit in 406 Criminology.
Prereq: SOC 105 or SOC 500.

* SOC 508 Social Psychology. Two sem hours
An introductory study of the order and regularity underlying processes of human interaction, motives and attitudes, social norms and roles, the socialization process, personality and group membership. The effect of group membership upon individual behavior. Not open to students with credit in SOC 308 or PSYCH 308.
Prereq: SOC 105 or SOC 500 and 101 or 102 General Psychology.

* SOC 510 Theories of Criminal Behavior. Three sem hours
Consideration of major theories of criminal delinquent causation. Emphasis on sociological factors in criminal acts and dynamics of criminal and delinquent behavior.
Prereq: At least two courses in Sociology; including 406 Criminology.

* SOC 511 Sociology of Crime and its Correction. Three sem hours
Punishment, rehabilitation, contemporary correctional policies. The courts and criminal responsibility. The social structure of correctional organizations and institutions and their effect on the correctional process.
Prereq: At least two courses in sociology, including 406 Criminology.

* SOC 513 Social Deviance. Three sem hours
The development of deviant self-conceptions; social psychological processes of group alienation and individual estrangement. Deviant behavior patterns and the development of deviant careers; theories of deviance.
Prereq: At least two courses in sociology.

* SOC 530 Advanced Social Statistics. Three sem hours
This course will focus considerable attention on non-parametric statistics but will also examine the problem of controlling for variables in a statistical sense. Certain of the classical techniques of multivariate analysis will be included.
Prereq: 250 Elementary Social Studies.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
*SOC 535 Advanced Methods in Sociological Research. Three sem hours
Relationship of theory and research is stressed. Consideration of the research process as a decision-making situation both on the general level of research design and the specific level of special techniques. The process and logic of data analysis.

*SOC 536 Qualitative Analysis. Three sem hours
An examination of the methods and techniques of qualitative analysis in sociology. Research will be conducted by class members and reviewed in seminar presentations.

*SOC 539 Special Topics in Sociology. Two sem hours
The content and form of this course will be experimental and vary from year to year. Special topics in sociology not given in usual course offerings but of sociological importance will be covered. The exact title of the course will be announced in the appropriate schedule.

*SOC 540 Advanced Sociological Theory. Three sem hours
An analysis of contemporary theoretical schools of thought in sociology.

*SOC 541 Theory Construction and Verification. Three sem hours
Analysis of contemporary strategies in theory, construction and verification. Problems of validity and reliability will be emphasized. Open to non-sociology majors with permission of the instructor.

*SOC 542 Social Stratification Theory and Research. Three sem hours
A comprehensive study of the theories of social stratification; an examination of the problems encountered in attempts at empirical verification of these theories; and an exploration of current research relating to social stratification.
Prereq: 310 Social Stratification or an undergraduate degree in sociology.

*SOC 545 Advanced Social Psychology. Three sem hours
This course in 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 experi-

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
mental observational studies. Power structure role differentiation, communication patterns and coalition formation.
Prereq: Nine hours of sociology.

'SOC 555 Contemporary Community Structure. Three sem hours
Theoretical perspectives in the analysis of urban communities including urban change; the development of stratification patterns and power structures and the role of various urban institutes.
Prereq: Nine hours of sociology.

'SOC 556 Human Ecology and Community Development. Three sem hours
An analysis of the forms and development of the urban community; spatial and temporal patterns, organization of urban functions, rural-urban relationships and the current metropolitan trend in the U.S.
Prereq: Nine hours of sociology.

'SOC 594 Supervised Field Experience. Two sem hours
Supervised internship in a community agency such as a correctional institution, an enforcement agency, human relations committee, city planning agency or in a project for the rehabilitation of persons in culturally or economically deprived segments of the community. Students are ordinarily placed for two consecutive semesters. The student is expected to derive a master's thesis from this experience.
Prereq: Permission of the department.

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

SOC 596 Seminar in Sociology. Two sem hours
The intensive exploration of theoretical and methodological issues in a selected area of sociology. The topic will be announced in the class schedule issued prior to registration.
Prereq: Permission of the department.

SOC 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a member of the sociology faculty.
Prereq: Permission of the department.

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

II. ANTHROPOLOGY

ANT 505 Cultural Anthropology. Three sem hours
Technology, social structure, political institutions, warfare, kinship and the family, religion and magic, art, recreation and education in the cultures of

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
non-literate peoples. Cultural dynamics; applied anthropology. Not open to students with credit in 135 Cultural Anthropology.

* ANT 509 Personality and Social Systems. Two sem hours
The cross-cultural study of personality and socio-cultural systems. Attention is paid to modal personality, types as these relate to group structure, socialization, and social structure. Individual differences are not studied. Not open to students with credit in SOC 309 Culture and Personality.
Prereq: SOC 105 or SOC 500 or ANT 135 or ANT 505; and 101 General Psychology.

III. OTHER

Any 300 or 400 level undergraduate course may be taken for graduate credit if consultation with the graduate adviser.

Tentative Schedule of Regularly Offered Graduate Courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
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<tr>
<td>SOC 500</td>
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<td>SOC 596</td>
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SPEECH and DRAMATIC ARTS

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

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

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

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
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 intra-
      departmental cognate in communication-public address, dramatic arts,
      drama for the young, broadcasting, oral interpretation or speech science
      and pedagogy; and a choice of emphasis in communication-public ad-
      dress, dramatic arts, or drama for the young.

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

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

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

I. GENERAL COURSES

General courses in speech and dramatic arts are courses which, in addition to
being offered for credit toward an M.A. in speech and dramatic arts, are offered for
the benefit of graduate students specializing in departments other than speech and
dramatic arts who wish to take collateral or cognate work in the Department of
Speech and Dramatic Arts. Such students, however, are not restricted to these
courses; they may take any other graduate courses in speech and dramatic arts for
which they have prerequisites.

Communication and Public Address

* SPH 508 Small Group Decision Making. Two sem hours
   The theory and practice of discussion and practice of oral communication in
   small group decision-making (formerly SPH 589 Discussion and Conference).

* SPH 509 Communication for Leaders. Two sem hours
   Theory and applications of communication in leadership roles. Deals with in-
   terviews, staff meetings, dyadic communication, communication in large and
   small organizations, and communication barriers with methods of evaluating
   and improving interpersonal, group, and public communication.

   * Open to graduate students and qualified seniors—see "Enrollment in Graduate
     Courses by Seniors."
* **SPH 596 Seminar in Directing High School Forensics Activities.** Two sem hours
The philosophy, organization and administration of forensic programs for those who direct or plan to direct extracurricular speech activities.

**Dramatic Arts**

**SPH 503 Play Production—Junior-Senior High School. Two sem hours**
Principles and techniques of play production with emphasis on problems encountered in secondary schools. Dramatic structure, play selection, directing, scene design and construction, stage lighting, make-up, costuming, properties and business management; improvement of effectiveness in both curricular and extracurricular theatre.

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

**Drama for the Young**

* **SPH 501 Creative Drama. Two sem hours**
The theory and techniques of informal drama, improvisation, and dramatic play.

* **SPH 502 Drama for Children. Two sem hours**
An introductory consideration of the scope and purposes of theatre experience for children and adolescents.

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

**Radio, Television and Film**

* **SPH 537 Mass Communications. Two sem hours**
A comparative study of the mass media in the United States: their development, function and import. Special emphasis will be placed on the process and effects of mass communication with detailed study of radio and television.

* **SPH 538 Television Techniques for Classroom Teachers I. Two sem hours**
Skills and techniques needed by classroom teachers for the effective presentation of educational materials through the medium of television. Theory and practice.

* **SPH 548 Television Techniques for Classroom Teachers II. Two sem hours**
A continuation and intensification of the theoretical and practical experience

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
in instructional television provided in SPH 538 Television Techniques for Classroom Teachers I. Laboratory hours to be arranged.

* **SPH 596 Seminar in Directing High School Broadcasting and Film Activities.**
  Two sem hours
  Practical experience in radio, television and film. Available to teachers and high school students interested in broadcasting.

**II. SPECIALIZATION COURSES**

Specialization courses in speech and dramatic arts are courses specifically designed for students wishing credit toward the M.A. in Speech and Dramatic Arts. Such courses are open to other students, however, who have the necessary prerequisites.

**Communication and Public Address**

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

**SPH 570 College Teaching of Speech. One sem hour**
  Theory and practice of teaching speech at the college level.
  **Prereq:** Permission of the department.

* **SPH 576 Public Address. Three sem hours**
  Critical study of the significant speeches of leading speakers with reference to their dominant issues and their influence on social and political life.
  **Prereq:** Fifteen hours of credit in communication—public address.

* **SPH 581 Rhetorical Theory to 1900. Three sem hours**
  A study of selected rhetorical theories from the classical age to 1900. The course is designed to facilitate understanding of the transition from classical to modern rhetorical theory.
  **Prereq:** Fifteen hours of credit in communication—public address.

* **SPH 582 Modern Rhetorical Theory. Three sem hours**
  A study of selected rhetorical theories from 1900 to the present with a view of discovering the methods and objectives of modern rhetoricians and relating them to society and its problems.
  **Prereq:** Fifteen hours of credit in communication—public address.

* **SPH 584 Studies in Small Group Communications. Three sem hours**
  An examination of methods and research currently being conducted in discussion and small group studies.
  **Prereq:** Fifteen hours of credit in communication—public address.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* SPH 585 Theories of Argument and Controversy. Three sem hours
Theoretical foundations of argument and controversy and a review of related research.
Prereq: Fifteen hours of credit in communication-public address; 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 communication-public address; 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 communication-public address; 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 communication-public address; 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 under the direction of a University faculty member.

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

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

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

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

* SPH 539, 540, 541 Special Topics in Speech and Dramatic Arts. One, Two and Three sem hours

A course which focuses on a particular topic in speech and dramatic arts which is approved by the department.
Prereq: Department permission.

* SPH 551 Theatre Planning. Two sem hours

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

* SPH 555 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 non-realistic 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 non-realistic styles of drama.
Prereq: 242 Fundamentals of Acting, 335 Play Direction, SPH 558 Advanced Directing or permission of the department.

* SPH 560 Ancient Dramatic Theory. Three sem hours

Study of the main theories regarding the nature and purpose of drama from ancient Greece to the end of the 17th century.
Prereq: 406 History of the Theatre or permission of the department.

* SPH 561 Modern Dramatic Theory. Three sem hours

The main theories regarding the nature and purpose of drama from the beginning of the 18th century to the present.
Prereq: SPH 560 Ancient Dramatic Theory or permission of the department.

* SPH 562 American Theatre History. Two sem hours

A tracing of the main currents in the history of the American theatre from its beginnings in the late 1700's to the present day.
Prereq: 406 History of the Theatre or permission of the department.

* SPH 566 Seminar in Theatre History. Two sem hours

This course will be concerned with a penetrating study of the theatrical activity and technology prevalent during two or more periods in world history.
Prereq: 406 or department permission.

* SPH 567 Seminar in Design and Technical Theatre. Two sem hours

An intensive study of the organic theory of theatre production with emphasis

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
on the contributions of Craig, Appia, Bakst, Reinhardt, Jones, Simonson and Bel Geddes.
Prereq: 370 Scene Design, 376 Stage Lighting, 406 History of the Theatre or permission of the department.

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

* SPH 569 Seminar in Directing. Two sem hours
Discussion in depth of outstanding representatives from the literature of the field of directing.
Prereq: Nine hours of credit in dramatic arts or permission of the department.

SPH 592 Research Techniques in Speech and Dramatic Arts. Two sem hours
An introduction to the nature and value of research; the research problem; basic research tools; philosophical foundations of historical, descriptive and experimental research; professional writing.
Prereq: Fifteen hours of credit in speech and major/graduate.

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

SPH 651 Design I. Two sem hours
Intermediate consideration of the theoretical and mechanical factors governing the design of scenery for the stage.
Prereq: Six hours of credit in dramatic arts.

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

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

SPH 654 Costume II. Two sem hours
Problems of construction and design of period costumes for the stage with emphasis on practical application culminating in a final design and construction project.
Prereq: 377 Stage Costume: History and Theory, SPH 653 Costume I or permission of the department.

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

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
SPH 656 Playwriting II. Two sem hours
A continuation of 386 Dramatic Writing.
Prereq: Graduate standing.

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

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

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

Drama for the Young

*SPH 565 Seminar in Drama for the Young. Two sem hours
Advanced study of the history, theory and techniques of dramatic arts for children.
Prereq: 323 Improvisation or 501 Creative Drama plus 322 Theatre for Children or 502 Drama for Children.

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 under the direction of a University faculty member.
Prereq: Department permission.

SPH 657 Advanced Improvisation. Three sem hours
A study of spontaneous dramatic play meant to develop deeper self-discipline and freedom and to extend resources for teaching, directing and acting.

SPH 658 Theatre for Children. Three sem hours
An extensive study of the nature and range of theatre experiences for children and adolescents.
Prereq: Six hours credit in dramatic arts.

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

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SPH 690, 691, 692 Thesis. One, two, and three sem hours
An intensive study of one or more problems under the direction of a University faculty member.
Prereq: Department permission.

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

III. OTHER COURSES FOR CREDIT TOWARD MASTER OF ARTS IN SPEECH AND DRAMATIC ARTS

The following courses for advanced undergraduates are also available to graduate students. For description of these courses, see the Undergraduate Catalog.

Communication and Public Address

440 Survey of Public Address. (3)
460 Rhetorical Theory. (3)
466 Forensic Contest Speaking. (1)
475 Research in Speech Communication. (3)
485 Theories of Speech Communication Behavior. (3)

Broadcasting and Film

333 Fundamentals of Film Production (Cinematography). (3)
343 Broadcast News. (3)
431 Advanced Radio Production and Direction. (3)
432 Advanced Television Production and Direction. (3)
445 Film Theory. (3)
446 Broadcasting in Society. (3)
447 Broadcast Management. (3)

Interpretation

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

Dramatic Arts

406 History of the Theatre. (3)
452 Theatre Management. (2)
467 Theatre Practice. (1)

Drama for the Young

467 Theatre Practice. (1)
468 Interpretation. (1)
Speech Science

400  Phonetics and Dialects of Spoken English. (3)
402  Voice Development. (1)

The following courses for undergraduates are also available to graduate students under special circumstances. On this matter the student should have a clear understanding with the department and the Graduate School before completing registration.

Communication and Public Address

366  Forensic Debate and Discussion. (1)

Broadcasting and Film

331  Fundamentals of Radio Production and Direction. (3)
332  Fundamentals of Television Production and Direction. (3)
340  Broadcasting and Film Performance Techniques II. (3)
344  Broadcast Continuity Writing. (3)

Interpretation

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

Dramatic Arts

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

Drama for the Young

322  Theatre for Children. (3)
323  Improvisation. (3)
324  Oral Interpretation of Children's Literature. (3)
368  Interpretation. (1)

Speech Science

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

DEAN: Earl A. Roth

DEPARTMENTS

Accounting and Finance
Administrative Services and Business Education
Management
Marketing
Operations Research and Information Systems
GRADUATE PROGRAMS
IN BUSINESS

Three graduate programs are offered: the Master of Business Administration (MBA) degree, the Master of Science in Accounting (MSA) degree, and the Master of Business Education (MBE) degree. The first two degrees provide professional preparation for business; the third for teaching of business subjects at the secondary and community college levels.

MASTER OF BUSINESS ADMINISTRATION

Program Objectives

The primary purpose of the MBA degree program is to provide high-level professional education needed to enhance the career opportunities of men and women employed in business, industry and public service positions in Southeastern Michigan.

The MBA Program also provides professional preparation required for men and women who contemplate pursuing management careers in business, industry and government.

The program is designed to establish a broad understanding of the business function, its relation to society as a whole, as well as the effect of social and political forces on business, and to provide some specialization or concentration for the student to perform in a chosen area of employment.

Admission Requirements

1. A baccalaureate degree from a regionally accredited institution.
2. An overall undergraduate grade point average of 2.5 or better, or 2.75 for the last two years, or a master's degree from an accredited institution.
3. A Graduate Management Admission Test score (formerly ATGSB) of 450 or above or a Graduate Records Examination score of 1000 or above. An applicant will not be admitted unless an acceptable score is received on the first or second time he or she takes the test.
4. In exceptional cases an applicant with successful work experience and a 500 GMAT score will be accepted. Special consideration will also be given to minority candidates and to applicants who received the baccalaureate degree with honors or received an above average test score. In these cases favorable letters of recommendation must be submitted from senior professors who know the candidate's work. Foreign students must provide scores on the Test of English as a Foreign Language or equivalent in addition to the above requirements.
5. Six semester hours of undergraduate study each in accounting and economics and three semester hours each in management, marketing, computer science, finance, statistics, legal environment of business and a course in probability and beginning calculus. Additional preparation in mathematics, intermediate economic theory and statistics is recommended. Applicants with non-business degrees are required to remove these deficiencies before enrolling in MBA courses by completing a maximum of 27 semester hours of
study in foundation courses. College Level Examination Program (CLEP) test scores and other proficiency exams will be accepted.

Length of Program

Under normal conditions, students with business administration degrees may complete the program in one calendar year. For graduates with non-business degrees, Eastern Michigan offers a series of time-saving graduate level courses (foundation) to meet undergraduate course requirements. The length of a non-business undergraduate degree student's program will be extended by the number of foundation classes added to his or her program.

The MBA Degree Program or foundation classes may be started at any regular enrollment period—fall, winter, spring or summer.

Foundation Courses

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

MBA Program Requirements

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

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

Basic Disciplines (Core)

All MBA students take each of the following courses:

- Quantitative Analysis for Business ORI 586 (3)
- Managerial Economics ORI 588 (3)
- Business Research ORI 592 (3)
- *Management Strategy and Policy MGT 696 (3)

12 Sem Hours

*Management Strategy and Policy, a capstone case course taken at or near the end of the program, is designed to improve decision-making ability.

Candidacy

Admission to candidacy will be granted only to students who have or are entitled to regular admission who have completed the first twelve required MBA course hours with a graduate grade point average of 5.0 (B) on an 8.0 scale. Candidacy is a prerequisite for enrollment in subsequent MBA classes. Students who have not been admitted to candidacy after completing the first twelve required MBA course hours will not be permitted to continue in the program. Students who have been admitted to candidacy will then complete the required classes in the operational areas, electives and Management Strategy and Policy (MGT 696).
Operational Areas

All MBA students will be required to take the operational area classes listed below. If a student has an undergraduate major in one of the operational areas, the required class in that area will be waived.

Administrative Controls
Financial Administration Policies
Organization Theory and Systems
Marketing Policies and Problems

<table>
<thead>
<tr>
<th>Class</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ACC 584</td>
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<tr>
<td>FIN 583</td>
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<tr>
<td>MGT 585</td>
<td>(3)</td>
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<tr>
<td>MKT 518</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Area of Concentration (Electives)

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

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

Electives
9 Sem Hours

Graduation

To qualify for graduation, a 5.0 grade point average (on an 8.0 scale) must be maintained in all business courses in addition to the required 5.0 GPA in all graduate work.

MASTER OF SCIENCE IN ACCOUNTING

A program of study leading to the Master of Science in Accounting degree is offered for students who plan careers in the fields of accounting and financial management. Students meeting the following conditions may enter the program:

1. Admission to the Graduate School.
2. Undergraduate grade point of 2.7 or better.
3. Written Graduate Management Admission Test (formerly ATGSB) with a minimum score of 450.

Upon admission to the MSA Program, each student is required to prepare a total program of coursework leading to the degree. The program is reviewed with the student by the faculty or the MSA Program Committee to ascertain that it suits the student’s background and career goals. The program of coursework becomes the student’s degree requirement when accepted by the student and the MSA Program Committee. Subsequent changes in course work must be approved by the MSA Program Committee.

Prerequisites

Basic course work or equivalent experience is required in accounting, finance,
marketing, management, economics, statistics and computer science. Foundation courses are offered through the MBA Program to meet most of these prerequisites.

### Equivalent Courses

<table>
<thead>
<tr>
<th>Prerequisite Areas</th>
<th>Hrs.</th>
<th>Undergrad</th>
<th>MBA Foundation</th>
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</thead>
<tbody>
<tr>
<td>Basic Accounting</td>
<td>6</td>
<td>ACC 240, 241</td>
<td>ACC 501</td>
</tr>
<tr>
<td>Intermediate Acct.</td>
<td>6</td>
<td>ACC 340, 341</td>
<td>None</td>
</tr>
<tr>
<td>Cost Accounting</td>
<td>3</td>
<td>ACC 342</td>
<td>None</td>
</tr>
<tr>
<td>Taxation</td>
<td>3</td>
<td>ACC 344</td>
<td>None</td>
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<tr>
<td>Economics</td>
<td>6</td>
<td>ECO 201, 202</td>
<td>ECO 501, 502</td>
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<tr>
<td>Computers</td>
<td>3</td>
<td>ORI 215</td>
<td>ORI 502</td>
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<td>Management</td>
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<td>MGT 382</td>
<td>MGT 501</td>
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<tr>
<td>Marketing</td>
<td>3</td>
<td>MGT 360</td>
<td>MGT 501</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
<td>ORI 365</td>
<td>ORI 501</td>
</tr>
<tr>
<td>Finance</td>
<td>3</td>
<td>FIN 353</td>
<td>FIN 502</td>
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</table>

### MSA Program Requirements

#### Required Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ACC 587 Advanced Managerial Accounting</td>
<td>3</td>
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<tr>
<td>ORI 586 Quantitative Analysis for Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 585 Organizational Theory and Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKT 592 Business Research Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Elective Courses (at least 9 hours of electives must be taken in courses bearing the ACC Prefix)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ACC 665 Theory of Accounting</td>
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<tr>
<td>ACC 667 Professional Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACC 599 Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>ACC 696 Seminar in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FIN 553 Business Financial Markets</td>
<td>3</td>
</tr>
<tr>
<td>FIN 573 Securities Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 583 Financial Administrative Policies</td>
<td>3</td>
</tr>
<tr>
<td>FIN 693 Advanced Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>ORI 589 Business Conditions Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ACC 544 International Taxation and Accounting</td>
<td>3</td>
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<tr>
<td>FIN 585 International Finance</td>
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<td>MGT 489 International Management</td>
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<td>MKT 460 International Marketing</td>
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<tr>
<td>ACC 610 Accounting System Design</td>
<td>3</td>
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<tr>
<td>ORI 587 Advanced Quantitative Methods</td>
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</tr>
</tbody>
</table>
TAXATION

ACC 585 Business Tax Planning 3
ACC 672 Estate Tax Planning 3

Courses may be elected from other fields with the advice and consent of the program adviser.

Total hours required ............................................. 30

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 education.

Admission Requirements

Applicants who desire admission to the Master of Business Education Program must have earned a baccalaureate degree and a teaching certificate at an accredited college or university. In addition, applicants will be asked to present evidence that at least two of the following qualifying standards have been met:

1. Undergraduate grade point average of 2.5 (C+).
2. Score of 450 or better on the Graduate Management Admission Test (formerly ATGSB).
3. Completion of at least six hours of graduate credit at Eastern Michigan University with a cumulative grade average of 6.0 (B+).

Applicants must have completed (or agree to complete) at least two basic undergraduate courses in economics, two in accounting, and one each in management, marketing, business writing and business law.

MBE Program Requirements

Upon admission, the candidate and the graduate adviser will jointly agree upon a program leading to the degree. Such a program includes maximum limits of six hours in arts and sciences; six hours in business administration, economics, or mathematics; six hours in general education; and the remainder, about twelve hours, in business education.

Degree programs include only courses taken within a six-year period prior to graduation.

