GRADUATE CAT  OG 1969
1970

EASTERN MICHIGAN UNIVERSITY
GRADUATE CATALOG OF

EASTERN MICHIGAN UNIVERSITY

ANNOUNCEMENTS FOR

1969-1970

ACCREDITED BY

The North Central Association of Colleges and Secondary Schools
The National Council for Accreditation of Teacher Education

VOLUME LXVII NUMBER 5
MAY, 1969

Published four times a year by Eastern Michigan University and entered as second class matter at the Post Office at Ypsilanti, Michigan
PLEASE ADDRESS SPECIFIC INQUIRIES TO THE FOLLOWING OFFICES:

Telephone (Area 313) 483-6100

Dean of Admissions and Financial Aids:
   Loans and grants-in-aid

Dean of Records and Teacher Certification:
   Certification requirements and transcripts

Dean of Summer and Evening Sessions:
   All information concerning the summer or evening sessions

Receivables and Billing Office:
   University fees and financial aids

Director of Registration:
   Registration of students for on-campus classes

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

Director of On-Campus Housing:

Coordinator of Off-Campus Housing:
   Student living accommodations

Director of Placement:
   Teaching vacancies; registration of applicants for teaching, business, and industrial positions; opportunities for earning a portion of University expenses
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UNIVERSITY CALENDAR

FALL SEMESTER, 1969
Mail registration (See current schedule)
Last day for registration .................................................. September 12
Classes begin ........................................................... September 15, 16, 17, 18, 20
Thanksgiving November 26 (5 p.m.) ........................................ 27, 28, 29
Holiday vacation begins ............................................ December 20 (Noon)
Classes resume ...................................................... January 5
Final examinations ...................................................... January 12-22
Mid-year Commencement ........................................ January 18

SPRING SEMESTER, 1970
Mail registration (See current schedule)
Last day for registration .................................................. January 30
Classes begin ........................................................ February 2, 3, 4, 5, 7
Spring vacation begins ........................................................ March 27
Classes resume ........................................................ April 6
Final examinations ...................................................... May 16 - June 4
Memorial Day recess ........................................................ May 29, 30, 31
Commencement ........................................................ June 6

SUMMER SESSIONS, 1970
First Session (Two Weeks) ................................................. June 8-19
Second Session (Six Weeks) ............................................. June 22 - July 31
Second Session (Eight Weeks) ........................................... June 22 - August 14
Independence Day recess .................................................... July 3
Third Session (Two Weeks) ................................................. August 3-14
Third Session (Three Weeks) ............................................. August 3-21
Fourth Session (Two Weeks) ............................................. August 17-28
Government of the University

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

BOARD OF REGENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Term Expires</th>
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<tbody>
<tr>
<td>Virginia Allan</td>
<td>December 31, 1970</td>
</tr>
<tr>
<td>Charles Anspach</td>
<td>December 31, 1974</td>
</tr>
<tr>
<td>Veda Anderson</td>
<td>December 31, 1974</td>
</tr>
<tr>
<td>Lawrence R. Husse</td>
<td>December 31, 1972</td>
</tr>
<tr>
<td>George E. Stripp</td>
<td>December 31, 1976</td>
</tr>
<tr>
<td>Edward J. McCormick</td>
<td>December 31, 1970</td>
</tr>
<tr>
<td>Dr. Richard N. Robb</td>
<td>December 31, 1976</td>
</tr>
<tr>
<td>Mildred Beatty Smith</td>
<td>December 31, 1972</td>
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ADMINISTRATIVE OFFICERS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Harold E. Sponberg</td>
<td>President</td>
</tr>
<tr>
<td>Ray B. Loeschner</td>
<td>Vice-President for Administrative Affairs</td>
</tr>
<tr>
<td>Bruce K. Nelson</td>
<td>Vice-President for Instruction</td>
</tr>
<tr>
<td>Robert G. Zumwinkle</td>
<td>Vice-President for Student Affairs</td>
</tr>
<tr>
<td>Lewis E. Profit</td>
<td>Vice-President for Business and Finance</td>
</tr>
<tr>
<td>James H. Glasgow</td>
<td>Dean, Graduate School</td>
</tr>
<tr>
<td>Hebert M. Jones</td>
<td>Assistant Dean, Graduate School</td>
</tr>
<tr>
<td>Earl A. Roth</td>
<td>Dean, College of Business</td>
</tr>
<tr>
<td>Donald Drummond</td>
<td>Dean, College of Arts and Sciences</td>
</tr>
<tr>
<td>Allen Myers</td>
<td>Dean, College of Education</td>
</tr>
<tr>
<td>Francis Daly</td>
<td>Assistant to the Dean, College of Education</td>
</tr>
<tr>
<td>John G. Pappas</td>
<td>Assistant to the Dean, College of Education</td>
</tr>
<tr>
<td>Everett L. Marshall</td>
<td>Dean, Records and Teacher Certification</td>
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<tr>
<td>R. Stanley Gex</td>
<td>Dean, International Studies</td>
</tr>
<tr>
<td>Ralph F. Gilden</td>
<td>Dean, Admissions and Financial Aids</td>
</tr>
<tr>
<td>Julius M. Robinson</td>
<td>Dean, Summer Session</td>
</tr>
<tr>
<td>Earl K. Studt</td>
<td>Director, Division of Field Services</td>
</tr>
<tr>
<td>Richard J. Nisbet</td>
<td>Director, Placement</td>
</tr>
<tr>
<td>Edward Linta</td>
<td>Acting Dean of Students</td>
</tr>
<tr>
<td>Neal F. Hoover</td>
<td>Administrative Assistant, Graduate School</td>
</tr>
<tr>
<td>Fred Totten</td>
<td>Director of Flint Graduate School</td>
</tr>
</tbody>
</table>
DEPARTMENT HEADS

College of Arts and Sciences

Art ................................................................. Kingsley M. Calkins
Biology ................................................................ Richard A. Giles
Chemistry ....................................................... Clark G. Spike
Economics ......................................................... Appointment Pending
English Language and Literature ....................... Milton P. Foster
Foreign Languages and Literature ..................... J. Henry Owens
Geography and Geology .................................. John F. Lounsbury
History and Social Sciences ............................... R. Neil McLarty
Mathematics .................................................... Robert S. Pate
Music ............................................................. Howard R. Rarig
Physics and Astronomy .................................... James M. Barnes
Psychology ..................................................... Samuel Karson
Sociology ....................................................... Edward Green
Speech and Dramatic Arts ................................ John W. Sattler

College of Business

Accounting and Finance .................................... Emerson Erb, Jr.
Business Education ........................................... Charles H. Duncan
General Business ............................................. W. Oscar Collins
Management .................................................... Claude I. Shell
Marketing ........................................................ Robert J. Williams

College of Education

Education Divisions
Curriculum and Instruction
Educational Administration
Educational Media
Educational Psychology
Guidance and Counseling
Social Foundations
Health, Physical Education, and Recreation .......... Patric L. Cavanaugh
Special Education and Occupational Therapy ........ Frank Wawrzaszek

Applied Science Departments

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

Eastern Michigan University (originally Michigan State Normal School) was founded by an act of the state legislature in the spring