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

MBA Degree Program:
Academic Advising Office and Counseling Center 517 Pray Harrold Building

MSA Degree Program:
Department of Accounting and Finance 516 Pray Harrold Building

MBE Degree Program:
Department of Administrative Services and Business Education 515 Pray Harrold Building
Non-Degree Admission

Students granted non-degree admission to the University Graduate School who have not met the prerequisite course requirements may enroll in undergraduate business or foundation courses only (page 143).

Non-degree students who have completed all prerequisite courses but have not completed or achieved an acceptable score on the GMAT will be given a limited opportunity to enroll in two graduate courses in the basic core. The GMAT must be completed during this period of study.

Non-degree students may apply for a degree admission in the College of Business who have:

1) completed all prerequisite and/or foundation courses, or received B or better on core courses completed;
2) submitted an acceptable GMAT score; and
3) achieved an overall cumulative grade point average of 2.5, or 2.75 for the last 60 semester hours which may include grades received as a non-degree student at Eastern. (The MS in Accounting requires a cumulative 2.7 GPA for admission.)

ACCOUNTING and FINANCE

ACC 501 Accounting Principles. Three sem hours
For students who have not had undergraduate accounting. Introductory course on accounting principles and techniques used to measure business transactions and to prepare financial statements.
Prereq: Open only to students who have not had six hours of basic accounting.

ACC 515 Accounting for School Administrators. Two sem hours
Principles, theory and procedures of public school fund accounting; accounting principles, applied to various kinds of public school funds, financial statements and reports, internal accounting control, payroll accounting, business papers and procedures.

ACC 544 International Taxation and Accounting. Three sem hours
International accounting problems; the interaction of tax laws of the United States and of selected foreign countries.
Prereq: Completion of MSA Core.

ACC 584 Administrative Controls. Three sem hours
Areas covered include cost analysis; cost allocation to profit and investment centers; profit planning; cash flow analysis; inventory control; control of decentralized operations. Both text and cases are used.
Prereq: Completion of MBA Core. Not open to those MSA students who have taken a cost accounting course.

ACC 585 Business Tax Planning. Three sem hours
Covers the taxation of corporation income retirement plans, mergers and other corporate reorganizations, transfers and liquidation.
Prereq: A basic income tax course (ACC 344); or departmental permission.

ACC 586 Corporate Financial Reporting. Three sem hours
Study of authoritative pronouncements on accounting principles for corpora-
tions which guide reporting financial position, results of operations and changes in fund flows. May include case studies or analysis of published financial reports. Not open to students who have taken six hours of intermediate accounting.
Prereq: Completion of MBA Core.

ACC 587 Advanced Managerial Accounting. Three sem hours
Covers concepts of management control through accounting, accounting for organizational objectives, profit and investment centers, budgeting, project planning and control. For MSA students; substantial completion of MSA prerequisites.

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

ACC 610 Accounting System Design and Installation. Three sem hours
Provides the fundamentals of developing and analyzing accounting systems to produce efficient recording, optimum data processing procedures and appropriate analysis and interpretation for management. Case studies are used.
Prereq: ACC 584 Administrative Controls or 587 Advanced Managerial Accounting.

ACC 665 Theory of Accounting. Three sem hours
A study of the objectives, history and development of financial accounting theory; introduces advanced accounting problems in the areas of inventory accounting, intangibles, consolidations, partnership accounting, leases, pensions and prior period adjustments.
Prereq: ACC 586 Corporate Financial Reporting or 6 hours intermediate accounting.

ACC 667 Professional Auditing. Three sem hours
A study of auditing concepts, objectives and procedures, and of the literature as it relates to current audit problems.
Prereq: ACC 586 Corporate Financial Reporting or 6 hours intermediate accounting.

ACC 672 Estate Tax Planning. Three sem hours
Study of the Federal taxation of estates, gifts and trusts, particularly as they affect family financial planning, and the preparation of Federal estate tax, gift tax and fiduciary income tax returns.
Prereq: A basic income tax course (ACC 344) or departmental permission.

ACC 696 Seminar in Accounting. Three sem hours
Study of selected problems in accounting. A contemporary issues seminar.
Prereq: Accounting 586 Corporate Financial Reporting or departmental permission.

FIN 502 Financial Principles. Three sem hours
An introduction to financial management of the business firm. Covers techniques and theory of asset management, financing and dividend decisions.
Prereq: ACC 501 Accounting Principles.

FIN 553 Business Financial Markets. Three sem hours
Study of the institutions from which long-term investment capital is obtained
by a corporation through the several markets, and the allocation of funds among competing users.

Prereq: FIN 583 or departmental permission.

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: FIN 502 Financial Principles or departmental permission.

FIN 583 Financial Administration Policies. Three sem hours
The internal policies and problems of financial management encountered in business. Developing administrative insights in funds administration planning, capital structure planning, security distribution arrangements and timing, expansion financing and solvency maintenance.

Prereq: Completion of MBA Core or departmental permission.

FIN 585 International Finance. Three sem hours
Study of international monetary system, the environment of foreign investment decisions, financial control in multinational companies.

Prereq: FIN 583 Financial Administration Policies or departmental permission.

FIN 586 Risk and Risk Management. Three sem hours
Study of the nature of risk and the principles and methods used in risk management. Emphasis on use of insurance in handling business risks.

Prereq: FIN 502 Financial Principles.

FIN 594 Special Topics in Finance. Three sem hours
An in-depth study of a specialized area in accounting or finance.

Prereq: FIN 583 Financial Administration Policies or departmental permission.

FIN 693 Advanced Financial Management. Three sem hours
Provides in-depth study of the central issues of corporate financial management, analysis of policies for high level financial decision making on capital budgeting and capital acquisition decisions.

Prereq: FIN 583 Financial Administration Policies or departmental permission.

<table>
<thead>
<tr>
<th>Course #</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
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<td>ACC 501</td>
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<td>ACC 515</td>
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<td>FIN 693</td>
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</table>
ADMINISTRATIVE SERVICES and BUSINESS EDUCATION
(formerly Business Education)

ADS 503 Legal Environment of Business. Three sem hours
The nature and operation of the American legal system. Legal concepts of contract, property, tort. Legal constraints on business activities. Law as an expression of social and political forces and as an instrument of economic and political change. Not open to students in MSA Program.

ADS 530 Modern Commercial Law. Three sem hours
Designed for students desiring a detailed knowledge of modern business law. Provisions of the Uniform Commercial Code are emphasized. Aspects of the law of sales; negotiable instruments, including effects of different endorsements; secured transactions, commercial financing and bankruptcy, bailments, bills of lading and letters of credit.
Prereq: Previous credit in law or admission to MS in Accounting program.

ADS 596 Seminar in Business Law. Three sem hours
A study of selected business law issues and topics which may vary from term to term.
Prereq: ADS 503 Legal Environment of Business; MBA candidacy; or departmental permission.

ADS 597, 598, 599 Independent Studies. One, two and three sem hours
Students select a problem or group of problems to be researched or studied in depth under the direction of a designated faculty member.
Prereq: Departmental permission.

*BED 555 Teaching Data Processing. Three sem hours
Basic information in the area of storage and retrieval systems and the methodology for presenting such information.

*BED 568 Coordination of Cooperative Programs in Business Education. Three sem hours
Emphasizes the function and scope of the teacher-coordinator's duties and responsibilities. Required of all potential coordinators. Recommended for school administrators.

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

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 facili-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
ties, 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 580 Office Education Block. Three sem hours
Study of philosophy, planning and evaluation procedures for office education block programs. Prepare instructional materials for block programs. Prereq: Graduate standing.

BED 594 Special Topics in Business Education. Two sem hours
Provides for intensive study of selected topics drawn from current developments in the total field of business education.

BED 595 Workshop in Business Education. Two sem hours
Modern methods, procedures, and materials for improving the effectiveness of the classroom teacher in the areas of shorthand, typewriting, bookkeeping and basic business.

BED 596 Seminar in Business Education. Three sem hours
In-depth study of a selected problematic area of business education on the secondary and community college level. Lectures and discussions will be supplemented by library and experimental researches.

BED 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member. Departmental permission.

BED 611 Curriculum Models in Business Education. Three sem hours
Objectives, levels, and patterns of business education programs will be studied and comparisons made with recent research. Prereq: Business education major or permission of department.

BED 630 Psychological Development of Office Skills. Three sem hours
Psychological techniques and procedures for developing both basic and higher levels of facility in typewriting and shorthand courses. Prereq: Business education major or permission of the department.

Tentative Schedule of Regularly Offered Graduate Courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
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<tbody>
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<td>ADS 503</td>
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Tentative Schedule of Regularly Offered Graduate Courses

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<th>Winter</th>
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<th>Summer</th>
<th>Fall</th>
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<tr>
<td>BED 630</td>
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</table>

**MANAGEMENT**

**MGT 501 Management: Concepts, Principles and Practice. Three sem hours**
The basic managerial functions are studied primarily from the perspective of the process design, but the behavioral, management science and other disciplinary schools of thought are also carefully examined.
Prereq: Open only to graduate students who have not had a basic management course.

**MGT 568 Administrative Communication Theory. Three sem hours**
A survey of the research and literature to familiarize the student with theory, concepts and methods relevant to administrative communication.
Prereq: MGT 585 Organizational Theory and Behavior or permission of department.

**MGT 576 Corporate Social Policy. Three sem hours**
The subject of business and its social, economic and political environments covers relationships of a business institution to the broader society outside its own formal organization. Technological changes, demographic and ecological changes, urbanization, developments in transportation and communication, the expanded role of government, sophistication and extension of research and development, and changes in education are sectors relevant to the development and expansion of the American business system.
Prereq: Only open to graduate students.

**MGT 585 Organizational Theory and Behavior. Three sem hours**
The objective is to apply social science concepts to organizational structure and design. Case studies are used to relate theory and behavior.
Prereq: MGT 501 Management: Concepts, Principles and Practice or equivalent; MBA candidacy or permission of department.

**MGT 596 Seminar in Management. Three sem hours**
A study of selected management issues and problems. Specific topics vary from term to term.
Prereq: MBA candidacy or permission of the department.

**MGT 597, 598, 599 Independent Studies. One, two or three sem hours**
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: MBA candidacy, MGT 585 Organizational Theory and Behavior and departmental approval.

**MGT 687 Seminar in Personnel Administration. Three sem hours**
Problems actually faced by executives, line and staff, in all levels of an orga-
nization in carrying out their responsibility for personnel administration.

**Prereq:** MGT 585 Organization Theory and Behavior or permission of department.

**MGT 696 Management Strategy and Policy. Three sem hours**
The development of overall strategy and supportive policies of the firm operating under competitive conditions, from the point of view of general management. Improvement of decision-making skills through case analyses of actual situations.

**Prereq:** Completion of MBA operational area.

### Tentative Schedule of Regularly Offered Graduate Courses

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## 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 marketings; channels of distribution; advertising; personal selling; pricing policies; and regulation of marketing. *Open only to graduate students who have not had a basic marketing course.*

**MKT 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; completion of MBA core or permission of the department.

**MKT 565 Sales Operations Management. Three sem hours**
An intensive investigation of the sales function and its relationship to the total marketing program. Topics considered include setting sales objectives, formulation of sales strategy, development of a sales organization, relationships with distributors and dealers, public policy as it relates to the sales function, analytical tools for forecasting sales, qualitative and quantitative measures of sales performance, control of sales operations, and integration of sales and other marketing functions. Reviews of the literature in the sales field and cases stressed.

**Prereq:** MKT 518 Marketing Policies and Problems; MBA candidacy or permission of the department.
MKT 575 Promotions management. Three sem hours
An integrative decision oriented course emphasizing the strategic function of an effective program of corporate promotions employing mass communications, personal selling, sales promotion, publicity and public relations.
Prereq: MKT 518 Marketing Policies and Problems; MBA candidacy or permission of the department.

MKT 577 Channels of Distribution and Logistics. Three sem hours
Identification and analysis of problems involved in the development and operation of channels of distribution. Issues of trade structure and methods of cooperation among channel members are discussed from legal and managerial points of view. Specific analytical tools are developed for the individual firm in analyzing spatial arrangements of markets, plant and warehouse location, inventory systems and selection of carrier alternatives. Lecture, discussion and cases.
Prereq: MKT 518 Marketing Policies and Problems; MBA candidacy or permission of the department.

MKT 594 Special Topics in Marketing. Three sem hours
Selected topic(s) from the field of marketing.
Prereq: MKT 518 Marketing Policies and Problems; MBA candidacy or permission of the department.

MKT 596 Seminar in Marketing. Three sem hours
The purpose of this seminar is to develop both an understanding of and a point of view toward some of the major problems of marketing which are dealt with briefly or not at all in required course work. Topics vary from year to year in accordance with the needs and interests of the students.
Prereq: MKT 518 Marketing Policies and Problems; MBA candidacy or permission of the department.

MKT 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem under the direction of graduate faculty members.
Prereq: MBA candidacy, MKT 518 Marketing Policies and Problems and approval of department.

MKT 680 Application of Quantitative Techniques to the Marketing Process. Three sem hours
The development of student skills in quantitative data and marketing decision-making process. Forecasting models, inventory models, transportation models, models of customer behavior and advertising models. Attention is given to problem definition, gathering data, methods and analysis and decision theory.
Prereq: MKT 518 Marketing Policies and Problems and MBA Candidacy or permission of the department.

Tentative Schedule of Regularly Offered Graduate Courses

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OPERATIONS RESEARCH and INFORMATION SYSTEMS
(formerly General Business)

ORI 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: Open only to students who have not had a basic statistics course.

ORI 502 Introduction to Computers and Programming. Three sem hours
An introduction to the computer with emphasis on its use in solving problems related to business organizations. Includes elements of computer hardware and software systems, management information systems and actual programming experience. Designed for MBA students with deficiency in the area of computers. Prereq: Open only to students who have not had a basic computer programming course.

ORI 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: ORI 501 Introductory Probability and Statistics for Business or equivalent and ORI 502 Introduction to Computer and Programming.

ORI 587 Advanced Quantitative Methods. Three sem hours
Transportation networks. Queueing theory, Bayesian Inference, Regression and Correlation Analysis, in addition to various Discrete Mathematical Programming Topics of contemporary interest. Prereq: ORI 586 Quantitative Analysis for Business and ORI 502 Introduction to Computers and Programming or department permission.

ORI 588 Managerial Economics. Three sem hours

ORI 589 Business Conditions: Analysis and Forecasting. Three sem hours.
Macroeconomic activity as a major determinant of firm operations. Short-term economic forecasting: econometric models, opportunistic models, economic indicators. Forecasting business investment, housing, consumer purchases,
other GNP components. Seasonal variation and methods of seasonal adjustment. 

**ORI 592 Business Research. Three sem hours**
Scientific research; basic considerations in research methodology; economic analyses. Oral and written reports. 

**ORI 594 Special Topics in General Business and/or Business Computer Systems.**
Three sem hours 
This course will be offered periodically to review selected contemporary topics in quantitative analysis, business computer systems, and/or managerial and business economics. 
Prereq: MBA candidacy or permission of the department.

**ORI 595 Workshop in General Business. Three sem hours**
This course will be offered periodically to present workshop experiences in quantitative analysis, business computer systems, and/or managerial economics. 
Prereq: Graduate business student or departmental permission.

**ORI 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: MBA candidacy and departmental approval.

### Tentative Schedule of Regularly Offered Graduate Courses

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COLLEGE OF EDUCATION

ACTING DEAN: Jack D. Minzey

DEPARTMENTS

Curriculum and Instruction
Department of Education
Educational Leadership
Educational Psychology
Guidance and Counseling
Health, Physical Education and Recreation
Special Education
The Curriculum and Instruction Department offers five programs leading to the Master of Arts degree. These are elementary education, middle school/junior high school teaching, secondary school teaching, secondary curriculum and reading.

**Elementary Education**

The program in elementary education focuses on basic concepts of the child's growth, development and behavior and on the multidimensional aspects of the teacher's role. The purpose of the program is to provide the increased depth and breadth in theoretical foundations and practical knowledge which insure more effective service as a classroom teacher in the elementary school. Four options are offered: (1) a general overview of elementary education, or concentrations in (2) EARLY CHILDHOOD EDUCATION, (3) LANGUAGE ARTS and (4) OPEN EDUCATION.

**Middle School/Junior High School Teaching**

The program in middle school/junior high school teaching enriches the foundations work in secondary education while providing opportunity to select courses which enhance understanding of the adolescent and the programs associated with the middle school. Emphasis is placed also on courses which strengthen the teacher's competence in his teaching field.

**Secondary School Teaching**

The program in secondary school teaching enriches the foundations work in secondary education while providing opportunity to select courses which enhance the teacher's understanding of secondary pupils and the secondary school curriculum. Emphasis is placed also on courses which strengthen the teacher's competence in his teaching field.

**Secondary School Curriculum**

The program in secondary school curriculum is designed for those whose professional interests and responsibilities recommend a broad understanding of the current controversies and trends in secondary education and the historical, social and philosophical influences which have shaped the secondary school.

**Reading**

The program in reading is designed for the professional preparation of classroom teachers, special teachers of reading at both elementary and secondary levels, supervisory reading specialists such as consultants, coordinators and supervisors and specialists for reading clinic positions including clinic directors and reading counselors. The program is consistent with the “Minimum Standards for Professional Training of Reading Specialists” as defined by the International Reading Association. A student can plan a program with his adviser that will enable him to meet the state of Michigan requirements for a reading specialist.
Admission to the Programs

Students are admitted to the Graduate School following satisfactory evaluation of undergraduate records which should be forwarded directly to the Graduate School at the time of application.

The coordinator of graduate advising of the Department of Curriculum and Instruction will assign a program adviser to each student following receipt of the proper records from the Graduate School and acceptance into the department. The student will receive notification of the adviser’s name and should arrange a personal interview in order to develop a program of graduate study.

* RDG 500 Foundations of Reading Development. Four sem hours
History of trends in reading instruction in America; factors influencing achievement in reading; goals, critique of current methods, reading skills functional in the content areas and organization, location and evaluation skills. This is the first course in the concentration area.
Prereq: A basic course in the teaching of reading.

* RDG 501 Developmental Reading—Elementary. Two sem hours
Objectives, approaches, materials and techniques for reading in the elementary school classroom. Factors influencing development; fundamental skills, assessing and providing for individual strengths and needs. Not open to reading majors.

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

* CUR 504 Creative Activities in Early Elementary Education. Two sem hours
Relationship of creative activities to the development of fully functioning, integrated individuals in kindergarten and primary grades. Planning for and implementing creative activities in play, dramatization, music and art.

* CUR 523 The Junior High/Middle School Curriculum. Two sem hours
History and philosophy of the junior high/middle school; curriculum, provision for individual differences, modern classroom procedures, use of materials and aids of instruction, the activity program and guidance.

* CUR 530 Education of the Black Man in Contemporary America. Two sem hours
This course focuses on the current problems, attitudes and opinions of black 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.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* CUR 541 Curriculum—Elementary School. Two sem hours
  Fundamentals of curriculum development; selected types, several basic deter-
  minants, some approaches to organization and the concept of change. In cur-
  riculum 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 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.

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: A course in teaching reading or language arts.

* CUR 563 Integrating the Curriculum Via School Camping. Two sem hours
  A study of the history and purpose of school camping in Michigan. Students
  will develop their personal courses of study involving the integration of all
  curricular areas as well as the "know-how" and skills to completely organize
  an outdoor education class for their personal classroom use. Students will be
  required to participate in a minimum of one week-end camping experience
  together as a class. Students will be expected to pay the actual cost for the
  week-end camping experience.

* CUR 564 The Open Classroom. Four sem hours
  Deals with the open classroom tied to a demonstration center. Involves par-
  ticipants in planning an integrated day based upon learning centers and pupil
  self-direction. Deals with the child-centered, experience-based curriculum. De-
  signed to help free teachers to become more innovative, open, creative and
  humane in curriculum development.

* CUR 565 The Community-Centered Classroom. Four sem hours
  An action-oriented course in which teachers will develop unit teaching tech-
  niques and resources for an integrated curriculum in which the community
  can be used as a learning laboratory. Emphasis will be placed upon creating
  an open and humane learning environment which will promote multi-cultural
  understanding and a one-world concept.

* CUR 566 Improving Instruction. Two sem hours
  Identification, validation and use of criteria for appraising and improving
  teaching and learning, with focus on the classroom; principles underlying
  techniques of improving instruction.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate
  Courses by Seniors."
* 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 568 Individualizing Instruction in the Secondary School. Two sem hours
A course designed to help secondary teachers meet individual differences among their students by using a variety of resources, pupil involvement, thematic approaches and other teaching strategies.

* CUR 571 Teaching of Social Studies. Two sem hours
Subjects included in social studies, problems related to the presentation of materials, planning of units and types of class activities. Not open to students who have credit in HIS 481 and GEO 348.

RDG 573 Programs in Language Arts. Two sem hours
Curricular objectives and their implementation through listening, speaking, handwriting, spelling and creative, narrative and expository writing, evaluative procedures and some consideration of corrective techniques.

* RDG 582 The Nature of Common Reading Problems. Two sem hours
Problems of under-achievement; weaknesses and deficiencies in attitudes, comprehension, word recognition and facility and flexibility in silent and oral reading, physical, psychological, environmental and educational factors.
Prereq: RDG 500 Foundations in Reading Development.

* CUR 584 Planning the Pre-School Environment. Two sem hours
Requirements and recommendations for personnel, physical facilities, materials and equipment to serve children in day care, nursery, pre-school and kindergarten programs. Planning for child development centers in schools and communities.

CUR 585 Kindergarten Education. Two sem hours
Basic principles and philosophy of kindergarten education; curriculum planning and curriculum materials for kindergarten children.

* CUR 586 Trends and Issues in Kindergarten Education. Two sem hours
Important trends and issues affecting the education of kindergarten children.

* CUR 587 Early Childhood Education. Two sem hours
Educational implications of historical, developmental and curricular research; continuity in program development; foundations and techniques for establishing cooperative home-community-school relationships for the improvement of the education of young children.

RDG 589 Developing School-Wide Reading Programs. Two sem hours
Organization of school-wide reading programs; determinants of variability; ef-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
fective interrelationships and communication; roles of special reading teachers and consultants.
Prereq: Eight hours of graduate credit in reading.

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

**RDG 594 Practicum in Reading. Four sem hours**
Supervised and directed experiences in teaching reading appropriate to the student's needs. The practicum student will have a group experience, developmental or remedial. The student will diagnose the strengths and weaknesses of the subjects and design treatment to develop specific skills and abilities. Approved and supervised by the reading staff professor.
Prereq: Departmental permission.

**CUR/RDG 595 Workshops in Selected Areas. Two sem hours**
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past:
- The Adolescent in American Society.
- The Curriculum and Racism.
- Early American Life—Colonial Williamsburg.
- East African Studies.
- Individualizing Instruction.
- Kindergarten Materials.
- Providing for Individual Differences in Reading.
- Teaching the Disadvantaged.

**CUR/RDG 596 Seminars in Selected Areas. Two sem hours**
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past:

- **CUR 596 Seminar: Secondary Curriculum. Two sem hours**
  Prereq: CUR 540 Curriculum Foundations, CUR 542 Curriculum—Secondary Schools and 20 hours of graduate credit.
- **RDG 596 Seminar: The Teaching of Reading. Two sem hours**
  Prereq: Eight hours of graduate credit in reading.
- **CUR 596 Seminar: Elementary School Curriculum. Two sem hours**
  Prereq: CUR 541 Curriculum—Elementary School and 20 hours of graduate credit.
- **CUR 596 Seminar: Early Childhood Education. Two sem hours**
- **CUR 596 Seminar: Open Education. Two sem hours**
  Prereq: CUR 564 The Open Classroom or CUR 565 The Community-Centered Classroom and 20 hours of graduate credit.

**CUR/RDG 597, 598, 599 Independent Studies. One, two and three sem hours**
An intensive study of a problem or group of problems. The completed study must give evidence of the student's ability to select a problem, set it up and pursue it to satisfactory completion. Must be done with approval of a full-time member of the staff.

**RDG 661 Analysis and Treatment of Common Reading Problems. One sem hours**
Survey of diagnostic procedures, formal and informal; organization and inter-
pretation 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.

**EDUCATIONAL MEDIA**

At the present time there are no graduate programs in either audio-visual or library science. The present offerings in educational media provide some course work leading to permanent certification and for electives in almost every master’s degree program in education. The course work needed for school library certification in Michigan can be obtained through a sequence of undergraduate courses only.

Courses in educational media are designed to aid administrators, supervisors, directors, technicians and teachers in all aspects of media and educational technology. There are specific courses in television, motion picture projections, production of materials and resource material classification and utilization. For those interested in courses in education media, please check with your adviser.

* **EDM 512 Audio-Visual Instruction. Two sem hours**

A survey course for teachers and administrators in which the nature and effective use of teaching materials are considered and fully demonstrated. Provision is made for actual use of materials and equipment. Not open to students who have credit in 344 Audio-Visual Methods in Teaching.

**EDM 522 Administration of Audio-Visual Services. Two sem hours**

An analysis of the function of an audio-visual teaching materials program; the qualifications and duties of staff, the selection and evaluation of materials and equipment, unit costs, school plant requirements; the problems of developing a program and the measures for appraising its adequacy and effectiveness.  
Prereq: 344 Audio-Visual Methods in Teaching or EDM 512 Audio-Visual Instruction.

* **EDM 524 T.V. in Education. Two sem hours**

Extent and nature of experimentation in instruction by radio and television; current philosophy and attitudes toward teaching by radio and television.

* **EDM 525 Resource Materials for the Elementary School. Two sem hours**

Criteria and sources for selection and purchase of books, pamphlets, periodicals and free materials for nursery school through the sixth grade. Teachers only.

* **EDM 526 Radio and TV in the Classroom. Two sem hours**

Study and practice in the utilization and evaluation of instructional, educational and enrichment radio and television programs. Familiarization with broadcast methods and facilities. Includes utilization guidebooks and sources of materials.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
EDM 595 Workshops in Selected Areas. Two sem hours
Please examine the current time schedule for specific workshop topics. Among those which have been offered in the past:

EDM 595 Workshop in Reading Guidance for Children.
Two sem hours
Reading guidance for teachers and librarians learning to meet the special needs of the individual child. Pre-school children to adolescents.

EDM 595 Workshop in Production of Instructional Materials.
Two sem hours
Basic techniques in the production of a variety of teaching materials; lettering, mounting, and color application to flat pictures and graphics; projected materials of various sizes; overhead projectuals; display boards of all types.
Prereq: 344 Audio-Visual Methods in Teaching or EDM 512 Audio-Visual Instruction.

EDM 595 Workshop in Television Utilization. Two sem hours
For teachers; advanced problems in the use of television in the classroom.

EDM 596 Seminars in Selected Areas. Two sem hours
Please examine the current time schedule for specific seminar topics. Among those which have been offered in the past:

EDM 596 Seminar: The Administrator and the School Library.
Two sem hours
For administrators, supervisors, beginning audio specialists and beginning librarians; services, activities, materials and standards of a materials center in a school library.

EDM 596 Seminar: Instructional Materials. Two sem hours
A course designed to assist the individual student in detailed study of specific problems or topics in utilization, production, selection, or administration of instructional materials. Visits to actual service centers, use of resource persons, etc. will be employed. A sharing of solutions and problems will be used in a seminar setting during the course.
Prereq: 344 Audio-Visual Methods in Teaching, EDM 512 Audio-Visual Instruction or permission of the department.

EDM 596 Seminar: History and Appreciation of Motion Pictures and Photography. Two sem hours
A course designed to give the history of the photographic medium with the emphasis on important films and photographs and the people who created them.
Prereq: 344 Audio-Visual Methods in Teaching, EDM 512 Audio-Visual Instruction or permission of the department.

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### EDUCATIONAL LEADERSHIP

The Department of Educational Leadership offers pre-service and in-service preparation programs in educational administration. Degrees currently offered include:

- **Master's—Educational Administration**
- **Specialist's—Educational Administration**

The master's program includes 30 semester hours of course work planned by the student and his adviser to accomplish the student's career objectives.

The specialist program is a 62-hour program of graduate study and includes the educational leadership master's degree program requirements at Eastern Michigan University. Students who have earned their master's degree from other departments at EMU or other institutions will be required to complete master's degree level deficiencies. Master's and specialist programs must conform to department and graduate school requirements.

Students should consult with a department adviser before initial registration for
classes and complete an official program of studies prior to or during the first enrollment period to assure that courses taken will apply to the program.

**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 program-planning interview with an adviser.

**ADMISSION REQUIREMENTS FOR THE SPECIALIST'S PROGRAM**

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 valid master's degree from an accredited graduate school.
6. A 6.0 graduate grade point average or a favorable test score.
7. A program-planning interview with an adviser.

**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 full-time summer sessions.

**COURSE SUBSTITUTIONS**

Must be approved by the adviser.

**AREA OF CONCENTRATION**

With the approval of the student's adviser, one course may be substituted from another area for a course in educational leadership if the course is administrative in nature. Such a course cannot carry more than three hours of credit.

**COURSES OUTSIDE THE DEPARTMENT OF EDUCATIONAL LEADERSHIP**

A suggested list of courses has been prepared by the department. Other courses may be used in this area if they are approved by the student's adviser.

**INTERNSHIPS**

A program of on-the-job administrative training is available under the direction of an experienced school administrator. Further information is available from the director of internship programs. Internship placements should be arranged at least one year in advance.
ADVISERS (Students may choose)

Coordinator of Advising—Doris Kilanski
Advisers:

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, principles of change and action. Open to teachers and community members.

EDL 550 Adult Education. Two sem hours
Organization and administration of adult education programs. Open to non-majors.

EDL 553 Economics of Public Education. Two sem hours
Examines the basic economic, fiscal and legal theories of support for education tax structures, state aid formulas, federal aid and school budgets.

EDL 556 Community Education. Two sem hours
The basic principles and philosophy of community education; its current status and relationship to education. Open to non-majors.

EDL 560 School and Community Understanding. Two sem hours
Interpreting the school to the community with emphasis on improving relationships between the school and the community. Assessing community opinion on education and educators.

EDL 562 Educational Leadership. Two sem hours
The process and function of various school leadership positions are explored including current practices, theories and concepts of educational administration.

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 on philosophy and purposes. Fundamental issues identified and conflicting positions investigated. Open to non-majors.

EDL 566 Supervision of Instruction. Two sem hours
Development of those attitudes and skills necessary for school administrators
as they plan and maintain effective, positive instructional programs. Designed to provide appropriate educational opportunities for all students.

**EDL 580 School Law for Teachers.** Two sem hours

Legal principles underlying day-to-day teaching activities; how laws operate and legal principles develop. Open to non-majors only.

**EDL 581 Law of Higher Education.** Two sem hours

Examines the major legal aspects of the administration of institutions of higher learning.

Prereq: Six hours of educational leadership; not open to students with credit in EDL 680, Legal Aspects of Administration.

**EDL 587 Evaluating Educational Services.** Two sem hours

Problems, principles and procedures involving the evaluation of school facilities, curriculum, teachers and administrators. Evaluation instruments will be developed, applied and analyzed.

**EDL 594 Master's Internship in Educational Leadership.** Two sem hours

Training in administration through actual supervised experience. Arrangements must be approved by adviser and director of intern program prior to registration. Enrollments limited. Departmental permission.

**EDL 595 Workshop in Educational Leadership.** Two sem hours

Concerned with special topics of educational leadership. Designed to maximize student participation and workshop method of teaching and learning emphasized. Topics to be selected (see current schedule).

**EDL 596 Seminar in Administration and Supervision or Selected Topics.** Two sem hours

Concerned with broad or special topics of educational leadership. (Students are limited to two EDL 596 seminars on master's degree program.) Topics to be selected (see current schedule).

Prereq: Six hours credit in administration, majors only.

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

Prereq: Permission of the department.

**EDL 605 Leadership Theory.** Two sem hours

Theories and models of administration and leadership; general theories of leader behavior. A philosophy of social change and an understanding of social action.

**EDL 651 Collective Negotiations in Education.** Two sem hours

An analysis of negotiations; issues which may be encountered by school administrators and teachers in collective negotiations in education. Open to non-majors.

**EDL 653 Advanced School Finance.** Two sem hours

Designed to acquaint students with specific areas of school finance. Probable areas for study are (1) the capital outlay program, (2) the school bond market, (3) the bond prospectus, (4) model state foundation programs, (5) the development of sound debt management policies.

Prereq: EDL 553 Economics in Public Education.
EDL 655 School Plant Planning. Two sem hours
Problems and procedures, revealed through a plant-planning chronology which includes hiring the architect, the attorney's role, site acquisition, involving citizens, utilizing staff, the bond issue, designing and constructing the building.
Prereq: Six hours credit in administration.

EDL 658 School Personnel Administration. Two sem hours
For prospective and practicing administrators and classroom teachers. Assists in the development of an understanding of the issues, problems and practices involved in administration of the public school personnel program. Explores in depth the basic principles of staff relationships, legal requirements and policies necessary for effective personnel administration and high-level morale.
Prereq: Six hours in Educational Leadership.

EDL 671 Elementary School Principalship. Two sem hours
The examination of the elementary school principal's role in improving curriculum and instruction, in the establishment of effective, routine operations in an elementary school, in establishing avenues for change by an awareness of innovations, materials, technologies and research that are relevant to elementary school education.
Prereq: Six hours credit in administration.

EDL 672 Junior High School Administration. Two sem hours
An examination of the characteristics of the junior high school and the organization necessary to provide those experiences and instruction necessary to assist early adolescents in making the transition from childhood dependence to adult independence, including approaches to instruction, scheduling procedures, exploratory and enrichment studies, evaluation methods, student services and community relations.
Prereq: Six hours credit in administration.

EDL 673 Senior High School Principalship. Two sem hours
Educational leadership in the secondary school, including approaches to school-community relations, curriculum, instruction, special services buildings and equipment, pupil relations, personnel relations, scheduling and innovative practices.
Prereq: Six hours credit in administration.

EDL 674 Community Education Administration. Two sem hours
Principles and techniques of administering community education.
Prereq: EDL 556 Community Education.

EDL 675 Organization and Administration of the Community College. Two sem hours
An understanding of the two-year college; its legal bases, external and internal constraints, functional patterns, administrative staff roles and responsibilities, faculty organization and authority, student participation in organizational structure.
Prereq: Six hours credit in administration.

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

EDL 680 Legal Aspects of Administration. Two sem hours
Operation of laws; development of legal principles; federal and state relationships to education; authority and liability of school boards, administrators and teachers; negligence, discipline and control.
Prereq: Six hours of credit in administration. Majors only.

EDL 683 Behavioral Science in Administration and Supervision. Two sem hours
Emphasizes contributions of research in the behavioral sciences to educational leadership. Critical readings of the research of psychologists, sociologists, political scientists and others that have special meaning in understanding such concepts as leadership, organization, power, authority, communication, innovation and decision making.
Prereq: Six hours in administration and EDP 592 Research Techniques.

EDL 686 Special Topic Seminar. One sem hour
An intensive study of a topic of current relevancy.

EDL 690, 691 and 692 Thesis. 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 of adviser.

EDL 693 Practicum. Two sem hours
Development of a study proposal for the thesis or the internship. EDL 693 must be taken prior to the Thesis (690, 691, 692) or Internship (694).
Prereq: EDP 592 Research Techniques, EDL 683 Behavioral Science in Administration and Supervision and permission of the adviser.

EDL 694 Internship in Educational Administration. Six sem hours
Provides an opportunity for the graduate student, teacher or administrator to develop his administrative skills by working under the direction of an experienced public school, intermediate district, community college or four-year institution administrator. Is completed in a system which has contracted with the University to conduct this program. Arrangements must be approved by adviser and Director of Intern Program prior to registration.
Prereq: See course prereq. for internship (available from Department).

EDL 696 Advanced Seminar in Administration and Supervision. Two sem hours
An intensive study of selected problems in administration and supervision. Students are limited to two EDL 696 seminars on specialist degree program.
Prereq: Eight hours in concentration area toward specialist in arts.

EDL 696 Inter-university Seminar. Two sem hours
An inter-university experience with speakers of national prominence. Apply to department for further information.

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: Approval of adviser and department.
Tentative Schedule of Regularly Offered Graduate Courses

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**EDUCATIONAL PSYCHOLOGY**

The objectives of the master's degree program in educational psychology are (1) to provide the professional educator with a broad foundation in the areas of human growth and development, learning and educational technology, measurement and evaluation of learning, research methodologies and personality dynamics, (2) to improve the educator's competencies and skills in the understanding and the utilization of psychological theories and principles and (3) to provide a foundation for the pursuit of advanced degrees in educational psychology or allied fields.

**ADMISSION REQUIREMENTS FOR THE MASTER'S DEGREE**

Students must apply through and meet admission requirements of the Graduate School of Eastern Michigan University.
Generally students entering this program possess the teaching certificate. However, those with vocational objectives clearly of an educational nature but not centered in a public school setting may request that teacher certification not be a condition for admission.

In addition, students must apply to the chairman of the Graduate Committee in Educational Psychology for admission to the program. The procedure for application to this program is as follows:

1. Submit an application for admission to the Graduate School.
2. Submit completed application blank obtainable from the secretary of the Department of Educational Psychology.
3. Submit transcripts of all undergraduate and graduate work.
4. Submit Miller Analogies Test score. Arrangements for taking the MAT may be made with the secretary of the Department of Educational Psychology.

This information is reviewed by the Graduate Committee. Undergraduate grade-point average (a 2.5 average on a 4.0 scale is required), satisfactory performance on the Miller Analogies Test, experience in related fields and personal recommendations will be considered when determining readiness for graduate study in this program.

**PROGRAM REQUIREMENTS**

1. All students must complete EDP 502, Basic Concepts in Educational Psychology; EDP 521, Statistics I: Descriptive Statistics; EDP 592, Research Techniques; and EDP 596 Seminar in Educational Psychology.
2. The minimum of 30 semester hours must include six hours of cognate, i.e., courses elected from departments outside of educational psychology and approved by the student’s adviser.

**RESIDENCY REQUIREMENT**

The residency requirement must be satisfied by completing 12 hours on campus. These need not be simultaneous or consecutive but must include EDP 502, 521, and 592. The student need not reside on campus to meet this requirement.

**DEGREE REQUIREMENTS**

1. A minimum of 30 semester hours of graduate credit applicable to the program.
2. The minimum of 30 semester hours must include six hours of cognates, i.e., courses elected from departments outside Educational Psychology and approved by the student’s adviser.
3. A B+ (6.0) average for all work applicable to the degree.
4. The recommendations of his/her adviser.

**ADDITIONAL INFORMATION**

Applications for admission to the program and requests for additional information may be sent to:

Chairman, Graduate Committee in Educational Psychology
Department of Educational Psychology
Eastern Michigan University
Ypsilanti, Michigan 48197
EDP 500 Human Development. Two sem hours
The study of social, emotional, physical and mental growth; processes and developmental stages throughout the life cycle and their implications for learning and teaching. Students are expected to pursue an in-depth analysis of research, theory and issues in the field commensurate with the experiential background which they bring to the course.

EDP 501 Psychology of Adolescence. Two sem hours
Study of the physical, cognitive, affective and social behavior and development of the adolescent; of his relation to family, peer group, school and society; and of youth here and abroad.

* EDP 502 Basic Concepts in Educational Psychology. Two sem hours
Review and critical assessment of major issues in the areas of human growth and development; learning and technology; personality and mental hygiene; and measurement and evaluation.

EDP 503 Principles of Classroom Learning. Two sem hours
Major principles of learning are examined for their applications in a classroom setting. Recent contributions are studied, and the value of learning theories for the teacher is discussed.
Prereq: At least one course in human growth and development or psychology.

* EDP 504 Essentials of Programmed Instruction. Three sem hours
Principles of programmed instruction are discussed and students examine programs and evaluate them. Students construct short programs in their areas of interest and revise and evaluate them. This is not a course in computer programming.
Prereq: At least one course in educational psychology, human growth and development or psychology.

* EDP 505 Mental Hygiene. Two sem hours
A study of the conditions and practices which promote mental, emotional and social well being. Concepts are explored in terms of restoration, preservation and elevation of mental health goals. The course emphasizes introspection and self-awareness, techniques and skills relevant to interpersonal relationships, and the application of principles and concepts to home, school and other social settings.
Prereq: EDP 302, Educational Psychology or EDP 320, Human Growth and Development or departmental permission.

EDP 506 Technology of Instruction. Two sem hours
Classroom management of learning and instruction; the tools of instruction. Educational technology is more than the study of machines used in education.
Prereq: At least one course in educational psychology, or human growth and development or psychology.

EDP 508 Computer Applications in Education. Two sem hours
An overview of the field of data processing in terms of computer hardware and computer languages (software); educational uses of the computer in instruction, guidance and counseling and school administration. Permission of instructor required for students with background in computers.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
EDP 509 Problems in Child Psychology. Two sem hours
Deals theoretically and practically with the many concerns felt by teachers and parents in regard to the various problems children face. Includes home, family and school influences as creators of problems, and approaches for dealing with these problems.

EDP 510 Personality Theories for Educators. Two sem hours
A study of cognitive, psychoanalytic and social learning personality theories primarily for graduate students in educational psychology. The focus of the course will be on implementation of these theoretical approaches for problems in the classroom.
Prereq: Six hours of graduate or undergraduate work in educational psychology, human growth and development and psychology.

EDP 511 Piaget for Educators. Two sem hours
A systematic analysis of Piagetian research and theories. Applications to curriculum from pre-school through secondary will be made. Students will conduct interviews and tests with children and adolescents and make recommendations for their teaching. Students will also evaluate educational materials and teaching strategies.
Prereq: EDP 500 Human Development or equivalent.

EDP 512 Behavior Modification Techniques for School Personnel. Two sem hours
This course is designed for school personnel who are desirous of developing skills in the use of behavior modification in their settings. Students will learn and apply the principles of behavior modification to projects conducted in their institutions. Students who enroll in this course should presently be teaching or employed in an instructional setting.
Prereq: Current employment in an instructional setting or permission of the instructor.

EDP 514 Psychology of Creativity for Educators. Two sem hours
A study of the various aspects of creativity: the person, the environment, the process, with emphasis on their implications for teaching. The course will also focus on teacher procedures and methods for facilitating student creative behavior in the classroom.
Prereq: Any two of the following courses: Introduction to Psychology, Child Psychology, Educational Psychology and Human Growth and Development.

EDP 518 Play and Development. Two sem hours
The phenomena of play for all ages and their relationship to developmental processes will be investigated. Definitions, viewpoints, history and theories of play and play movements will be analysed. Students will conduct interviews and observations with children, adolescents and adults.
Prereq: EDP 500 Human Development or equivalent.

* EDP 521 Statistics I: Descriptive Statistics. Two sem hours
The organization of data, and application and interpretation of descriptive statistics. Includes levels of measurement, frequency distributions and graphs,

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
measures of central tendency, dispersion, relative position, relationship and prediction.

**EDP 531 Measurement and Evaluation. Two sem hours**
A study of the construction and use of teacher-made tests, rating scales, questionnaires, check lists and similar measures. Also includes the administration of standardized tests and utilization of their results.

**EDP 539 Experimental Course. Two sem hours**
An experimental course designed to include specific topics of concern in Educational Psychology.
Prereq: Permission of the instructor.

**EDP 551 Statistics II: Inferential Statistics. Two sem hours**
Inferential statistics, both parametric and non-parametric; theory of hypothesis testing.
Prereq: EDP 521 Descriptive Statistics or equivalent.

**EDP 584 Psychoanalytic Theory and Education. Two sem hours**
Major psychoanalytic concepts will be discussed and compared. Applicability of psychoanalytic theories to problems of education will be explored.
Prereq: EDP 500 Human Development or equivalent.

**EDP 592 Research Techniques. Two sem hours**
Basic concepts, procedures and language of research; facets of research, i.e., problem formulation, research design, data collection, data analysis and interpretation. Critical appraisal of published research.

**EDP 596 Seminar in Educational Psychology. Two sem hours**
This course provides students with the opportunity for in-depth exploration and examination of significant issues in educational psychology as they relate to their professional goals.
Prereq: Admission to the M.A. degree program in educational psychology and nearing completion of the program.

**EDP 597, 598 and 599 Independent Study. One, two and three sem hours**
Prereq: Permission of the graduate adviser.

**EDP 631 Statistics III: Analysis of Variance. Two sem hours**
Involves statistical principles in experimental design through the study of single and multi-factor analyses of variance.
Prereq: EDP 521, Descriptive Statistics and EDP 551, Inferential Statistics or equivalents.

**EDP 650 Empirical Methods for Educational Research. Three sem hours**
Emphasis within the course is on the understanding of advanced empirical methods in education. Topics included are measurement procedures, research designs, data analyses and interpretations, and the use of the computer terminal.
Prereq: EDP 521 or EDP 551 Statistics and EDP 592 Research Techniques (or permission of instructor).

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
EDP 690, 691 and 692 Thesis. One, two and three sem hours
Prereq: Permission of the graduate adviser.

SPECIALIST IN SCHOOL PSYCHOLOGY

The Department of Educational Psychology is cooperating with the Departments of Psychology and Special Education in a program designed to prepare school psychologists. A complete description of this program is available under "Psychology."

Tentative Schedule of Regularly Offered Graduate Courses

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GUIDANCE, COUNSELING and PERSONNEL WORK

Graduate study in the Department of Guidance and Counseling consists of the Master of Arts degree program, the Specialist of Arts degree program, and service course offerings for classroom teachers and graduate students in related fields.

The master's degree program provides entry level competencies and proficiencies for such positions as elementary school counselors, secondary school counselors and college student personnel workers. In addition, counselors and personnel workers in non-education settings (e.g. employment counselors, vocational rehabilitation counselors, community/agency personnel and management personnel) receive education and training which improves their effectiveness.

†Courses offered on a two (2) year cycle.
The specialist's degree program provides individuals with advanced competencies and proficiencies, enabling them to assume leadership positions in guidance and personnel programs. This advanced program of graduate study is directed to those persons aspiring to such positions as director of guidance, coordinator of pupil personnel services, director of student personnel services, director of testing, counseling supervisor, guidance consultant and similar positions in the helping professions.

ADMISSION REQUIREMENTS FOR THE MASTER'S DEGREE

1. Admission to the Graduate School.
2. A valid teaching certificate (elementary and/or secondary) or a waiver of this requirement by the department.
3. A 2.25 undergraduate grade point average or a 2.5 undergraduate grade point average for the last 60 semester hours.
4. Completion of Personal Data Form.
5. A personal interview with an assigned adviser.

A program adviser will be assigned to each student when his/her records are received from the Graduate School. At this time, the student will be notified of his/her adviser and should arrange for a personal interview. The adviser will assist the student in developing a program of graduate study. All courses and subsequent changes in the program must be approved by the adviser. Persons desiring further clarification of admission requirements should contact DR. PAUL NAU, chairman of the advising committee, 13 Boone Hall.

REQUIREMENTS FOR THE MASTER'S DEGREE

A master's degree program consists of two major components which include a major concentration in guidance and counseling and appropriate courses in cognate areas. Students pursuing graduate study in school counseling and endorsement as elementary or secondary school counselors in Michigan follow the program outline, "School Counselor Program." Students pursuing graduate study in college student personnel work or in areas of community counseling or personnel work follow the program outline, "College and Community Personnel Program."

SCHOOL COUNSELOR PROGRAM

The following outline describes the general program requirements leading to a minimum of 32 semester hours of graduate study for those students seeking training and endorsement as elementary or secondary school counselors:

A. Major Concentration in Guidance and Counseling 18-22 sem hours

1. Required Courses (16 sem hours)
   G&C 500 Introduction to Guidance and Counseling, or
   501 Guidance in the Elementary School
   G&C 505 Counselor Development: Basic Skills
   G&C 510 Counselor Development: Counseling Process
   G&C 520 Standardized Group Testing
   G&C 540 Group Process I
   G&C 611 The Elementary School Counselor, or
   613 The Secondary School Counselor
   G&C 630 Educational and Occupational Information
   G&C 680 Counseling Practicum I
2. Elective Courses (2-6 sem hours)  
These guidance and counseling courses are selected with the approval of the adviser and reflect the student's professional needs and objectives.

B. Cognate Areas 10-14 sem hours

1. Required Courses
   a. EDP 521 Descriptive Statistics (2 sem hours) or equivalent
   b. Behavioral Sciences (4-6 sem hours)
   These courses are usually taken in departments such as Psychology, Sociology, Educational Psychology and Special Education; intended to strengthen the student's knowledge and understanding of human development.

2. Elective Courses (4-6 sem hours)  
These courses are elected to provide knowledge and understanding of the educational setting in which the student will be employed and to meet career-related objectives.

COLLEGE AND COMMUNITY PERSONNEL PROGRAM

The following outline describes the general program requirements leading to a minimum of 32 semester hours of graduate study for those students seeking training and education as college student personnel workers or as counselors and personnel workers in community settings:

A. Major Concentration in Guidance and Counseling 18-22 sem hours

1. Required Courses (14 sem hours)
   G&C 500 Introduction to Guidance and Counseling, or
   501 Guidance in the Elementary School
   G&C 505 Counselor Development: Basic Skills
   G&C 510 Counselor Development: Counseling Process
   G&C 520 Standardized Group Testing
   G&C 540 Group Process I
   G&C 680 Counseling Practicum I, or
   681 Field Work Experience
   G&C 696 Seminar in Guidance

2. Elective Courses (4-8 sem hours)
   These guidance and counseling courses are selected with approval of the adviser and reflect the student's professional needs and objectives.

B. Cognate Areas 10-14 sem hours

1. Required Courses
   a. EDP 521 Descriptive Statistics (2 sem hours) or equivalent
   b. Behavioral Sciences (2-6 sem hours)
   These courses are usually taken in departments such as Psychology, Sociology, Educational Psychology and Special Education.

2. Elective Courses (6-10 sem hours)
   These courses are elected from various departments to provide knowledge and understanding of the work setting in which the student will be employed and to meet career-related objectives.
ADMISSION REQUIREMENTS FOR THE SPECIALIST'S DEGREE

1. Admission to the Graduate School.
2. A master's degree in guidance and counseling or its equivalent from an accredited institution.
3. A 6.0 graduate grade point average.
4. A valid teaching certificate or a waiver of this requirement by the department.
5. Evidence of successful experience in a helping profession.
6. Submission of score on the Miller Analogies Test.
7. Two letters of recommendation, one of which is from an immediate supervisor.
8. A personal interview with an assigned adviser.

The graduate admissions committee in the Department of Guidance and Counseling makes final admission decisions consistent with the needs of the profession and the ability of the department to effectively train its students at this advanced level of graduate study. Prior to application to this program, students should contact DR. PAUL NAU, chairman of the advising committee, or DR. JOHN G. PAPPAS, department head, 13 Boone.

REQUIREMENTS FOR THE SPECIALIST'S DEGREE

The Specialist in Arts degree program requires a minimum of 33 semester hours beyond the master's degree. Students work closely with their assigned adviser in developing a program which will prepare them for their career goal. The following outline describes the program requirements of the specialist's degree program:

A. Foundation Courses 6 sem hours
   This requirement is designed to provide the counselor with greater ability to relate to the total functioning of his work setting. It is also designed to insure that the counselor has sufficient research skills to successfully pursue the graduate study demanded by an advanced program. Therefore, all students are required to take EDP 592 Research Techniques for one of these experiences.

B. Area of Concentration 17–23 sem hours
   1. Didactic Courses (10–14 sem hours)
      G&C 610 Theories of counseling
      G&C 650 Organization and Administration of Guidance Services
      Electives-600 level graduate courses in Guidance and Counseling
   2. Supervised Experiences (4–6 sem hours)
      G&C 685 Counseling Practicum II
      G&C 686 Supervision of Counseling Practicum
      G&C 681 Field Work in Guidance and Personnel Work
   3. Specialist's Project (3 sem hours)

C. Cognate Courses 8–12 sem hours
   These courses should be elected to strengthen the counselor's background and understanding in the social and behavioral sciences related to guidance and counseling. Courses in such areas as psychology, sociology, special education, educational leadership, economics and business management are of special value in this component of the program.
Student progress is reviewed after the completion of twelve hours in the graduate program. At this time, an interim check is made and faculty recommendations regarding the student’s continuation in his/her program are forwarded to the Graduate School. Also, students seeking counselor endorsement of their teaching certificate must provide evidence of their valid Michigan teaching certificate at the time of admission. These students are eligible to apply for counselor endorsement of their teaching certificate at the completion of their graduate program of study.

**COURSE OFFERINGS**

* **G&C 500 Introduction to Guidance and Counseling. Two sem hours**
  A general course designed to present the philosophy, principles, and practices underlying counseling and guidance service in schools and other agencies. It is intended to provide an overview of the counseling and guidance field as well as an introduction to the counselor education program. Not open to students who have credit in G&C 501 Guidance in the Elementary School.

* **G&C 501 Guidance in the Elementary School. Two sem hours**
  The unique contributions of guidance to the work of the classroom teacher and other staff in the elementary school are surveyed. Relationships between guidance, instruction, and administration in the elementary school are explored. Not open to students who have credit in G&C 500 Introduction to Guidance and Counseling.

**G&C 505 Counselor Development: Basic Skills. Two sem hours**
Designed to train prospective counselors for competencies in beginning counseling skills. Individuals assess their potential for counseling. Expectations are clarified for program, professional, and certification requirements; career opportunities are explored.

Prereq: Open to G&C majors or departmental permission.

**G&C 510 Counselor Development: Counseling Process. Two sem hours**
The course is designed to assist counselor trainees in understanding the counseling process. Opportunities are provided for continued training and integration of counseling skills. Various counseling theories are examined. Consulting skills and processes are introduced.


**G&C 520 Standardized Group Testing. Two sem hours**
This course is designed to familiarize students with various standardized group tests used in guidance and personnel programs. Emphasis is given to the development of school-wide testing programs and to the interpretation and use of test results.

Prereq: G&C 500 Introduction to Guidance and Counseling or G&C 501 Guidance in the Elementary School; EDP 521 Educational Statistics.

**G&C 530 Career Education in the Guidance Program. Two sem hours**
Students will learn to implement the guidance component of career education. Background, content, and implications of the concept are presented.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
Class participants will develop action programs based upon the Michigan Guidance Infusion Model.

Prereq: G&C 500 Introduction to Guidance and Counseling or G&C 501 Guidance in the Elementary School; or permission of instructor.

G&C 540 Group Process I. Two sem hours
The course is designed to develop competencies in basic group facilitation skills, and to identify verbal and non-verbal behaviors and group interactive processes. Opportunities are provided for participation in a small group. Information is presented on the development and rationale of groups.


G&C 542 Group Process II. Two sem hours
This course provides an experiential learning situation for students as they participate in and examine interpersonal relationships within a small group setting. Opportunities will be provided for participants to develop and assess group facilitation skills.

Prereq: G&C 540 Group Process I or equivalent.

G&C 595 Workshop in Selected Areas. Two sem hours
Workshops will be offered dealing with selected areas within the guidance and counseling field. Such workshops may include areas such as the self-concept, career education, psychological education and other relevant topics of interest.

Prereq: Open to Guidance and Counseling majors and graduate students in related fields.

G&C 596 Seminars in Counselor Development. Two sem hours
Seminars will be offered dealing with contemporary issues and problems in the guidance and counseling field. These counselor development seminars will be designed primarily for advanced graduate students in Guidance and Counseling and practitioners in the guidance and counseling profession.

Prereq: Permission of adviser or departmental approval.

G&C 601 Student Personnel Services in Higher Education. Two sem hours
Overview of student personnel services in higher education; their evolution and growth; educational significance; administrative aspects; and survey of the various student services. Major emphasis will be given to role of personnel work in the educative process of students in colleges and universities, including junior and community colleges.


G&C 610 Theories of Counseling. Two sem hours
The rationale, historical development and research underlying selected theories of counseling, with emphasis on the implication of each theory for practice. Each student is encouraged to develop a theoretical basis for his own counseling practice.

Prereq: Ten semester hours in G&C courses.

G&C 611 The Elementary School Counselor. Two sem hours
The function of the elementary school counselor, his evolving role and relationships to students, teachers, parents and special service personnel. Empha-
sis will be placed on techniques for the early identification of pupil's intellectual, emotional, social and physical characteristics; 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. Analysis of these cases will enable students to develop competencies in case study techniques, appraisal of critical counseling areas and consultation with other professional staff.

Prereq: Ten semester hours in G&C courses.

G&C 613 The Secondary School Counselor. Two sem hours
Students will have the opportunity to further develop skills and techniques for working effectively with secondary school students. Consulting and coordinating skills for working with teachers, parents, administrators, referred agencies and pupil personnel staff will also be developed.

Prereq: Ten semester hours in G&C courses.

G&C 620 Individual Appraisal in Guidance and Counseling. Two sem hours
Testing and non-testing procedures, techniques and the processes of psychoeducational appraisal and their application to counseling, guidance and personnel work. Major emphasis is placed on the relevance of individual assessment to an increase in self-understanding.


G&C 621 Individual Mental Testing for Counselors. Two sem hours
An introduction to the administration, scoring and interpretation of Wechsler psychological scales. Special emphasis is placed on the use of these test results by the school counselor in elementary or secondary schools.


G&C 630 Educational and Occupational Information. Two sem hours
An introduction to the psychology, sociology and economics of work and vocational development theory. Study of informational services in guidance including sources, organization and evaluation of educational and occupational information.

Prereq: Six semester hours in G&C courses.

G&C 631 Dynamics of Vocational Development. Two sem hours
An in-depth study will be made of the process of vocational development in educational and other settings as it relates to general human development and the economics and sociology of work. Theoretical constructs and significant research findings will be examined. Implications will be drawn for professional workers in guidance and counseling and related to manpower resources, locally and in the community at large.

Prereq: G&C 630 Educational and Occupational Information.

G&C 632 Vocational Rehabilitation Counseling. Two sem hours
Division of Vocational Rehabilitation: history, organization, legislation, role of the vocational rehabilitation counselor; principles and practices of vocational
rehabilitation counseling; interviewing, referrals, establishing eligibility, determining vocational objectives, case reporting, adjustment counseling, selective placement and follow-up; counseling needs of physically and mentally handicapped clients; case studies and visits to rehabilitation agencies.  
Prereq: G&C 630 Educational and Occupational Information.

Two sem hours  
A study of the philosophy and principles of guidance as implemented into practice. The organization and administration of the various guidance services and the guidance functions of various school staff members will be examined.  
Prereq: Ten semester hours in G&C courses.

G&C 680 Counseling Practicum I. Two sem hours  
An introduction to supervised counseling experiences. A variety of counseling cases, criticism by other members of the class and the instructor, together with self-evaluation, combine to facilitate greater skill and understanding of counseling relationships.  
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 681 Field Work in Guidance, Counseling and Personnel Work.  
Two sem hours  
On-the-job experiences under professional supervision that afford the student practical experience in counseling and guidance. Settings for the field work may include elementary and secondary schools, junior and senior colleges and universities, or other approved agencies.  
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 685 Counseling Practicum II. Two sem hours  
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/College Personnel Work. Two sem hours  
An integrating experience for the M.A. program. Includes topics such as organization and administration of guidance programs, issues related to professional rights and responsibilities and other selected areas 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 approval and supervision of a member of the faculty in guidance and counseling.
Prereq: Permission of the adviser.

G&C 699 Specialist in Arts Project. Three sem hours
A project required of each candidate for the Specialist in Arts degree. The project requirement can be satisfied by writing a descriptive report or review, developing informational materials or resources, or conducting a research or evaluation study in guidance and counseling. Each student will be supervised by a committee consisting of a chairman and one additional member of the Graduate Committee.
Prereq: Permission of the adviser.

Tentative Schedule of Regularly Offered Graduate Courses

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†Courses offered on a two (2) year cycle.
HEALTH, PHYSICAL EDUCATION and RECREATION

The primary aim of the master's degree in physical education is to assist the individual graduate student in the proper utilization of all his classroom and practical experiences in such a way as to afford optimum effectiveness in teaching/coaching.

OBJECTIVES

Upon completion of the master's degree, the student should be able to:

1. Utilize philosophy in establishing the objectives, methods, curricular activities and techniques of evaluation which he should use in the physical education program.
2. Develop a curriculum for either elementary school or secondary school physical education and utilize appropriate methods to achieve its goals.
3. Utilize current procedures for evaluating student progress in achieving the objectives of the physical education program.
4. Utilize sound administrative techniques in solving typical administrative problems in the area of physical education.
5. Interpret current research as it applies to his own teaching.
6. Acquire knowledge in greater depth in the areas of teaching selected by the individual student.
7. Acquire skills, knowledges and experiences in areas which extend beyond his undergraduate preparation that would enhance his ability to teach more effectively.

ADMISSION REQUIREMENTS

1. A baccalaureate degree from an accredited institution.
2. A major, minor or the equivalent in physical education or one of the associated areas.
3. A minimum of eight (8) semester hours in the basic sciences and one (1) course in evaluation.

DEGREE REQUIREMENTS

1. Must have earned a minimum of 30 semester hours of graduate credit applicable to the program.
2. Must have completed a minimum of 20 semester hours of acceptable graduate credit in H.P.E.R. Each candidate must take 6 required classes in the core program and complete the total hours through electives.
3. Must have completed not less than six (6) hours of elective cognate courses outside the department.
4. Must receive the recommendation of the department graduate adviser and graduate chairman.
CURRICULUM REQUIREMENTS

Candidates will have the responsibility of scheduling conferences with their graduate H.P.E.R. adviser to complete the following:

1. CORE CLASSES ............................................. 12 hours
   a. PED 585 Physical Education in Elementary Schools, or  
      PED 586 Physical Education in Secondary Schools
   b. PED 587 Philosophy of Physical Education
   c. PED 588 Administrative Problems in Physical Education
   d. PED 589 Advanced Physical Testing
   e. PED 592 Research Techniques
   f. PED 598 Independent Study

2. PROFESSIONAL CLASSES (electives in H.P.E.R.) ............. 12 hours

3. COGNATE CLASSES (electives outside H.P.E.R.) ............. 6 hours

GRADUATE ADVISER IN H.P.E.R.

For further information concerning graduate work in H.P.E.R. contact:

Dr. Betty Menzi, Chairperson
Graduate Division
Department of H.P.E.R.

I. SERVICE COURSES

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

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

II. ATHLETIC COURSES

* PED 510 Administration to Athletics. Two sem hours
  Problems related to interscholastic and intercollegiate athletic programs; for administrators, supervisors, coaches and others having a part in the control of athletics.

* PED 515 Workshop in Athletics. Two sem hours
  A specialized workshop in the area of athletics, with the central theme to be announced.

PED 611 Advanced Techniques of Coaching Football. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of football.

PED 612 Advanced Techniques of Coaching Track and Field. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of track and field.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
PED 613 Advanced Techniques of Coaching Basketball. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of basketball.

PED 614 Advanced Techniques of Coaching Baseball. One sem hour
A lecture-demonstration course in the problems and techniques of advanced coaching theories of baseball.

PED 619 Problems in Training for Athletics. Two sem hours
Problems in the physical preparation of athletes for competition; treatment and rehabilitation following injuries.

III. RECREATION COURSES

* PED 520 Trends in Community Recreation. Two sem hours
Recreation and the cultural aspects of communities.

* PED 521 Park Management and Maintenance. Two sem hours
A course in the practical problems of park maintenance, covering grounds care, maintenance of courts, ball diamonds, pools, and other athletic areas; training and supervising park maintenance staff; repair work, supplies, tools and equipment, record keeping and inventory.

* PED 522 Social Recreation. Two sem hours
Planning and directing activities for family groups, church groups, senior citizens and school and community functions.

* PED 523 Park and Recreation Planning and Design. Two sem hours
A course in planning and design of park and recreation facilities including golf courses, indoor and outdoor ice rinks, camping areas, recreation centers, community playfields and parks, indoor and outdoor swimming pools and lighted recreation facilities.

* PED 535 Workshop in Recreation. Two sem hours
A specialized workshop in the area of recreation, with the central theme to be announced.

IV. HEALTH COURSES

PED 545 Workshop in Sex Education. Two sem hours
Designed to provide a period of concentrated study and discussion about sex education for teachers, nurses, school administrators, clergy and interested representatives of community agencies.

* PED 546 Seminar: Alcohol Use and Abuse. Two sem hours
Designed to improve the quality of teaching in alcohol education and the quality of rehabilitative efforts by public and private agencies concerned with alcohol problems. Attempts to develop an understanding of the physiological, psychological and sociological factors related to the use of alcohol. Specifically it is concerned with developing constructive attitudes toward the alcohol problem and dispelling prejudices, misunderstandings and myths which obscure facts.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*PED 555 Workshop in Health Education. Two sem hours
A specialized workshop in the area of health education, with the central theme to be announced.

PED 640 Basic Concepts of the School Health Program. Two sem hours
To provide school personnel with an opportunity to study and understand the function of the total school health program with special emphasis upon the classroom teacher.

PED 643 Problems in Community Health. Two sem hours
Community health problems and the forces operative in their solution; the role of the educator dealing with the health problems of his environment. Prereq: PED 640 Basic Concepts of the School Health Program.

PED 645 Problems in Sex Education. Two sem hours
A course designed to help school personnel improve and implement comprehensive sex education programs in the schools, K-12. The focus is on improvement of skills and techniques in teaching and program development.

PED 647 School Health Trends. Two sem hours
Review of recent literature and research in the areas of health service and health instruction; national trends in school health. Prereq: PED 640 Basic Concepts of the School Health Program.

PED 650 Administration of the School Health Program. Two sem hours
For principals, supervisors, coordinators, athletic directors and other personnel involved with the administration and leadership in school health programs. Current administrative theory in the implementation and improvement of school programs. Prereq: PED 640 Basic Concepts of the School Health Program.

V. PHYSICAL EDUCATION COURSES

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 568 Workshop in Physical Fitness. Two sem hours
Current theories and practices in the development of physical fitness in our society; evaluation of school programs.

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
* PED 570 Critical Analysis of Physical Education. Two sem hours
The expanding of physical education and the physical educator; an analysis of research in the foundation sciences and in philosophy.

* PED 571 Seminar in Modern Dance. Two sem hours
A concentrated study of the teaching of modern dance in the secondary school, including technique and composition.

* PED 575 Workshop in Physical Education. Two sem hours
A specialized workshop in the area of physical education, with the central theme to be announced.

* PED 576 Workshop in Gymnastics. Two sem hours
The development and improvement of gymnastics as a major area of physical education in the schools; the continuity and progression of gymnastic skills from grades one through twelve and current trends in theory and practice. Lectures, demonstrations and discussions.

* PED 577 Workshop in Movement Education. Two sem hours
A period of concentrated study dealing with the British and the American approach to Movement Education. Emphasis is given to creativity and movement through study, observation and actual participation. Designed to meet the needs of classroom teachers and physical education specialists at the elementary school level.

* PED 578 Motor Learning and Development. Two sem hours
A study of the development of motor skills in children as related to their age and growth patterns with an investigation of major theories and research in learning as applied to motor skills.

* PED 580 Comparative Physical Education. Two sem hours
The historical heritage of physical education from early Greek civilization to the present. Comparative studies of aims, objectives and programs of ancient and modern cultures.

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

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 educa-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
tion and athletics; planning, organizing, developing, staffing, coordinating and budgeting programs.
Prereq: Major/minor.

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

PED 663 Seminar in Current Literature Analysis. Two sem hours
A critical analysis of recent literature and research in physical education and athletics. Emphasis is placed on the interpretation of practical data which are likely to have the greatest influence on programs, procedures and practices.

PED 665 Sport Psychology. Two sem hours
This course will attempt to familiarize the student, whether coach, athlete or teacher, with scientific psychology as it relates to sport. The complex nature of optimal performance requires that an integrated psychological and physiological approach be employed. Therefore, theoretical and empirical evidence from the fields of applied psychology, applied physiology and sports medicine will be used to help the teacher-coach be more effective.

PED 668 Seminar in Physical Fitness. Two sem hours
A study of the literature and materials pertinent to the teaching of fitness. Particular attention is given to the implementation of programs of fitness within the school and community.

PED 670 Current Problems in Physical Education. Two sem hours
Identification, discussion and analysis of current problems and issues which confront the physical educator.

PED 678 Seminar in Motor Skills. Two sem hours
An investigation of factors having a significant effect upon the acquisition of motor skills. Attention is directed in turn to the learner, the educational setting and the teacher.

PED 680 Seminar in International Physical Education. Two sem hours
A continuation of PED 678, studying additional selected countries. A comparative analysis of physical education, recreation and sports of each country in depth, using the seminar approach.
Prereq: PED 580 Comparative Physical Education.

VI. RESEARCH COURSES

PED 592 Research Techniques. Two sem hours
Research in a variety of settings; reviewing published research, participating in research, presenting a plan for a research problem.

PED 597, 598, 599 Independent Studies. One, two and three sem hours
An intensive study of a problem under the direction of a University faculty member.
Prereq: PED 592 Research Techniques or equivalent. Permission of instructor.

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

The following undergraduate courses in the Health, Physical Education and Recreation Department may be taken for graduate credit, with the adviser's approval:

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SOCIAL FOUNDATIONS OF EDUCATION

PHILOSOPHY AND OBJECTIVES

Courses in the social foundations of education are offered by the Department of Education for graduate students majoring in social foundations and for others enrolled in the graduate school who seek personal and/or professional development by study in educational social science. Historically, the social foundations of education were comprised of courses in historical, philosophical, socio-cultural and comparative aspects of education. Other educational social sciences have appeared, but the most significant developments currently are outgrowths of the move toward more integrated or interdisciplinary study in social foundations. The investigation of schooling in other societies clearly involves the use of both the content and methodology of the social sciences as they are integrated in education. The faculty of the Social Foundations Program is thus committed to the kinds of scholarship, professional service and individual growth that lead to an understanding of the relationships of the social and humanist disciplines to the education of man. In the master’s degree program, that commitment is carried forward by service to teachers who choose to enroll in the program.

MASTER’S PROGRAM

This program has been designed to complement, extend and enrich the education a teacher receives at the undergraduate level. While in a strict sense this program does not prepare a student for a specific vocational position, study in the social foundations of education assists the person to become more aware of the complex dimensions of traditional and emergent relationships of formal and informal educational institutions in the American cultural context. With attention to all subjects and grades from pre-school through college, the program offers opportunities for professional educators to build better relationships with others in the school setting and to enhance the knowledge of and sensitivity to the community and society in which he/she lives and works. Students who successfully complete the program of graduate study in social foundations receive the Master of Arts degree.

PROGRAM DESCRIPTION AND REQUIREMENTS

The master’s degree program, which requires earning a minimum of thirty (30) semester hours credit, is so organized as to facilitate the development of an individual program for each major student which provides for concentration in one of four social foundations sub-fields and opportunity for relating such specialization to the integrative, interdisciplinary nature of the social foundations. Of the total of thirty hours, at least sixteen (16) hours must be in social foundations courses, two (2) hours in a curriculum foundations course, and a minimum of six (6) hours in cognate courses outside social foundations approved by the student’s adviser. In the first semester following admission to the program, the student will enroll in SF9 500 Social Foundations of Education: An Introduction, a two semester hour initiatory course. Prior to, or during that semester, the student will consult with his adviser to determine which of four options for specialization will be selected. Each option requires a minimum of eight semester hours.
Option A will provide for depth of study in the history of education. The student may select from social foundations courses 501, 502, 571, 572 and 573, and appropriate courses from the Department of History approved by his adviser. Option B provides similarly for depth of study in socio-cultural aspects of education by selection from social foundations courses 503, 504, 560, 562, 573 and 580, and from appropriate courses in the Department of Sociology. Option C offers similar opportunities in philosophical study in courses 501, 502, 550, 551, 552 and 553, and in courses in philosophy. Option D provides for depth of study in the comparative and international aspects of education by selection from social foundations courses 505, 520, 523, 541, 546, 547, 548 and 571, and appropriate courses in economics, geography, history and political science.

When a student has completed at least twenty (20) hours, including SFD 500 and at least eight (8) hours in Option A, B, C, or D, he/she will enroll in SFD 696 Advanced Seminar. During the seminar, or following it, the student and adviser will consult to determine what additional capstone experiences are desirable. It is anticipated that the student's experience in the conduct of an interdisciplinary study of substance and depth (in 696) will provide the substantive basis for deciding upon similar further studies.

The remaining hours will be devoted to additional cognates or electives and further SFD course work, seminars, independent study, or thesis which the student and adviser determine to be particularly integrative for that individual student's program.

**ADMISSION REQUIREMENTS**

Admission to the program will require that the applicant hold a baccalaureate degree from an accredited institution and meet the admission requirements of the Graduate School. For regular admission, the applicant must hold a valid teaching certificate or have successfully completed an education major or minor or equivalent. Further, the applicant must have completed fifteen (15) hours in the social sciences. This includes courses defined as social sciences in the EMU Bulletin-Undergraduate Catalog plus courses in philosophy and religion. For those teacher applicants who do not meet the requirements for regular admission, conditional admission (including a clear specification of actions necessary for regular admission status) may be granted. It is anticipated that, in a few instances, students who are not and do not intend to become teachers may wish to seek the master's degree in social foundations. In addition, some students may choose to combine study in the social foundations of education with completion of initial certification as teachers. When such intentions are based on clear understandings of the program, the teaching certificate requirement may be waived.

Students who wish to apply for admission to the program leading to the degree of Master of Arts in the Social Foundations of Education may make application in the Graduate School Office, 116 Pierce Hall. When the application has been processed by the Graduate School, the student is contacted by the Coordinator of Advising for the Social Foundations Program to arrange for an adviser and to develop a schedule for completion of degree requirements. Recommendations concerning admission and the proposed course of study are reviewed and acted upon by the full faculty in Social Foundations.

For further information, contact the Coordinator of Advising, Master of Arts program in the Social Foundations of Education, 345 Pierce Hall, or telephone (313) 487-1120.
COURSES IN SOCIAL FOUNDATIONS

In a recent reorganization, the department has attempted to provide a numbering of its courses in a rubric that will facilitate knowledge of the nature of a course from its number. Thus, courses numbered:

- 500-519 are interdisciplinary, integrating several sub-fields;
- 520-529 provide for interdisciplinary study in comparative education;
- 530-539 are experimental and/or interdisciplinary;
- 540-549 are field studies, principally in other nations;
- 550-559 involve study in educational philosophy;
- 560-569 deal basically with anthropology in education;
- 570-579 view education from a history and political science basis;
- 580-589 have an educational sociology orientation;
- 590-599 are seminars, workshops, theses and independent studies.

Generally, the courses numbered 550, 560 and 580 are thought of as introductory courses in those series. Courses at the 600 level follow this same rubric.

* SFD 500 Social Foundations of Education: An Introduction. Two sem hours
An overview, presented by varied staff members, of the major areas of social foundations of education: educational sociology, educational anthropology, educational philosophy, educational history, comparative education.

* SFD 501 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 500 or an undergraduate course in Western history or philosophy.

* SFD 502 Progressivism in American Education. Two sem hours
The genesis and development of pragmatism; the special contributions of Pierce, James, Mead and Dewey; the progressive movement in America; the educational theories and practices of the Progressivists: Bode, Kilpatrick, Counts; present thought and new influences.
Prereq: SFD 500 or an undergraduate course in Western history or philosophy.

* SFD 503 Groups in Schools. Two sem hours
Examines schools and classrooms as social organizations; considers dynamics of interpersonal behavior in large and small settings; examines such phenomena as roles, statuses, communications and patterns of influence.
Prereq: SFD 580 for majors; for non-majors, SFD 580 or one course in psychology or sociology.

* SFD 504 Delinquency and Schools. Two sem hours
Nature, meaning, causal factors and conditions of delinquency in home school and community; problems in personality and behavior; the juvenile court; delinquency prevention and control programs. Opportunity to study problems of particular individual interest. Not open to students who have credit in SFD 354 Juvenile Delinquency.
Prereq: SFD 580 for majors; for non-majors, SFD 580 or one course in psychology or sociology.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* SFD 505 International Understanding. Two sem hours
Examines aspects of teaching about other nations in elementary and secondary schools; considers means by which schools may aid students in understanding other cultures.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

* SFD 520 Education in Europe and U.S.S.R. Two sem hours
A comparative analysis of selected educational systems in Europe including the U.S.S.R. Patterns, trends and problems of various phases of education such as foundation, administration, organization and curriculum are examined.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

* SFD 523 Education in New Nations. Two sem hours
This is a comparative analysis of the educational systems of emerging societies. The role of education in emerging societies as well as the influence of Western educational thought and practices in non-Western societies are examined.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

* SFD 539 Special Topics in Social Foundations. Two sem hours
This number is used for an experimental offering of the department when a course is being given a trial run in a given semester.

* SFD 541 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.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

* SFD 546 Education in India and the Philippines. Four sem hours
An eight-week program conducted in India and the Philippines in cooperation with Punjab University in India and the Philippine Woman'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. Summers only.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

* SFD 547 Education in Scandinavia. Four sem hours
Deals with education and the political, social and cultural systems which influence Scandinavia. Includes lectures and discussion about the types and levels of education, curriculum, administration and teaching methods. A sum-

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
mer program conducted annually at the University of Copenhagen in cooperation with Denmark's International Student Committee. Summers only.
Prereq: SFD 500 for majors; course in geography or political science for non-majors.

*SFD 548 British Education. Four sem hours
British education in its social and cultural setting. Taught at Reading, England, in cooperation with Reading University. Summers only.
Prereq: SFD 500 for majors, course in geography or political science for non-majors.

*SFD 550 Philosophy of Education. Two sem hours
Philosophical study of educational questions: the nature of being human; what should be learned; who is educable; the ends of education; personal meaning of philosophical questing.
Prereq: SFD 500 for majors; course in philosophy or religion for non-majors.

*SFD 551 Analysis of Educational Concepts. 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."
Prereq: SFD 500 and 550 for majors; course in philosophy or religion for non-majors.

*SFD 552 Pragmatism and Education. Two sem hours
Consideration of pragmatists' psychology, sociology, ethics, social philosophy and their influence upon educational philosophy and practices.
Prereq: SFD 500 and 550 for majors; course in philosophy or religion for non-majors.

*SFD 553 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.
Prereq: SFD 500 and 550 for majors; course in philosophy, logic or religion for non-majors.

*SFD 560 Anthropology of Education. Two sem hours
An overview of the learning process in human societies, addressing universal problems of motivation, selectivity, thinking-remembering-forgetting, language and thought, value orientation and cultural sets.
Prereq: SFD 500 for majors; course in sociology or anthropology for non-majors.

*SFD 562 Cultural Determinants of Learning. Two sem hours
The educational theories and practices in literate and pre-literate societies as illustrative of various theories of cultural dynamics and change which relate to citizens who will be living in the twenty-first century; the relationship between culturally held values and the learning process.
Prereq: SFD 500 for majors; course in sociology or anthropology for non-majors.

*SFD 571 Development of European Education. Two sem hours
Consideration of ancient traditions as the Graeco-Roman and Hebraic-

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Christian and such modern forces as nationalism, democracy, science and industrialization in terms of their impact on educational development in selected European countries. Focus is upon organization, philosophy, curriculum, methods of instruction and evaluation.

Prereq: SFD 500 for majors; course in history of Western civilization or history of Europe for non-majors.

*SFD 572 History of American Education. Two sem hours

Historical precedents of present educational circumstances; the developmental background of modern school crises; a study of problems and answers, successes and failures in America's schools.

Prereq: SFD 500 for majors; course in American history for majors and non-majors.

*SFD 573 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 elementary and secondary schools.

Prereq: SFD 500 for majors; course in American history for majors and non-majors.

*SFD 580 Sociology of Education. Two sem hours

Examined here are selected points of view and empirical studies on social organization, social change, policy-making, power and authority structures, social class system and social movements in relation to the school as an institution.

Prereq: SFD 500 for majors; course in sociology or psychology for majors and non-majors.

*SFD 595 Workshop. Two sem hours

Designed each semester to consider particular themes or issues (e.g., Racism and Education; Human Relations in Schools) and providing a basic empirical orientation with attention to teaching resources and skills. Student-faculty planning; small group and discussions used extensively. May be selected more than once.

Prereq: SFD 500 for majors; consent of adviser for non-majors.

SFD 596 Seminar. Two sem hours

Each semester different themes are selected for intensive study by advanced students, not restricted to SFD majors. Extensive student investigation and emphasis in seminar meetings on exchange among students and professors. Sample titles: Persistent Issues in Education, Radical School Reform, Alternative Education. Open to non-majors and majors.

Prereq: For majors, a minimum of four hours in SFD, including SFD 500; for non-majors, consent of adviser.

SFD 597, 598, 599 Independent Study. One, two and three sem hours

An intensive study of a problem or group of problems in the field of social foundations of education under the direction of a University faculty member.

Prereq: SFD 500 and minimum of six additional hours in SFD and departmental approval.

*Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
SFD 690, 691, 692 Thesis. One, two and three sem hours
Prereq: Departmental permission.

SFD 696 Advanced Seminar. Two sem hours
An intensive study of selected problems in social foundations of education. Open to SFD majors only.
Prereq: Twenty (20) hours completed on M.A. program, including SFD 500 and eight hours in area of concentration.

OTHER COURSES

The following course may also be elected for graduate credit and a course description may be found in the undergraduate catalog:

SFD 354 Juvenile Delinquency.

Tentative Schedule of Regularly Offered Graduate Courses

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SPECIAL EDUCATION

The Graduate School at Eastern Michigan University offers a program leading to a master's degree, specialist's degree or state certification in most fields of specialization. Persons participating in this program may utilize a variety of approaches and experiences in fulfilling the needed requirements. These avenues of learning may include course work, field studies, workshops, independent studies, internships, seminars and/or research projects.

The objectives of the graduate program in special education are to develop added proficiency in classroom teaching; to acquire a more comprehensive understanding of children; to improve the student's knowledge of diagnostic procedures, enabling him to more readily recognize the problems and needs of excep-
tional children; to provide experiences in all areas of exceptionality; to provide foundations upon which to build administrative techniques and meet state requirements for certification for teaching in a chosen area of special education.

Master's degree students wishing to qualify for teaching in an area of special education (i.e., mentally impaired, orthopedically impaired, deaf and hard of hearing, emotionally impaired, visually impaired, speech pathology and audiology, or learning disabilities) and who already hold a state teaching certificate, may pursue a certification program on the graduate level. Those who have obtained certification on an undergraduate level are encouraged to further their understanding of a particular area of specialization, or obtain additional knowledge in one or more areas of specialization. The minimum degree requirements do not guarantee certification, and the meeting of certification standards should not be construed as the completion of degree requirements. Each student's program is planned on an individual basis, and should be arranged with the advice and help of a departmental counselor.

Applications for graduate studies in special education, on a master's degree level, require that the student be admitted to the University Graduate School. Applications for admission to the Graduate School may be obtained from the Graduate School or the Department of Special Education. Upon admission the student should contact the Special Education Department for general advising, programming and assignment to an academic adviser in his preferred area. The program of each student is individually suited to his particular needs.

The specialist's program is open to qualified students who have met certification standards, have teaching experience and possess a master's degree. Three general areas are emphasized at this level of study: administration and supervision, curriculum development, and individualized instruction. Curriculum requirements include a general core of theoretical and specialized courses, seminars, independent studies and an internship in the field of interest and specialty. The specialist curriculum is open to a maximum of 25 active enrollees at any one time during the academic year.

The Department of Special Education is also cooperating with the Departments of Psychology and Educational Psychology to prepare people to be school psychologists. This special program is described more completely under "Psychology."

The program requirements for attaining a master's degree in Speech Pathology and Audiology differ in some aspects from those of the Graduate School in that in the Speech Pathology and Audiology program only six semester hours of transfer credit will be accepted; all candidates must meet the requirements for certification by the American Speech and Hearing Association prior to receiving their degree, and all majors must complete an approved scholarly paper, ranging from one to six hours in credit.

Students who enroll in the graduate program and who do not have an undergraduate major in Speech Pathology and Audiology must enroll as full-time graduate students. Also, they must consult a graduate adviser in Speech Pathology and Audiology in planning their graduate program. The student will be expected to make up the undergraduate courses in which he is deficient. Because of the sequencing pattern, students should plan on two calendar years in acquiring their master's degree and certification by the American Speech and Hearing Association.

Please note that although the subject matter area is designated as Speech Pathology and Audiology, the degree awarded is in Speech Pathology only.
In addition to the more specific courses that are offered for special education majors, the graduate program offers a number of general courses that are open to the regular classroom teacher and other non-majors. These courses are designed to provide a student with a better understanding of the child with problems who might be found in any classroom.

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 learning disabled, the emotionally disturbed and the delinquent. Not open to students who have credit in 251 Education of Exceptional Children.

SGN 513 The Slow Learner in the Classroom. Two sem hours
Adjusting the curriculum for slow-learning children; problems of identification, methods and materials, curriculum modifications and remedial techniques. Not an equivalent of or a substitute for SMI 558 Education of the Mentally Impaired I and SMI 559 Education of the Mentally Impaired II.

* SGN 514 Measurement and Diagnosis in Special Education. Two sem hours
Psychological evaluation and assessment; the role of tests in the assessment of intellectual capacity, educability, emotional adjustment and visual and auditory limitations.
Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 390 Measurement and Diagnosis in Special Education.

SGN 515 Social Psychology of the Handicapped. Two sem hours
Principles of social psychology which influence handicapped individuals and their environment; society as it affects handicapped individuals; and individuals as they affect society.
Prereq: SGN 506 Education of Exceptional Children.

SGN 519 Administration and Supervision of Special Education. Two sem hours
Organizing or improving a program for exceptional children; philosophical, legal and practical aspects.
Prereq: SGN 506 Education of Exceptional Children and six hours of credit in special education.

SGN 520 Family-School Relationship in Special Education. Two sem hours
Discovering and analyzing the home problems which have educational implications for the child.

* SGN 539 Special Topics. Two sem hours.
Prereq: Permission of the department.

SGN 541 Special Topics. Four sem hours
Prereq: Permission of the department.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
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 Supervised Internship with Handicapped Children. Four sem hours
Supervised student teaching with handicapped children in local schools and institutions.
Prereq: Permission of adviser.

SGN 595 Workshops. 2 sem hours
Please check the current class schedule for specific offerings.
- Education of the Disadvantaged Child
- Rehabilitation in Special Education
- Parent Child Counseling in Special Education
- Application of New Teaching Materials in Special Education
- The Gifted

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.
Prereq: Permission of the department.

SGN 605 Rehabilitation Counseling in Special Education. Two sem hours
Designed to integrate the theories and practices of social psychology, physical reconstruction, special education and vocational guidance as they relate to life planning for the physically handicapped.
Prereq: Major/minor.

SGN 680 Internship in Special Education. One sem hour
Prereq: Permission of adviser.

SGN 681 Internship in Special Education. Two sem hours
Prereq: Permission of adviser.

SGN 682 Internship in Special Education. Three sem hours
Prereq: Permission of adviser.

SGN 696 Interdisciplinary Seminar in Special Education. Two sem hours
An intensive study of selected problems in special education. Open only to majors in special education.

SGN 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Permission of the department.
B. MENTALLY IMPAIRED

SMI 507 Contemporary Problems in Mental Impairment. Two sem hours
Contemporary issues and problems relating to the mentally impaired; institutionalization, sterilization, euthanasia, the parent movement, federal legislation, demonstration project and current research.

SMI 555 Physical Education and Recreation for the Mentally Impaired. Two sem hours
Physical education programming and curriculum for the impaired. Physical training and its relation to learning.
Prereq: SGN 506 Education of Exceptional Children.

SMI 557 Mental Deficiency. Two sem hours
The nature and causes of mental deficiency; characteristics and social control of mental defectives. Opportunities are provided for observation and clinical studies. Not open to students who have credit in 350 Mental Deficiency.

*SMI 558 Education of the Mentally Impaired I. Two sem hours
Selection and preparation of curriculum materials for mentally impaired children; the methods and devices used in presenting these materials. Opportunities provided for functional experiences.
Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 357 Elementary Education of the Mentally Impaired.

*SMI 559 Education of the Mentally Impaired II. Two sem hours
Educating the mentally impaired in the intermediate program, and the techniques and methods in preparing and utilizing a curriculum adapted to the child's needs and abilities.
Prereq: SMI 558 Education of the Mentally Impaired I. or taken concurrently
Not open to students who have credit in 358 Secondary Education of the Mentally Impaired.

SMI 565 Habilitation of the Trainable Mentally Impaired Child. Two sem hours
Habilitation and education of the trainable impaired child; philosophy and objectives, classroom management and procedures, program coordination and evaluation, parent counseling, professional personnel, legislation, housing transportation, sheltered workshop and other ancillary services.
Prereq: SMI 557 Mental Deficiency.

SMI 568 Secondary Education of the Mentally Impaired. Two sem hours
A program of functional education for mentally impaired children in the junior-senior high school age group; vocational, occupational and terminal education.
Prereq: SGN 506 Education of Exceptional Children.

SMI 595 Workshops. Two sem hours
Please check the current class schedule for specific offerings.
Pre-School Culturally Deprived Mentally Impaired Children
Physical Education & Recreation for the Mentally Impaired
Resource Room and Curriculum Construction

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SMI 596 Seminar in Mental Impairment. Two sem hours
Focuses on the various problems related to mental impairment and the socio­logical and psychological theory as applied to the field. Students are expected to propose, analyze and conduct research from reviews of the literature and applied field study problems.
Prereq: Eight graduate hours in special education.

SMI 597, 598, 599 Independent Studies. One, two and three sem hours
Prereq: Departmental permission.

C. LEARNING DISABILITIES

* SLD 567 Education of Children With Learning Disabilities. Two sem hours
Planning and effecting educational programs for brain-injured children who have disturbances in perception, thinking and emotional behavior. Pathology of the central nervous system; teaching techniques, classroom management, case studies, research and teacher-child and parent relationships.
Prereq: SGN 506 Education of Exceptional Children. Not open to students who have credit in 468 Education of Children with Learning Disabilities.

SLD 593 Diagnostic Practicum Learning Disabilities. Six sem hours
Intensive study of children referred for educational diagnosis. Study results in precise educational prescription to be implemented in child’s school. Must elect SLD 595 Diagnostic Procedures immediately prior to or following this course.
Prereq: SGN 596 Seminar Special Education I and department permission.

SLD 595 Workshops. Two sem hours
Please check the current class schedule for specific offerings.
- Language Problems of the Neurologically Impaired
- Sensory Training for Perceptually Impaired Children
- Diagnostic Procedures in Learning Disabilities

SLD 596 Seminar Special Education I. Two sem hours
Prereq: Permission of the department.

SLD 596 Seminar Special Education II. Two sem hours
Open only to students who have completed SLD 595 Diagnostic Practicum. Follow-up of cases from diagnostic practicum.
Prereq: Permission of the department.

D. EMOTIONALLY IMPAIRED

* SEI 511 Methods and Curriculum for Emotionally Impaired. Two sem hours
Curriculum materials, methods and techniques for educating the emotionally impaired child.
Prereq: SEI 519 Emotionally Impaired Children. Not open to students who have credit in 401 Methods and Curriculum for Emotionally Impaired Children.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*SEI 512 Organization of Programs for the Emotionally Impaired. Two sem hours

Program variations and their adaptations for the education of emotionally impaired children; the theoretical and philosophical foundations of programs; behavior management techniques, teacher role and professional relationships. Prereq: SEI 519 Emotionally Impaired Children. Not open to students who have credit in 402 Organization of Programs for the Emotionally Impaired.

*SEI 519 Emotionally Impaired Children. Four sem hours

Dynamics of individual behavior; theories of emotional behavior in children illustrated by case materials and excerpts from psychotherapy. Prereq: 360 Abnormal Psychology. Not open to students who have credit in 301 Emotionally Impaired Children.

SEI 563 The Emotionally Impaired Child in the Regular Classroom. Two sem hours

For regular classroom teachers who do not have training in dealing with the emotionally impaired child. The behavior of impaired children, techniques for dealing effectively with symptomatic behavior; a case study analysis of children being taught by individuals electing the course. This course does not apply toward certification to teach emotionally impaired children in special educational programs. Prereq: Regular classroom teacher. Others with department permission.

SEI 583 Preclinical Experiences. Two sem hours

Provides 120 clock hours of contact with emotionally impaired, but those who have worked with impaired children may have this requirement waived by presenting a statement from a supervisor. Arrangements for this requirement are made through Prof. Caputo's office.

SEI 596 Seminar in the Emotionally Impaired Child. Two sem hours

All recipients of fellowships, as well as other graduate majors in the program for teachers of the emotionally impaired, are now required to elect this seminar during their graduate work. Course consists of a review and discussion of some contemporary issues in the education of the impaired, following which students elect areas for more intensive exploration through library study or actual data gathering. Students present their results and conclusions to the group in a discussion setting. Prereq: Permission of the department.

SEI 603 Therapeutic Management of Emotionally Impaired Children. Two sem hours

Techniques in dealing with emotionally impaired children; surface manipulation of behavior and life space interview. Prereq: SEI 519 Emotionally Impaired Children and presently working with children.

SEI 696 Psychological and Educational Techniques for Emotionally Impaired. Two sem hours

Advanced course for graduate students in the area of emotionally impaired.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
Variations in educational programming for the impaired and socially maladjusted are discussed. Each student is required to work individually with an impaired or maladjusted child to make an analytical, educational evaluation of the child's learning needs and to implement this analysis in a tutorial relationship with the child.

Prereq: SEI 511 Methods and Curriculum for Emotionally Impaired and SEI 512 Organization of Programs for the Emotionally Impaired.

E. PHYSICALLY IMPAIRED

SPI 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: SCN 506 Education of Exceptional Children.

*SPI 536 Methods of Teaching Physically Impaired 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.

*SPI 537 Pathology of the Physically Impaired. Two sem hours
Orthopedic disabilities, cardiac and other handicapping conditions of children; structure and function of the human body as it relates to these disabilities. Laboratory period and case studies are required.
Prereq: SGN 506 Education of Exceptional Children.

*SPI 538 Therapeutic Care of the Physically Impaired Child. Two sem hours
Medical and surgical aspects of the orthopedic and other impaired conditions of children; therapies and services used in their rehabilitation. Opportunity for observation of children is available.
Prereq: SGN 506 Education of Exceptional Children.

F. SPEECH AND LANGUAGE IMPAIRED

SLI 500 Introduction to Speech Pathology. 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 Pathology. Graduate credit to non-majors only.

*SLI 508 Black Language in the Educational Process. Three sem hours
Survey of black language and culture from historically descriptive and practical perspectives, and the implications in education.

*SLI 537 Clinical Practice in Hearing Testing. Two sem hours
Supervised practice in hearing testing, including air and bone conduction, special procedures and speech audiometry.
Prereq: Permission of the department.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SLI 538 Clinical Practice in Hearing Therapy. Two sem hours
Supervised practice in auditory training and lip-reading with children and adults.
Prereq: Permission of the department.

* SLI 550 Articulation. Two sem hours
A critical examination of the assumptions underlying the etiological, symptomatological and therapeutic rationales currently used in articulation therapy and research.
Prereq: Undergraduate major in speech pathology and audiology.

* SLI 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 pathology and audiology.

* SLI 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 pathology and audiology.

* SLI 556 Anatomy of the Head, Neck and Trunk. Two sem hours
Detailed study of the skeletal, neurological, physiological and muscular system of the head, neck and trunk with special emphasis on the speech mechanism. Laboratory dissection will be a part of the course.
Prereq: 336 Anatomy of the Speech and Hearing Mechanisms or equivalent. Undergraduate major in speech pathology and audiology.

* SLI 558 Language Therapy. Two sem hours
Incorporating newly acquired or recently modified speech patterns into communicative behavior. Patterns and codes of language; the development of therapeutic activities for individuals with speech, hearing or language impairments.
Prereq: Undergraduate major in speech pathology and audiology.

* SLI 562 Evaluation and Selection of Hearing Aids. Two sem hours
Interpretation of audiograms, electroacoustic measurement of hearing aids; evaluation, selection and care of hearing aids for the hearing impaired.
Prereq: Permission of the department.

* SLI 568 Diagnostic Methods in Speech, Language and Hearing.
Three sem hours
The course will cover the diagnostic procedures and routines used in the evaluation of speech and language disorders. Emphasis will be placed on familiarization with available evaluative tools and practical experience in conducting actual diagnostic sessions. Consideration will also be given to client interview, interpretation of test results, relating of information to parents, and report writing.
Prereq: Undergraduate major in speech pathology and audiology.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
SLI 594 Public School Internship in Speech Pathology. Four sem hours
Supervised clinical practice with speech impaired persons. The first internship is completed in a public school setting.
Prereq: Undergraduate major in speech correction and concurrent enrollment in SLI 596 Seminar in Public School Speech Pathology.

SLI 595 Workshops. Two sem hours
- Please check the current class schedule for specific offerings.
  - Stuttering Language Development

SLI 596 Seminar in Public School Speech Pathology. Two sem hours
Emphasizes professional ethics, organization and administration of speech pathology programs in all settings. Includes state laws governing special education, professional growth and development and employment practices and procedures.
Prereq: Concurrent enrollment in SLI 594 Public School Internship in Speech Pathology.

SLI 597, 598, 599 Independent Studies. One, two and three sem hours
Intensive study in speech pathology and/or audiology, which may or may not include research oriented tasks. To be taken at a master's level only. Resultant paper must be worthy of publication.
Prereq: Undergraduate major in speech pathology and audiology and department permission.

SLI 610 Cleft Palate. Two sem hours
Nature and etiology of palatal and facial deformities; surgical procedures and related therapy. Observation of dental, medical and social service agencies.
Prereq: Undergraduate major in speech pathology and audiology.

SLI 612 Cerebral Palsy. Two sem hours
Examines the nature, etiology and treatment of speech disorders resulting from cerebral palsy. Related intellectual, perceptual, social and emotional problems will be considered as well as the neuromuscular symptoms. Current speech therapy approaches will be emphasized within a total therapeutic program.
Prereq: Undergraduate major in speech pathology and audiology.

SLI 614 Aphasia. 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 pathology and audiology.

SLI 616 Experimental Phonetics. Three sem hours
Theoretical consideration of speech as motor behavior and as an acoustical phenomenon. Physiological and acoustical investigations of speech and voice. Principles and methods of measuring speech action and acoustical phenomena.
SLI 618 Language and Learning Theories. Two sem hours
An examination of the nature and function of language and communication via linguistics, semantics and phonetics, with special emphasis placed on learning theories and their relationship to language, speech and communication behavior.
Prereq: Undergraduate major in speech pathology and audiology.

SLI 694 Clinical Internship in Speech Pathology. Two sem hours
Opportunity to practice speech correction in a clinical setting. Experience with children and adults with multiple handicaps will be provided.
Prereq: Undergraduate major in speech pathology and audiology.

SLI 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 pathology and audiology.

SLI 697, 698, 699 Independent Studies. One, two and three sem hours
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Permission of the department.

G. HEARING IMPAIRED

*SHI 510 Survey of Education and Guidance for the Hearing Impaired. Two sem hours
A survey course covering the history of the education of the deaf; current educational programming; counseling, guidance and vocational habilitation.

SHI 514 Speech for the Hearing Impaired I. Two sem hours
Analysis of the particular problems of speech of the deaf; methods of analyzing and transcribing speech; techniques for the development of the young deaf child.

SHI 518 Speech for the Hearing Impaired II. Two sem hours
Speech development and improvement for the older deaf child. Includes supervised speech tutoring.
Prereq: SHI 514 Speech for the Hearing Impaired I.

SHI 522 Language for the Hearing Impaired. Four sem hours
The effects of hearing loss on language development; the structure of the English language and principles of grammar; a survey of the varying language methods with emphasis on Fitzgerald Straight Language System. Activities include field trips, preparation of lesson plans and teaching materials.

SHI 530 School Subjects for the Hearing Impaired. Four sem hours
Principles and methods of teaching reading and school subjects to the hearing impaired and the adaptation of regular curriculums and materials to meet the needs of the hearing impaired.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
*SHI 554 Auditory Training and Speechreading for the Hearing Impaired. 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.

SHI 575 The Hard of Hearing Child. Two sem hours

A study of the diagnosis and educational planning considerations for the hard of hearing child as opposed to those for the deaf child. Educational innovations and technology as applied to the hard of hearing individual are studied.

SHI 593 Auditory Training and Speechreading Practicum. Two sem hours

Sixty clock hours of directed observation and practical work in the classroom with deaf children.

Prereq: SHI 554 Auditory Training and Speechreading.

SHI 594 Public School Internship. Four sem hours

Supervised teaching with deaf persons.

Prereq: Undergraduate major in deaf education.

SHI 596 Seminar Hearing Impaired Education. Two sem hours

A comparative study of the varying curriculums of hearing impaired education programs in Michigan. Includes educational programming, school organization, use of community resources and parent counseling.

Prereq: Concurrent enrollment in SHI 594 Public School Internship.

*SHI 626 Visual Communication for the Hearing Impaired. Two sem hours

A study of the rationale for manual communication systems with the hearing impaired involving the combined use of manual alphabet and language of signs. Developing fluency in manual communication skills will be a part of the course.

Prereq: Three years of teaching the deaf or permission of the department.

*SHI 682 Evaluation and training of Hearing Impaired Infants. Two sem hours

Management of deaf infants, with emphasis on early language development, parent counseling, observation of deaf infants and practice.

Prereq: Undergraduate major in deaf education or permission of the department.

SHI 686 Secondary School Subjects for the Hearing Impaired. Four sem hours

Principles and methods of teaching secondary school subjects to the hearing impaired; the improvement of reading skills and written composition, techniques of correcting language errors and adapting the regular school curriculum to meet the demands of the hearing impaired.

Prereq: Undergraduate major in deaf and hard of hearing.

SHI 688 Advanced Speech for the Hearing Impaired. 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

*Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
and hard of hearing. Includes supervised diagnostic and therapeutic practicum. 
Prereq: Undergraduate major in deaf and hard of hearing or speech correction.

SHI 694 Clinical Internship in Hearing Impaired Education. Four sem hours
Opportunity to practice hearing impaired 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.

OTHER COURSES

The following undergraduate courses in the Special Education Department may be taken for graduate credit, with the adviser's approval:

390 Measurement and Diagnosis in Special Education. (2)
350 Mental Deficiency. (2)
357 Education of Mentally Impaired I. (2)
358 Education of Mentally Impaired II. (2)
444 Seminar in Mental Impairment. (2)

468 Children with Learning Disabilities. (2)
301 Emotionally Impaired Child. (4)
401 Methods and Curriculum Emotionally Impaired. (2)
402 Programs Emotionally Impaired Child. (2)
448 Seminar in Emotionally Impaired. (2)

310 Developmental Aspects of Teaching Physically Impaired Children. (5)
312 Applied Aspects Teaching Physically Impaired Children. (6)
446 Seminar in Physically Impaired. (2)

336 Anatomy and Physiology — Speech and Hearing Mechanism. (3)
338 Speech Pathology. (2)
339 Speech Evaluation. (2)
340 Speech Pathology Methods I. (3)
341 Directed Observation in Speech Pathology. (1)
342 Speech Pathology Methods II. (2)
343 Clinical Practices I. (2)
344 Clinical Practices II. (2)
345 Clinical Practices III. (2)
416 Experimental Phonetics. (3)
478 Audiometric Testing. (3)

378 Introduction to Audiology. (2)
394 Auditory Training for the Hearing Impaired. (2)

364 Methods Teaching Visually Impaired. (3)
365 Braille. (3)
366 Hygiene and Anatomy of the Eye. (2)
367 Education of Children with Impaired Vision. (2)
Upper division undergraduate courses suitable for use as cognates by majors in other fields:

390 Measurement & Diagnosis in Special Education. (2)
468 Education of Children with Learning Disabilities. (2)

Tentative Schedule of Regularly Offered Graduate Courses

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### Tentative Schedule of Regularly Offered Graduate Courses

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COLLEGE OF HUMAN SERVICES

DEAN: Robert Boissoneau

Departments
Home Economics
HOME ECONOMICS

OBJECTIVES OF A PROGRAM LEADING TO A MASTER'S DEGREE

A program in home economics is designed to:

1. develop and utilize a broad philosophy of home economics which includes a philosophy related to a professional specialization.
2. acquire the conceptual understandings, analytical and research skills important to the student's competency in the chosen specialization.
3. enable the student to interpret current research and theory as it applies to a professional role.
4. develop the ability to utilize teaching, research and interpersonal skills in contributing to the psychological, physiological, social and economic development of the individual and the family as related to a professional specialization.

MASTER'S PROGRAMS AVAILABLE IN HOME ECONOMICS

A master's degree may be earned in:

1. general home economics
   a. minimum of 24 hours in home economics (four-eight hours in four major areas of home economics)
   b. minimum of six hours of cognate courses (outside home economics)
   c. minimum of 30 hours required for the master's degree
   d. recommended for the applicant who has a minor in general home economics
2. specialized area of home economics
   a. minimum of 24 hours in a specialized area
   b. minimum of six hours of cognate courses (outside home economics)
   c. minimum of 30 hours required for the master's degree
   d. specializations available in clothing, textiles and related arts; family life and child development; foods and nutrition; consumer management
   e. recommended for the applicant who has a minor in general home economics or the specialized area in home economics or can meet the prerequisite 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 prerequisites for the general or specialization program
**3. have a 2.3 undergraduate grade point average

** Applicants who do not meet the 2.3 undergraduate point average may request a meeting before the graduate advising committee for the purpose of reviewing their applications. Appropriate guidelines will be established by the committee if the applicant is admitted to a program.
4. submit two letters of recommendation and evidence of competency in the program selected if requested by the adviser
5. maintain a 5.0 (B) average for the first twelve hours of graduate study on the program
6. receive the recommendation of the graduate adviser in the Department of Home Economics.

For further information about the program, contact Dr. Ruby L. Meis, coordinator of graduate advising of the Department of Home Economics, 202B Roosevelt 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.

* HEC 501 The Man-Woman Relationship in Modern Society. Two sem hours
Consideration of the changes and dynamics of interaction stimulated by emerging shifts in roles of men and women; implications of these changes for the family and society; impact of multiple roles upon various men-women relationships.

* HEC 502 Methods and Materials in the Teaching of Consumer Education. Two sem hours
Examination of methods and materials used in effective teaching of consumer education at secondary and advanced levels. Classroom procedures, organization of resources and methods of evaluation.
Prereq: 371 Methods and Materials in Homemaking Education or equivalent and a basic course in consumer education or permission of the instructor.

* 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
Study of parental roles and competence in family life; analysis of methods and techniques for providing education for parents.

* 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 Cultures of the World. Two sem hours
An interdisciplinary approach to the study of cultures and food habits; the influence of attitudes and values in food selection.

* HEC 507 Leisure and the Family. Two sem hours
Impact of various aspects of modern life on availability and perception of lei-

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
sure time; survey of variations in family recreation and resources for creative use of leisure time activities which are appropriate at various stages of the family life cycle. Materials related to leisure time uses, sources of vacation information, consideration of the family with special needs. Cooperative programs by departments of sociology, arts and crafts, recreation, music and others. Consultants from each special field.

* HEC 508 Nutrition Problems of Low-Income Groups. Two sem hours
Social, cultural and economic factors relative to dietary intakes of low-income families and groups. Survey of legislation and governmental food programs available to these groups.

* HEC 509 Family Clothing Management. Two sem hours
Clothing and textile for each individual in the family; the relationship of garment design, garment construction, fiber content, fabric construction and finish to the acceptability of the garment. Not open to students with credit in 114 Clothing for Consumers without permission of the instructor.

* HEC 510 Drug Abuse and Family Dynamics. Two sem hours
Consideration of remedial and preventative aspects of drug abuse (alcohol and other drugs) in families. A major focus will be on adolescents and upon family dynamics relating to drug abuse.

HEC 511 Curriculum Development in Home Economics Education. Two sem hours
Contributions of home economics at secondary level; techniques employed in curriculum planning and reconstruction. Clarification of student needs in terms of current social problems.
Prereq: 371 Methods and Materials in Homemaking Education.

HEC 512 Current Programs in Family Life Education. Two sem hours
Philosophy and objectives in family life education; teaching-learning procedures. Sources for teaching materials, professional consultations, resource persons in family life education and evaluation of sample materials.
Prereq: An undergraduate methods and materials course.

HEC 513 Methods and Materials in the Teaching of Foods and Nutrition Two sem hours
Examination of the methods and materials used in the effective teaching of foods and nutrition at the elementary, middle, secondary and adult levels.
Prereq: A course in basic foods or nutrition or permission of the department.

HEC 514 Consumer Issues and Decisions in the Family. Two sem hours
Application of market structure and processes to family consumer decision making. Consideration of consumerism, credit practices, environmental quality, consumer legislation and protection. Designed for all students interested in consumer affairs.
Prereq: 322 Family Financial Planning or 503 Problems in Family Finance or permission of the instructor.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
HEC 516 Cooperative Field Service in Occupational Home Economics. Two sem hours

Emphasis placed on developing curriculum for occupationally related home economics programs. Work experience will be arranged by the student to provide contact with all aspects of the related occupation.

Prereq: Provisional certificate in consumer and homemaking education.

HEC 518 Special Problems in Home Economics Education. Two sem hours

Course developed to assist the in-service teacher with specific problems in homemaking programs. Major concerns are the child with learning disabilities and special needs. Resources for teachers facing such problems in their responsibilities.

Prereq: 371 Methods and Materials in Homemaking Education or 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: 271 Household Equipment or permission of the instructor.

* HEC 539 Special Topics in Home Economics. Two sem hours

An experimental course designed to investigate specific topics of concern in the specialization areas of study in home economics.

Prereq: Permission of the department.

HEC 540 Family Development. Two sem hours

Family growth patterns through predictable stages of development; processes of interaction and cooperation. Current research related to stages of development.

Prereq: 206 Contemporary Family Relations or equivalent.

HEC 541 Child Guidance in the Family. Two sem hours

Consideration of theoretical approaches to child guidance applicable for home or school. Practical application of child guidance principles at various developmental stages.

Prereq: 207 Living with Children or equivalent.

HEC 542 Family in Crisis. Two sem hours

Social, psychological and interpersonal aspects of crisis situations in families; educational and therapeutic resources available to families in crisis.

Prereq: 540 Family Development.

HEC 544 Family in the Middle and 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: 540 Family Development.

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
* HEC 545 Laws Affecting the Family. Two sem hours
Laws related to the family; their historical development and application of various stages of the family life cycle. Family law from the viewpoints of family members and professional persons who work with families; legal assistance available to families.

HEC 561 Consumer Problems in Clothing and Textiles. Two sem hours
Investigation of the sociological, psychological, legal and technical facts involved in the selection and use of textiles and clothing.
Prereq: 302 Experimental Clothing, 235 Textiles for Consumers or permission of the department.

* HEC 562 History of Costume. Two sem hours
The costume 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.

* HEC 563 History of Furniture and Contemporary Trends. Two sem hours
A study of furniture of various periods of history and the relationships to contemporary styles.

HEC 564 Fabric Design for the Home. Two sem hours
Advanced work in experimental design with fabrics, with emphasis on use in the home.
Prereq: Permission of the department.

HEC 565 Clothing Design and Construction. Two sem hours
Principles of pattern design, with application to a variety of styles and fabrics. Special problems in fitting, adaptations of design and processes of construction.
Prereq: 302 Experimental Clothing, 235 Textiles for Consumers or permission of the department.

HEC 566 Consumer Problems in Home Furnishings. Two sem hours
Characteristics, cost, construction and range in quality of furniture, tableware and accessories, wall coverings, rugs and carpets, flooring, woods and fabrics. Field trips. Purchasing problems are analyzed.
Prereq: 204 Home Management and Family Economics; 208 Basic Interior Design or 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 relations of art to fashion, the fashion world, the fashion centers, fashion trends and the major fashion designers.

HEC 569 Problems in Interior Design. Two sem hours
Analyzing and solving problems of interiors with regard to social, psychological and economic concerns of families.
Prereq: Permission of the department.

HEC 570 Methods and Materials in Teaching Clothing and Textiles. Two sem hours
For the specialist in teaching clothing and textiles at secondary and advanced

* Open to graduate students and qualified seniors—see “Enrollment in Graduate Courses by Seniors.”
levels. Classroom procedures, organization of resources and methods of evaluation.

Prereq: 302 Experimental Clothing or permission of the instructor.

**HEC 571 Methods and Materials in Teaching Related Arts. Two sem hours**
The selection, organization and evaluation of instructional materials in related arts for teachers of secondary students and adults. Opportunities for laboratory experience.

Prereq: Four hours of credit in related arts.

**HEC 580 Recent Developments in Foods. Two sem hours**
Survey of recent research in food science, including the production, preservation, processing and distribution of food.

Prereq: 211 Food Science or equivalent.

**HEC 581 Recent Developments in Food Systems Management. Two sem hours**
Evaluation of recent trends in food systems management, including food service systems, food and equipment innovations, and personnel relationships.

Prereq: A course in food service/meal management or permission of the instructor.

**HEC 582 Experimental Foods. Two sem hours**
Investigation of research methods used to study the chemical nature of foods; development of an individual problem.

Prereq: Six hours of credit in foods, inorganic and organic chemistry.

**HEC 583 Vitamins and Minerals. Two sem hours**
Emphasis on interrelationships of minerals and vitamins in human metabolism.

Prereq: 402 Nutrient Metabolism; physiology recommended.

**HEC 584 Recent Developments in Nutrition. Two sem hours**
Survey of recent research in nutrition, including issues on determination of nutrient requirements, regulation of government nutrition policies, and novel approaches for meeting nutrient needs.

Prereq: 402 Nutrient Metabolism; physiology recommended.

**HEC 585 International Nutrition. Two sem hours**
Study of world nutrition problems and possible solutions for meeting food crises on a worldwide basis.

Prereq: Six hours of credit in foods and nutrition or permission of the instructor.

**HEC 592 Research Methods for Home Economics. Two sem hours**
Orientation to the value of research; the research problem; basic research techniques applied to home economics. Location and identification of source materials.

Prereq: Open only to home economics majors on a planned graduate program. Required on all master's programs. Designed to be taken early in the program.

**HEC 595 Workshops in Selected Areas. Two sem hours**

**HEC 596 Seminar in Home Economics. Two sem hours**
Consideration and investigation of special problems in the specialization areas of study in home economics.

Prereq: Permission of the department.
HEC 597, 598, 599 Independent Studies in Home Economics.
One, two and three sem hours
An intensive study of a selected professional problem under the direction of a staff adviser.
Prereq: Permission of the department.

HEC 611 Evaluation in Home Economics Education. Two sem hours
Experience in analyzing progress toward important objectives in homemaking education. Development of classroom tests and evaluation materials. Evaluation instruments and statistical techniques useful to home economics.
Prereq: 371 Methods and Materials in Homemaking Education.

HEC 613 Supervision in Home Economics Education. Two sem hours
Study of current practices, theories and concepts of administration; analysis of leadership functions at the local, state and national level in home economics.
Prereq: Provisional certificate in consumer and homemaking education and one year of teaching.

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 specialists who deal in adult education, social service, equipment and mass media.
Prereq: Permission of the department.

HEC 660 Recent Developments in Textiles. Two sem hours
The nature of textile fibers; economic, chemical and physical problems related to their manufacture and use; technological advances to overcome these problems.
Prereq: 235 Textiles for Consumers. Organic chemistry or permission of the instructor.

HEC 661 Textile Analysis. Two sem hours
The chemical and physical analysis of fibers, yarns, fabrics and finishes; equipment and techniques used; interpretation of data; presentation of findings to the consumer; textile standards; current textile literature.
Prereq: HEC 660 Recent Developments in Textiles or permission of the department.

HEC 690, 691, 692 Thesis. One, two and three sem hours
Completion of research problems and writing of a thesis under the direction of a departmental adviser and committee.
Prereq: Permission of the department.

HEC 696 Advanced Seminar in Home Economics. Two sem hours
An intensive study of selected problems in home economics.
Prereq: Permission of the department.

UPPER DIVISION COURSES OPEN TO GRADUATE STUDENTS

These upper division courses may also be taken for graduate credit and applied on the department’s degree program. See the undergraduate catalog for course descriptions.
302 Experimental Clothing. (3)
402 Nutrient Metabolism. (3)
410 Home Management Seminar. (3)
412 Nutrition of the Life Cycle. (3)
415 Diet and Disease. (3)
460 Tailoring. (3)
APPLIED SCIENCE
DEPARTMENTS

DEPARTMENTS
Industrial Education
INDUSTRIAL EDUCATION

OBJECTIVES OF A PROGRAM LEADING TO A MASTER'S DEGREE

A program in industrial education designed to:

1. provide advanced preparation in professional, technical and cognate areas;
2. increase the competency of a teacher, supervisor or administrator of industrial education in the areas of industry, foundations, curriculum, and research;
3. develop an awareness and understanding of the philosophical, social and economic foundations as bases for industrial education programs;
4. produce professional personnel who will have the appropriate knowledge and competencies to promote and develop comprehensive and viable industrial education programs;
5. provide considerable flexibility in the selection of courses to meet the needs of each student;
6. enable a student to acquire a broad knowledge of the literature in industrial education;
7. provide a strong foundation for professional advancement and personal upgrading.

REQUIREMENTS FOR ADMISSION TO A PROGRAM LEADING TO A MASTER'S DEGREE

An applicant for admission must:

1. be admitted to the Graduate School of the University;
2. hold a valid teaching certificate;
3. have completed a minimum of 30 hours in industrial education;
4. have a 2.25 undergraduate grade point average;
5. receive the recommendation of the Graduate Committee in the Department of Industrial Education.

REQUIREMENTS FOR COMPLETION OF THE MASTER'S DEGREE PROGRAM

An applicant for the master's degree must:

1. have earned a minimum of 30 semester hours of graduate credit applicable to the program;
2. have earned a minimum of 20 semester hours of 5.0 (B) average grade in industrial education courses;
3. hold a 5.0 (B) grade point average for all graduate credit applicable to the master's degree program;
4. have earned a minimum of six semester hours in cognate courses;
5. have earned a minimum of eight semester hours of course work in selected areas of Industrial Education, including two hours in industry, two hours in foundations, two hours in curriculum and two hours in research;
6. receive the recommendation of his adviser, the Graduate Committee in the Department of Industrial Education, and the Graduate School of the University.
PROGRAM

The program leading to a Master of Arts degree in Industrial Education provides advanced preparation in professional, technical, and related fields as a foundation for career advancement and personal upgrading. The curriculum consists of regular class work, field experiences in industry and education, research activities, technical laboratory work, cognate courses, practicums, workshops, seminars, and free electives. As a result of this advanced preparation, industrial educators should develop an understanding of the philosophical, social, psychological, and economic foundations as a basis for developing and implementing industrial education programs.

The student's program of study is planned with a graduate adviser in the Department of Industrial Education. Each graduate program is customized to meet the needs, interests, and abilities of each student.

I. COURSES FOR NON-MAJORS

* IED 500 Crafts. Two sem hours
  Basic craft areas of wood, metal, graphics, plastics, leather and ceramics are explored. Additional elective areas are also available. Not open to majors in industrial education.

* IED 501 Crafts for Special Education. Two sem hours
  The development of craft activities to supplement the curriculum, provide therapeutic manipulative experiences and leisure activities in the special education classroom. Emphasis is given to the identification of industrial employment opportunities. Not open to majors in industrial education.

* IED 502 Career Education for the Elementary Child. Two sem hours
  A study of the concepts and methods used to develop an awareness of the careers of society with elementary school children. Emphasis is on individual and group activities relevant to integrated curriculum studies. Also open to industrial education majors.

* 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 graphs, charts and similar representations.

* IED 505 Graphic Arts. Two sem hours
  General graphic arts including: letterpress, lithography, gravure and silk-screen printing, linoleum block, photography and rubber stamp making.

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

* 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, and union organization in industry.

* IED 541 Materials of Industry. Two sem hours
Selected industrial materials; sources, properties, characteristics, analysis and testing.

IED 640 Recent Technological Developments. Two sem hours
Innovations in materials, processes, industrial organization and management and their implications for programs of industrial education; industrial visitations and other means of investigation will be employed.

III. FOUNDATIONS

* IED 550 Development of Industrial Education. Two sem hours
The historical development of industrial education programs; the influence of industrial, technological and societal change, institutions, professional associations, 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 industrial teacher education programs; 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.

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.

IV. CURRICULUM

* IED 502 Career Education for the Elementary Child. Two sem hours
A study of the concepts and methods used to develop an awareness of the careers of society with elementary school children. Emphasis is on individual

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
and group activities relevant to integrated curriculum studies. Also open to industrial education majors.

* IED 560 Middle/Junior High School Industrial Arts. Two sem hours
The rationale for industrial arts programs in the middle or junior high school; program alternatives and contemporary models for instructional content and methods; course development and laboratory planning related to various program structures.

IED 660 Senior High School Industrial Arts/Vocational Education. Two sem hours
Development and current status of curriculum in industrial arts/vocational education; principles and procedures of curriculum development, criteria and state guidelines for content selection, contemporary curriculum patterns, factors involved in curriculum change.

IED 661 Evaluation in Industrial Education. Two sem hours
Principles and methods of evaluating student development in industrial education; experience in development and construction of effective evaluation devices.

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.

IED 670 Laboratory Planning. Two sem hours
Analysis of space and equipment requirements of industrial education laboratories. Consideration of specific functions, safety, efficiency, location, and design as they relate to educational philosophy and objectives.

IED 680 Supervision of Industrial Education. Two sem hours
Principles and problems involved in the improvement of instruction in industrial education. Open to majors in industrial education and to majors in administration.

V. 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. Both "Independent Study" (technical study without the prerequisite of IED 592) and "Research Proposal Format" guideline sheets are available from the Department. Prereq: Department permission and IED 592 Research in Industrial Education.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
VI. SPECIAL COURSES—PRACTICUM, INTERNSHIP, WORKSHOPS, SEMINARS

* IED 539 Special Topics in Industrial Education. Two sem hours

* 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 Internship in Industrial Education. Two sem hours
  A supervised experience in education under the direction of University faculty. Opportunities are provided for directing a variety of teaching-learning experiences contracted with a University faculty member.

* 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.

VII. COMMUNICATION—TECHNICAL DESIGN

* IED 513 Drafting Technology. Two sem hours
  Drafting methods and materials; theory and application of multi-view drawing, auxiliaries, cams and gears, mechanisms, dimensioning, and geometric tolerancing.

* IED 515 Product Design. Two sem hours
  Principles of product design; emphasis on the design process, basic elements of design, and the interdependence of design and human needs.

* 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.

VIII. 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.

* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
testing procedures, machining and processing applications, production methods.

IX. POWER TECHNOLOGY

* IED 510 Electronics. Two sem hours
An investigation of basic theories combined with laboratory experiences and practical application of test equipment.

* 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.

IED 610 Solid State Circuitry. Two sem hours
Electronic theories as related to solid state circuits. Solid state design, printed circuit board fabrication and circuit construction.
Prereq: IED 200 Electricity and Electronics or IED 510 Electronics.

Tentative Schedule of Regularly Offered Graduate Courses

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* Open to graduate students and qualified seniors—see "Enrollment in Graduate Courses by Seniors."
GRADUATE FACULTY
ACCOUNTING AND FINANCE

Collins, W. Oscar (1975) ......................................................... Professor
  B.E.E., Southwest Missouri State College; M.E., University of Missouri; Ed.D.,
  Indiana University

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
  B.S., Marquette University; M.B.A., University of Wisconsin; Ph.D., North­
  western University; C.P.A., State of Wisconsin

Markese, John D. (1973) ........................................... Assistant Professor
  B.S., M.S., Ph.D., University of Illinois

McCabe, Robert K. (1973) ........................................... Assistant Professor
  B.B.A., University of Detroit; M.B.A., Wayne State University; D.B.A., Uni­
  versity of Colorado; C.P.A., State of Michigan

Schlorff, Harold L. (1974) .......................................... Assistant Professor
  B.B.A., Eastern Michigan University; M.B.A., University of Michigan; Ph.D.,
  University of Missouri

Stark, Maurice E. (1971) ............................................... Associate Professor
  Acting Department Head
  B.S., M.S., Kansas State University; Ph.D., University of Missouri; C.P.A.,
  State of Michigan

Stoffels, John D. (1972) ............................................... Associate Professor
  B.A., M.B.A., Northwestern University; Ph.D., Michigan State University

ADMINISTRATIVE SERVICES AND
BUSINESS EDUCATION

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

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

Graziano, Louis R. (1967) ........................................... Associate Professor
  B.A., Fairmont State College; M.E., Ed.D., Wayne State University

Johnson, Thomas M. (1971) ........................................... Associate Professor
  B.A., J.D., University of Chicago; Ph.D., Columbia University

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

Ristau, Robert A. (1973) ........................................... Professor
  Department Head
  B.B.A., M.S., Ph.D., University of Wisconsin

Robek, Mary F. (1958) ........................................... Professor
  B.Ed., Wisconsin State College; M.A., Northwestern University; M.B.A.,
  Ph.D., University of Michigan
Victor, Gary M. (1974) .............................. Assistant Professor
  B.S., M.B.A., Bowling Green State University; J.D., University of Toledo Law School

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

ART

Anderson, Marvin C. (1963) .............................. Associate Professor
  B.F.A., Wayne State University; M.F.A., Cranbrook Academy of Art

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

Calkins, Kingsley M. (1950) .............................. Professor
  Department Head
  B.S., Eastern Michigan University; M.A., University of Michigan

Fairfield, Richard T. (1963) .............................. Professor
  B.F.A., Bradley University; M.F.A., University of Illinois

Fensch, Charles (1966) .............................. Associate Professor
  B.A., Kent State University; M.A., Wayne State University

Field, Jan M. (1965) .................................. Assistant Professor
  B.F.A., M.F.A., School of the Art Institute of Chicago

Freeman, Lawrence (1969) .............................. Assistant Professor
  B.A., Mankato State College; M.F.A., University of Oregon

Godfrey, Elaine C. (1962) .............................. Associate Professor
  B.S., Central Michigan University; M.A., University of Michigan

Harrison, Sharon (1969) .............................. Associate Professor
  B.S., University of Michigan; M.F.A., Cranbrook Academy of Art; M.A., New York University

Hunter, Fredrick C. (1967) .............................. Associate Professor
  B.S., Wisconsin State University; M.F.A., University of Wisconsin

Iden, Sheldon S. (1968) .................................. Assistant Professor
  B.F.A., Wayne State University; M.F.A., Cranbrook Academy of Arts

Lamming, Dorothy (1947) .................................. Professor
  B.A., North Dakota State Teachers College; M.F.A., University of Washington

Loeb, Judy (1969) .............................. Assistant Professor

Loree, John (1962) .............................. Professor
  B.S., Fordham University; M.F.A., Alfred University

Mayer, Roger R. (1967) .................................. Associate Professor
  B.F.A., Rhode Island School of Design; M.F.A., Syracuse University

Orentlicher, John (1970) .................................. Assistant Professor
  B.A., Goddard College; M.F.A., Art Institute–Chicago

Pappas, John N. (1960) .............................. 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  

Begres, Forrest M. (1972) ............................ Assistant Professor  
B.S., M.S., Eastern Michigan University; Ph.D., Iowa State University  
Belcher, Robert O. (1946) ............................ Professor  
B.A., Berea College; M.S., Ph.D., University of Michigan  
Booth, Howard D. (1967) ............................ Assistant Professor  
B.S., M.S., Eastern Michigan University; Ph.D., Michigan State University  
Brown, Donald F.M. (1956) ............................ Professor  
B.A., M.S., Ph.D., University of Michigan  
Caswell, Herbert H., Jr. (1955) ............................ Professor  
Department Head  
B.S., Harvard University; M.A., University of California at Los Angeles; Ph.D., Cornell University  
Churchwell, Marlene (1972) ............................ Assistant Professor  
B.S., M.S., Trinity University; Ph.D., Iowa State University  
Fennel, William E. (1970) ............................ Professor  
B.A., M.A., University of Missouri, Ph.D., University of Michigan  
Ghosheh, Najati S. (1965) ............................ Professor  
B.S., M.S. Kansas State University; Ph.D., University of Illinois  
Hurst, Edith M. (1973) ............................ Associate Professor  
B.S., Wayne State University; M.A., Ph.D., University of Michigan  
Jackson, Dennis C. (1967) ............................ Associate Professor  
B.S., Arizona State University; M.S., Ph.D., Michigan State University  
Johnson, Bert M. (1951) ............................ Professor  
B.S., M.A., Ph.D., University of Michigan  
Liu, Stephen C. (1965) ............................ Professor  
B.S., M.S., National Taiwan University; Ph.D., University of Minnesota  
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
Graduate Faculty 235

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

Waffle, Elizabeth L. (1968) .................... Assistant Professor
B.A., Cornell College; M.S., State University of Iowa; Ph.D., Iowa State University

Wallace, Dale C. (1969) .......................... Associate Professor
B.A., Western Washington College; M.A., Colorado College; Ph.D., Cornell University

Yu, Shih-An (1967) .......................... Associate Professor
B.S., National Taiwan University; M.S., Ph.D., University of New Hampshire

CHEMISTRY

Brewer, Stephen (1969) .......................... Associate Professor
B.S., University of Florida; Ph.D., University of Wisconsin

Carter, Giles F. (1967) .......................... Associate Professor
B.S., Texas Tech; Ph.D., University of California

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) .......................... Professor
B.A., Swarthmore College; M.S., Ph.D., University of Louisville

Hicks, Kenneth (1970) .......................... Assistant Professor
B.A., M.S., Miami University; Ph.D., Howard University

Moore, John W. (1971) .......................... Associate Professor
B.S., Franklin and Marshall College; Ph.D., Northwestern University

Nicholson, Elva M. (1972) .......................... Assistant Professor
B.S., Bucknell University; M.S., Radcliffe College; Ph.D., Harvard University

Phillips, Donald B. (1973) .......................... Assistant Professor
B.A., Concordia College; M.S., North Dakota State University; Ph.D., University of Georgia

Powell, Ralph R. (1966) .......................... Assistant Professor
B.S., Marian College; Ph.D., Purdue University

Ramsay, O. Bertrand (1965) .......................... Professor
B.S., Washington and Lee University; Ph.D., University of Pennsylvania

Rengan, Krishnaswamy (1970) .......................... Associate Professor
B.S., University College Trivandum; Ph.D., University of Michigan

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

Schullery, Stephen E. (1970) .......................... 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) .............................. Professor
B.A., Oberlin College; Ph.D., Duke University

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

CURRICULUM AND INSTRUCTION

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

Allen, Irene A. (1968) ............................... Associate Professor
B.S., Johnson Teachers College; M.A., Ed.D., Ball State University

Bajwa, Ranjit S. (1963) ............................... Professor
B.A., B.T., Punjab University; Ed.D., Wayne State University

Belt, Gordon A. (1968) .............................. Assistant Professor
B.S., Central Michigan University; M.A., Michigan State University; Ed.D., Wayne State University

Birleson, Clifford (1951) ............................... Associate Professor
B.A., Western Michigan University; M.A., University of Michigan

Borusch, Barbara J. (1950) .......................... Professor
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Fielder, Gordon W. (1954) .......................... Professor
B.S., University of Kansas; M.S., M.Ed., Ed.D., University of Illinois

Fisher, Robert J. (1955) ............................... Professor
B.A., M.A., Ed.D., Stanford University

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

Gex, R. Stanley (1954) ................................. Professor
B.S., Northwest Missouri State College; M.A., Ed.D., University of Missouri

Goldsmith, William E. (1962) ........................... Assistant Professor
B.A., M.A., Michigan State University; Ed.D., Wayne State University

Greene, Bert I. (1963) ................................... Professor
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Hoexter, Robert (1964) ................................. Associate Professor
B.S., M.A., University of Michigan; Ph.D., Michigan State University

Irwin, Martha E. (1964) .............................. Professor
B.A., M.Ed., Bowling Green State University; Ed.D., Western Reserve University

Jones, Hebert M. (1964) ................................. Associate Professor
B.S., M.A., Ball State University; Ed.D., Indiana University
Krebs, Robert E. (1968) .................................. Professor
B.S., Kent State University; M.A., Western Reserve University; Ed.D., Columbia University

McIntosh, Gerald A. (1973) .................................. Associate Professor
Director of Black Studies
B.S., Central State University; M.A., Eastern Michigan University; Ph.D., Michigan State University

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

Neeb, Leon (1966) .................................. Associate Professor
B.S., Huntington College; M.Ed., Bowling Green State University; Ed.D., Michigan State University

Porretta, Louis P. (1959) .................................. Professor
B.A., Eastern Michigan University; M.Ed., Ed.D., Wayne State University

Russell, Wilma I. (1958) .................................. Professor
B.S., Southwest Missouri State College; M.A., New York University; Ph.D., University of Michigan

Street, Scott (1961) .................................. Professor
B.S., Bowling Green State University; M.A., Ed.D., Wayne State University

Weiser, Jerome A. (1967) .................................. Associate Professor
B.S., M.Ed., Ed.D., Wayne State University

Westerman, W. Scott, Jr. (1971) .................................. Professor
Department Head
B.S., Northwestern University; M.A., Ph.D., University of Michigan

Yisto, Ingrid P. (1964) .................................. Professor
B.A., Northern Michigan University; M.A., State University of Iowa; Ph.D., University of Michigan

Zambito, Stephen (1963) .................................. Professor
B.F.A., Cooper Union; B.S., M.A., Eastern Michigan University; Ph.D., University of Michigan

ECONOMICS

Anderson, Thomas C. (1972) .................................. Assistant Professor
B.S., M.S., Utah State University; Ph.D., University of California at Berkeley

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

El-Safty, Ahmad E. (1971) .................................. Assistant Professor
B.S.C., Alexandria, U.A.R.; M.A., Wayne State University; Ph.D., Massachusetts Institute of Technology

Gibbons, James R. (1967) .................................. Associate Professor
B.S., M.S., University of Illinois; Ph.D., Iowa State University

Helppie, Charles E. (1965) .................................. Professor
B.S., Eastern Michigan University; Ph.D., Ohio State University
Pearson, Donald W. (1969) .......................... Associate Professor
B.A., Tulane University; M.A., Ph.D., University of Texas

Simpson, John W. (1948) .......................... Professor
B.A., M.A., Ph.D., Ohio State University

Snyder, Carl Dean (1957) .......................... Professor
B.S., Heidelberg College; M.A., Miami University; D.S.S., Syracuse University

EDUCATIONAL LEADERSHIP

Brower, George (1954) .......................... Professor
B.S., Western Michigan University; M.A., University of Michigan; Ph.D., Cornell University

Daly, Francis M., Jr. (1964) .......................... Professor
B.S., M.A., Ed.D., Wayne State University

Deal, Kenneth L. (1975) .......................... Assistant Professor
B.A., Indiana State University; M.A., Sp.A., Western Michigan University; Ph.D., Columbia 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
Department Head
B.A., Iowa Wesleyan College; M.A., Ph.D., University of Iowa

Kilanski, Doris M. (1970) .......................... Assistant Professor
B.A., Mount Mary College; M.A., Sp.A., Eastern Michigan University; Ph.D., University of Michigan

Kromer, William F. (1971) .......................... Assistant Professor
B.A., Central Michigan University; M.A., Ph.D., University of Michigan

LeTarte, Clyde (1969) .......................... Acting Dean, Graduate School
B.A., Hope College; M.A., Ed.D., Michigan State University

Minzey, Jack D. (1968) .......................... Associate Professor
Acting Dean, College of Education
B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., Michigan State University

Nelson, Bruce (1957) .......................... Professor
A.B., Northern Michigan University; M.A., Ph.D., University of Michigan

EDUCATIONAL MEDIA

Corbacho, Henry F. (1973) .......................... Associate Professor
B.A., University of Denver; M.S., Indiana University; M.A., University of Denver; Ed.D., Wayne State University
EDUCATIONAL PSYCHOLOGY

Blair, John (1970) .................................. Assistant Professor
B.S., M.S., Indiana University; Ph.D., University of Michigan

Bushey, James T. (1969) .......................... Assistant Professor
Ph.D., M.A., University of Detroit; Ed.D., Wayne State University

Dellas, Marie (1969) ................................. Associate Professor
B.S., M.Ed., Ph.D., State University of New York at Buffalo

Haddan, Eugene E. (1965) .......................... Professor
B.A., M.A., Ed.D., North Texas State College

Jernigan, Louise F. (1970) .......................... Assistant Professor
B.A., Valparaiso University; M.Ed., Ph.D., Kent State University

Kaminsky, Mildred (1970) .......................... Assistant Professor
B.A., City College of New York; M.Ed., Ph.D., Wayne State University

LaBenne, Wallace D. (1967) .......................... Associate Professor
B.S., Temple University; M.A., Ph.D., University of Michigan

Lederman, Edward (1970) .......................... Associate Professor
B.S., Long Island University; M.A., Ph.D., Teachers College, Columbia University

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

McKee, Judy A. (1971) .......................... Assistant Professor
B.A., Central Michigan University; M.A., Ph.D., Columbia University

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

Wahi, Kishor (1967) .......................... Associate Professor
B.A., Punjab University; M.A., Ph.D., University of Michigan

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

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

Woronoff, Israel (1956) .......................... Professor
B.A., M.A., Ph.D., University of Michigan

ENGLISH LANGUAGE AND LITERATURE

Andrews, Naomi Madgett (1968) .......................... Professor
A.B., Virginia State College; M.Ed., Wayne State University

Bensen, Alice R. (1947) .......................... Professor
B.A., M.A., Washington University; Ph.D., University of Chicago

Brylowski, Walter M. (1955) .......................... Professor
B.A., Kalamazoo College; M.A., University of Connecticut; Ph.D., Michigan State University
Cross, B. Gilbert (1966) ........................................... Assistant Professor
B.A., Manchester University (England); Certificate of Education, London
University; M.A., University of Louisville; Ph.D., University of Michigan

Duncan, Jeffrey L. (1971) ........................................... Associate Professor
A.B., Long Beach State College; M.A., Ph.D., University of Virginia

Evenhuis, Francis D. (1969) ........................................ Professor
B.A., Western Michigan University; M.A., Ph.D., University of Iowa

Foster, Milton P. (1947) ........................................... Professor
Department Head
B.A., Waynesburg College; M.A., University of Pittsburgh; Ph.D., University
of Michigan

Gohn, Ernest S. (1958) ........................................... Professor
B.A., Ph.D., Johns Hopkins University

Harris, Arthur J. (1967) ........................................... Associate Professor
B.S., Central Michigan University; M.A., Ph.D., University of Birmingham
(England)

Haun, F. Eugene (1966) ........................................... Professor
B.A., Hendrix College; M.A., Vanderbilt University; Ph.D., University of
Pennsylvania

Hebert, Catherine A. (1947) ........................................ Professor
B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

Ingram, Betty J. (1967) ........................................... Associate Professor
B.A., M.A., University of Western Ontario; Ph.D., University of Pennsylvania

Jernigan, E. Jay (1965) ........................................... Associate Professor
B.S., B.A., Kansas State Teacher's College; M.S., Ph.D., Kansas State Univer-
sity

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) ........................................ Associate Professor
B.A., M.A., University of Toledo; Ph.D., Kent State University

McGlynn, Paul D. (1964) ........................................... Associate Professor
Ph.B., M.A., University of Detroit; Ph.D., Rice University

Mohl, Ronald A. (1968) ........................................... Associate Professor
B.A., M.A., University of Nebraska; Ph.D., University of Connecticut

Nelson, Alfred L. (1970) ........................................... Professor
A.B., A.M., Wayne State University; Ph.D., George Washington University

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

Pillsbury, Paul W. (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., Univer-
sity of Michigan

Schreiber, O. Ivan (1950) ........................................... Professor
B.A., Wittenberg College; M.A., Ohio State University
Shuter, William F. (1968) .......................... Associate Professor  
B.A., Brooklyn College; M.A., Columbia University; Ph.D., University of Wisconsin

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

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

FOREIGN LANGUAGES AND LITERATURE

Bidwell, Jean S. (1962) ............................... Professor  
Department Head  
B.A., Brown University; M.A., Eastern Michigan University; M.A., Ph.D., University of Michigan

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

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

Hubbard, John R. (1970) ............................... Assistant Professor  
B.A., Hope College; M.A., Ph.D., Michigan State University

McCoy Ana Maria (1972) ............................... Assistant Professor  
Licenciado en Filosofía y Letras, University of Valencia, Spain; M.A., Ph.D., University of Michigan

Muller, Brigitte D. (1967) ............................... Associate Professor  
B.A., Eastern Michigan University; M.A., University of Michigan; Doctorate, University of Aix-Marseille

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

Ernst, Robert T. (1970) ............................... Assistant Professor  
B.S., M.A., St. Louis University; M.A., Ph.D., University of Florida

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

Jaworski, Eugene (1971) ............................... Assistant Professor  
B.S., University of Wisconsin; Ph.D., Louisiana State University

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

MacMahan, Horace A. (1969) ............................... Associate Professor  
B.A., University of Maine; M.S., University of Utah; Ed.D., University of Colorado
Mancell, Robert B. (1969) ................................ Assistant Professor
B.A., M.A., Ph.D., University of Michigan

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

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

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

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

Ojala, Carl F. (1970) .......................................... Assistant Professor
B.A., Kent State University; M.A., Ph.D., 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., Lo­
uisiana 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; Ph.D., University of Michi­
gan

GUIDANCE AND COUNSELING

Beeler, Kent David (1970) ................................. Assistant Professor
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Nau, Paul A. (1967) .......................................... Associate Professor
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Pappas, John G. (1966) ...................................... Professor
Department Head
B.A., University of Akron; M.A., Ohio State University; Ph.D., Kent State
University

Stanley, Kenneth W. (1961) ............................... Associate Professor
Coordinator of Student Teaching
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Thayer, Louis C. (1969) .................................... Associate Professor
B.S., M.S., Nebraska State College at Kearney; Ph.D., University of Illinois
Tothill, Herbert (1960) ........................................ Professor
B.A., University of Rochester; M.A., University of Hawaii; Ph.D., Syracuse University

Van Riper, Benjamin W. (1968) ................................. Associate Professor
B.S., Adrian College; M.A., Ph.D., University of Michigan

Waidley, John W. (1968) ........................................ Assistant Professor
B.A., University of Michigan; M.Ed., Wayne State University; Ed.D., New York University

HEALTH, PHYSICAL EDUCATION AND RECREATION

Adams, John R. (1960) ........................................ Professor
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Bell, Mary I. (1949) ........................................ Associate Professor
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Cavanaugh, Patrie L. (1968) ................................ Department Head
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Faulkner, Thelma R. (1970) ................................ Assistant Professor
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Grills, Marguerite E. (1958) ................................. Associate Professor
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Johnson, Marvin J. (1963) ................................ Associate Professor
B.S., University of Michigan; B.S., P.E., McGill University; M.A., Ph.D., University of Michigan

Menzi, Elizabeth A. (1964) ................................ Professor
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Pedersen, Erik J. (1968) ..................................... Associate Professor
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Sayegh, Matilda (1971) ...................................... Assistant Professor
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Sheard, John E. (1963) ...................................... Professor
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Steig, Peggy A. (1956) ...................................... Professor
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Williams, Roger L. (1968) ................................ Associate Professor
B.S., Miami University; M.S., University of Illinois; Ed.D., University of Missouri

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

Witten, Charles X. (1969) .................................... Associate Professor
B.S., M.A., University of Maryland; Ph.D., Ohio State University
HISTORY AND PHILOSOPHY

Abbott, Richard H. (1966) ........................................ Professor
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Bilsky, Manuel (1960) ........................................ Professor
B.A., M.A., Wayne State University; M.A., Ph.D., University of Michigan

Boyer, Lee R. (1970) ........................................ Assistant Professor
B.A., Mount Union College; M.A., Ph.D., University of Notre Dame

Briggs, W. Donald (1965) ........................................ Assistant Professor
B.A., University of California; M.A., Sacramento State College; Ph.D., University of Michigan

Cassar, George H. (1968) ........................................ Associate Professor
B.A., M.A., University of New Brunswick; Ph.D., McGill University

Disbrow, Donald W. (1956) ........................................ Professor
B.A., Haverford College; Ph.D., University of Rochester

Drummond, Donald F. (1958) ........................................ Professor
Dean, College of Arts and Sciences
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Earl, David M. (1965) ........................................ Professor
B.A., Oberlin College; M.A., Wayne State University; Ph.D., Columbia University

Fadiman, Jeffrey A. (1971) ........................................ Assistant Professor
B.A., Stanford University; M.A., American University; Ph.D., University of Wisconsin

Fenz, Emanuel G. (1969) ........................................ Assistant Professor
B.A., Walla Walla College; M.A., Andrews University; Ph.D., University of Colorado

Flusche, Della M. (1968) ........................................ Associate Professor
B.A., North Texas State University; M.A., Marquette University; Ph.D., Loyola University

Gimelli, Louis B. (1966) ........................................ Professor
B.S., State University of New York; M.A., Ph.D., New York University

Goff, Richard D. (1964) ........................................ Professor
B.A., Duke University; M.A., Cornell University; Ph.D., Duke University

Green, James E. (1947) ........................................ Associate Professor
B.A., M.A.L.S., M.A., University of Michigan

Hafter, Daryl M. (1969) ........................................ Assistant Professor
B.A., Smith College; M.A., Ph.D., Yale University

Homel, Michael W. (1970) ........................................ Assistant Professor
B.A., Grinnell College; M.A., Ph.D., University of Chicago

King, H. Roger (1967) ........................................ Associate Professor
B.A., Bates College; M.A., University of Connecticut; Ph.D., Vanderbilt University

May, George S. (1965) ........................................ Professor
B.A., M.A., Ph.D., University of Michigan

McLarty, R. Neil (1958) ........................................ Professor
B.A., Eastern Michigan University; M.A., Ph.D., University of Michigan
Moss, Walter (1970) ........................ Associate Professor
B.S., Xavier University; Ph.D., Georgetown University

Prud'homme, Lawrence H. (1969) ............ Assistant Professor
B.A., M.A., Ph.D., University of California

Rossiter, Margaret L. (1968) .................... Associate Professor
B.A., Douglass College; M.A., Ph.D., Bryn Mawr College

Scherer, Lester B. (1969) ........................ Associate Professor
B.A., Harvard University; B.D., Garrett Theological Seminary; Ph.D., Northwestern University

Terry, Janice J. (1968) .......................... Associate Professor
B.A., College of Wooster; M.A., American University, Beirut; Ph.D., University of London

Upshur, Jiu Hwa (1971) .......................... Assistant Professor
B.A., University of Sydney, Australia; M.A., Ph.D., University of Michigan

Walker, Dorsey E. (1970) ........................ Associate Professor
B.A., Wayne State University; M.A., Atlanta University; Ph.D., University of Michigan

Waltz, James C. (1968) .......................... Associate Professor
B.A., Michigan State University; B.D., Evangelical Theological Seminary; M.A., Ph.D., Michigan State University

Wheatley, Ira M. (1966) .......................... Professor
Department Head
B.A., University of the Pacific; M.Th., Drew Theological Seminary; Ph.D., University of Iowa

Wittke, Reinhard (1956) .......................... Professor
B.A., M.A., Ph.D., University of Michigan

Zickgraf, P. Louis (1948) ........................ Professor
B.A., M.A., Indiana University; Ph.D., University of Illinois

**HOME ECONOMICS**

Bornemeier, Betty L. (1965) ...................... Professor
B.S., M.A., Ph.D., Texas Woman's University

Fielder, Anita L. (1963) ........................ Professor
B.Ed., Eastern Illinois University; M.S., Ed.S., University of Illinois

Found, R. Elaine (1971) ........................ Associate Professor
B.A., University of Toronto; M.S., Ph.D., University of Wisconsin

Laws, Duane M. (1971) .......................... Professor
B.A., M.A., Brigham Young University; Ed.D., Columbia University

Meis, Ruby L. (1964) ............................ Professor
B.S., Central Michigan University; M.A., University of Michigan; Ed.D., Pennsylvania State University

Sands, Billie Lou (1974) ........................ Professor
Department Head
B.S., Northern Michigan University; M.A., Ph.D., Michigan State University
INDUSTRIAL EDUCATION

Baird, Ronald J. (1966) ...................................... Professor
B.S., Bowling Green State University; M.Ed., University of Missouri; Ed.D., Michigan State University

Cooksey, Robert C. (1973) ................................. Assistant Professor
B.S., M.A., Ball State University; Ed.D., University of Maryland

Griess, Jerald A. (1967) .................................. Associate Professor
B.A., Wesleyan University, Nebraska; M.S., Oklahoma State University; Ed.D., Pennsylvania State University

Jennings, Gerald L. (1963) ................................. Professor
B.S., M.A., Ball State University; Ph.D., Michigan State University

Kicklighter, Clois E. (1966) .............................. Professor
B.S.E., University of Florida; M.S., Indiana State University; Ed.D., University of Maryland

Kieft, Lewis D. (1971) .................................. Assistant Professor
B.S., M.A., Eastern Michigan University; Ph.D., Ohio State University

Kuwik, Paul (1970) .................................. Associate Professor
B.S., M.S., State University of New York at Buffalo; Ph.D., Ohio State University

LaBounty, Raymond A. (1945) ......................... Professor
Assistant Vice-President for Academic Affairs
B.S., Eastern Michigan University; M.A., Ed.S., University of Michigan

Larsen, Delmar L. (1964) ................................ Professor
B.A., Iowa State Teachers College; M.A., Ball State University; Ph.D., Ohio State University

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

Osborn, Carroll A. (1955) ................................ Associate Professor
B.A., Ohio Wesleyan; B.S., M.A., Ohio State University

PaDelford, Harold E. (1969) ...................... Associate Professor
B.S., Mankato State College; M.A., Ph.D., University of Minnesota

Rokusek, H. James (1964) .......................... Professor
Department Head
B.S., M.S., Stout State University; Ph.D., University of Maryland

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

MANAGEMENT

Brown, Leland (1964) ...................................... Professor
B.A., M.A., Indiana State University

Cantrell, Douglas D. (1965) ......................... Assistant Professor
B.S., University of North Carolina; B.D., M.A., Emory University; Ph.D., University of Michigan

Conley, James H. (1969) ................................ Associate Professor
B.A., Otterbein College; B.D., United Theological Seminary; Ph.D., Michigan State University
Danak, Jagdish (1969) ........................................ Associate Professor
  B.S., University of Bombay; B.B.A., Lamar State College of Technology;
  M.B.A., Texas State University; Ph.D., University of Oklahoma

Deihl, Lincoln W. (1959) .................................... Professor
  B.S., Bowling Green State University; M.S., Indiana University; Ph.D., Ohio
  State University

Hoitash, Charles F. (1971) .................................. Assistant Professor
  B.S., Harvard College; M.B.A., Cornell School of Business and Public Admin-
  istration; Ph.D., Michigan State University

Huegli, Jon M. (1973) ........................................ Assistant Professor
  B.A., Valparaiso University; M.A., Ph.D., Indiana University

McCoy, Robert C. (1972) ................................... Associate Professor
  A.B., Albion College; M.A., Ph.D., Wayne State University

Minter, Robert L. (1972) ................................... Associate Professor
  A.B., M.A., Miami University; Ph.D., Purdue University

Patrick, Floyd A. (1970) ................................... Professor
  B.S., University of Wisconsin; M.A., Ph.D., University of Iowa

Shell, Claude I., Jr. (1967) .................................. Professor
  B.A., Maryville College; M.S., University of Tennessee; Ph.D., Southern Illi-
  nois University

MARKETING

Braden, Joseph L. (1970) ................................... Associate Professor
  B.S.C.E., Purdue University; M.A.A., D.B.A., Indiana University

Kurtz, David L. (1967) ...................................... Professor
  Department Head

  B.A., Davis and Elkins College; M.B.A., Ph.D., University of Arkansas

Neuhaus, Colin F. (1969) .................................... Associate Professor
  B.A., Gettysburg College; M.B.A., Ph.D., University of Michigan

Roth, Earl A. (1954) ........................................ Professor
  Dean, College of Business

  B.S., M.A., Ohio State University; Ed.D., Indiana University

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

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

MATHEMATICS

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

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

Dempster, Andrew C. (1966) .................................. Associate Professor
  B.S., M.S., Ph.D., University of Michigan
Ginther, John L. (1965) ................................ .. Professor
B.Ed., University of Toledo; Ed.M., Ph.D., University of Illinois

Goosey, Bob L. (1959) ................................ Associate Professor
B.S., Montana State University; M.A., Pennsylvania State University; Ph.D., University of Michigan

Hee, Christopher E. (1969) ................................ Assistant Professor
B.Ch.E., University of Detroit; Ph.D., University of Notre Dame

Heezen, Alan (1967) ................................ Assistant Professor
B.A., University of Notre Dame; M.A., Ph.D., University of Michigan

Hoft, Hartmut (1970) ................................ Assistant Professor
B.A., University of Munster (Germany); M.A., University of Bonn (Germany); Ph.D., University of Houston

Howard, Paul E. (1970) ................................ Assistant Professor
B.A., University of Missouri; Ph.D., University of Michigan

Johnson, David C. (1973) ................................ Assistant Professor
B.S., Eastern Nazarene College; Ed.M., Ed.D., University of Georgia

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

Lauckner, Kurt F. (1963) ................................ Associate Professor
B.S.E., M.S., Ph.D., University of Michigan

Macdonald, Alan L. (1970) .......................... Assistant Professor
B.S., Wayne State University; M.S., Ph.D., University of Michigan

Marshall, Richard W. (1968) .......................... Associate Professor
B.S., University of Pittsburgh; M.A., Ed.D., University of Michigan

Northey, James H. (1957) .......................... Professor
B.S., Northern Michigan University; M.S., Ph.D., University of Michigan

Acting Department Head

Rafiq, Mohammed (1970) .................. Assistant Professor
B.A., Government College of Rawalpindi; M.S., University of Peshawar; Ph.D., Wayne State University

Rebane, Toomas (1969) .................. Assistant Professor
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Remmers, John H. (1968) .................. Assistant Professor
B.A., Harvard University; M.A., Ph.D., University of Michigan

Sanchez, Pedro P. (1972) .................. Assistant Professor
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Suryanarayana, Manda (1969) .................. Associate Professor
B.S., P.R., Government College; M.S., University of Poona; M.S., Ph.D., University of Michigan

Tse, Enoch C. (1967) .................. Assistant Professor
B.S., Hong Kong Baptist College; M.A., Wayne State University; Ph.D., University of Michigan

Ullman, Nelly S. (1963) .................. Associate Professor
B.A., Hunter College; M.A., Columbia University; Ph.D., University of Michigan

Vile, Richard C. (1970) .................. Assistant Professor
B.S., Michigan State University; Ph.D., Cornell University
Walter, James R. (1964) ........................................ Assistant Professor
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MUSIC

Abramson, Armand R. (1967) ........................................ Associate Professor
B.Mus., University of Louisville; M.Mus., Eastman School of Music

Ballard, O. Blaine (1960) ........................................ Associate Professor
B.S., Mansfield State Teachers College; M.Mus., Indiana University

Eller, Daniel R. (1966) ........................................ Associate Professor
B.Mus., University of Illinois

Fitch, William D. (1944) ........................................ Professor
B.S., Kansas State University; M.Mus., Ph.D., University of Michigan

Goldschmidt, Erich P. (1955) ...................................... Professor
Swiss Musicpaedagogical Society, Zurich, Basel Conservatory, Schola Cantorum Basiliensis, Basel

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

Harley, Rachel A. (1969) ........................................ Assistant Professor
B.Mus., M.A., University of North Carolina; Ph.D., University of Michigan

Hause, James B. (1971) ........................................ Professor
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B.Mus., M.Mus., Ed.D., University of Michigan

Henry, Oscar M. (1968) ........................................ Professor
B.A., Fisk University; M.A., Harvard University; Ph.D., Ohio State University

Howe, Marvin C. (1966) ........................................ Professor
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Iannaccone, Anthony J. (1971) ................................ Assistant Professor
B.Mus., M.Mus., Manhattan School of Music; Ph.D., University of Rochester

Kalib, Sylvan S. (1969) ........................................ Assistant Professor
B.Mus., M.Mus., DePaul University; Ph.D., Northwestern University

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

Lowe, Emily Boyd (1961) ........................................ Associate Professor
A.B., Duke University

Mehta, Dady N. (1968) ........................................ Associate Professor
State Academy of Music, Vienna

Parris, Arthur (1970) ........................................ Professor
B.S., Juilliard School of Music; M.A., Ph.D., Bryn Mawr College

Pignotti, Alfo V. (1969) ........................................ Associate Professor
B.Mus., Eastman School of Music; M.Mus., Manhattan School of Music

Plank, Max E. (1968) ........................................ Assistant Professor
B.Mus.Ed., M.Mus., Kansas State Teachers College; D.M.A., University of Michigan
Pyle, Hershal O. (1945) ........................................ Associate Professor
B.Mus., Saint Louis Institute of Music; M.Mus., M.A., University of Michigan

Riley, Maurice W. (1947) ........................................ Professor
B.A., M.A., Colorado State College; M.Mus., Ph.D., University of Michigan

Sundquist, Jean S. (1958) ........................................ Associate Professor
B.S., Northern Michigan University; M.M., University of Michigan

Szabo, Edward J. (1968) ........................................ Professor
B.Mus., Cincinnati Conservatory of Music; B.S., M.S., Juilliard School of Music; M.A., Ed.D., Columbia University

Teal, Mary D. (1968) ........................................ Associate Professor
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Tyra, Thomas N. (1964) ........................................ Professor
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Yost, Mary Ida (1968) ........................................ Assistant Professor
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OPERATIONS RESEARCH AND INFORMATION SYSTEMS

Brewer, Richard K. (1974) ........................................ Assistant Professor
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Hislop, Robert I. (1970) ........................................ Professor
Director, MBA Program
L.L.B., L.L.M., Brooklyn Law School; Ph.D., University of Colorado

Holland, Robert (1972) ........................................ Professor
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Khailany, Asad (1972) ........................................ Assistant Professor
B.S., Baghdad University; M.S., St. Louis University; M.S., D.Sc., Washington University

Sokkar,Fat-Hi F. (1971) ........................................ Assistant Professor
B.Com., Cairo University; M.B.A., Eastern Michigan University; Ph.D., University of Illinois

Wu, Nesa L-J (1974) ........................................ Associate Professor
B.S., University of Louvain, Belgium; M.S., Ph.D., Purdue University

Young, Kenneth C. (1974) ........................................ Associate Professor
B.A., Carson-Newman College; M.B.A., Harvard Business School; M.S., Ph.D., Purdue University

PHYSICS AND ASTRONOMY

Barnes, James M. (1955) ........................................ Professor
B.S., Eastern Michigan University; M.S., Ph.D., Michigan State University

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

Johnson, Fred T. (1967) .......................... Professor
B.A., Ph.D., Johns Hopkins University

Loeber, Adolph P. (1964) .......................... Professor
B.S., M.A., Wayne State University; Ph.D., Michigan State University

Moore, Jean R. (1968) .......................... Associate Professor
B.S., M.S., Indiana University; M.A., Ph.D., University of Michigan

Parsons, Karl A. (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 F. (1969) .......................... Associate Professor
B.S., Rockhurst College; M.A., Ph.D., Princeton University

Silver, Robert (1966) .......................... Department Head
B.S., Wayne State University; Ph.D., University of California

Thomas, Clinton E. (1959) .......................... Associate Professor
B.S., M.S., University of Michigan

POLITICAL SCIENCE

Hourani, Benjamin T. (1968) .......................... Associate Professor
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Magee, James S. (1972) .......................... Professor
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Vice-President, Academic Affairs

Pfister, James W. (1970) .......................... Assistant Professor
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J.D., University of Budapest; M.A., Ph.D., University of Michigan

Sabaliunas, Leonas (1966) .......................... Professor
A.B., University of Illinois; M.I.A., PH.D., Columbia University

Sabki, M. Hisham (1969) .......................... Associate Professor
B.S., M.A., Ph.D., Indiana University

Solomon, Samuel R. (1960) .......................... Professor
B.A., M.A., Ph.D., Syracuse University

PSYCHOLOGY

Anderson, Robert L. (1957) .......................... Professor
B.A., Northern Michigan University; M.A., Columbia University; Ph.D., New York University
Beecher, Michael D. (1971) ............................ Assistant Professor  
B.A., Reed College; A.M., Ph.D., Boston University  

Benson, Peter L. (1973) ............................ Assistant Professor  
B.A., Augustana College; M.A., Yale University; M.A., Ph.D., University of Denver  

Canter, Francis M. (1967) ............................ Professor  
B.A., Ph.D., Washington University  

Davis, Gary L. (1972) ............................ Assistant Professor  
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Delprato, Dennis J. (1969) ............................ Associate Professor  
B.A., Washington and Jefferson College; M.S., Ohio University; Ph.D., Michigan State University  

Fish, Barry A. (1970) ............................ Assistant Professor  
B.A., University of Michigan; M.A., Ph.D., Wayne State University  

Fitzgerald, Joseph M. (1973) ............................ Assistant Professor  
B.A., S.U.N.Y. at Buffalo; M.A., Ph.D., West Virginia University  

Friedman, Monroe P. (1964) ............................ Professor  
B.S., Brooklyn College; Ph.D., University of Tennessee  

Gallatin, Judith E. (1968) ............................ Associate Professor  
B.A., M.A., Ph.D., University of Michigan  

Holmes, Peter A. (1968) ............................ Associate Professor  
B.A., Franklin and Marshall College; M.A., Bryn Mawr College; Ph.D., University of Delaware  

Hountras, Peter T. (1970) ............................ Adjunct Professor  
Dean, Counseling Center  
B.A., University of Toledo; M.A., Ph.D., University of Michigan  

Jackson, Donald E. (1967) ............................ Professor  
B.A., M.A., Ph.D., University of Alabama  

Karabenick, Stuart A. (1966) ............................ Associate Professor  
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Karson, Samuel (1966) ............................ Professor  
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Knapp, John R. (1971) ............................ Assistant Professor  
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Lerner, Richard M. (1969) ............................ Associate Professor  
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Meisels, Murray (1965) ............................ Professor  
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O'Dell, Jerry W. (1966) ............................ Associate Professor  
B.A., University of Cincinnati; Ph.D., University of Michigan  

Vincent, Steven M. (1973) ............................ Assistant Professor  
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SOCIAL FOUNDATIONS

Gwaltney, Thomas M. (1964) ........................................ Professor
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Leatherman, Roger L. (1963) ........................................ Professor
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Michael, Calvin B. (1956) ........................................ Professor
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Monahan, Thomas (1953) ........................................ Professor
B.S., Willimantic State Teachers College; M.A., University of Connecticut;
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Muckenhirn, Erma F. (1963) ........................................ Professor
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Robinson, Robert S. (1959) ..................................... Associate Professor
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Samonte, Quirico S. (1963) ........................................ Professor
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SOCIOLOGY

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Finkler, Kaja (1972) ............................................... Assistant Professor
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Green, Edward (1963) .......................... Professor
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B.Arch., M.C.P., University of Michigan; Ph.D., Wayne State University

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Stupple, David W. (1969) .......................... Assistant Professor
B.A., Lake Forest College; M.A., Ph.D., University of Missouri

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B.S., Penn State University; M.S., University of Minnesota; M.A., New School for Social Research; Ph.D., University of Michigan

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SPECIAL EDUCATION

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Palmer, David E. (1952)  Associate Professor  B.A., M.A., University of Michigan

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SPEECH AND DRAMATIC ARTS

Aldridge, Henry B. (1972)  Assistant Professor  B.A., M.A., University of North Carolina; Ph.D., University of Michigan

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

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

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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

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Martin, Annette (1963) .................................................. Associate Professor  
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McDaniel, Thelma L. (1964) .................................................. Associate Professor  
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B.S., M.F.A., University of Wisconsin  

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Yahrmatter, Arthur J. (1968) .................................................. Assistant Professor  
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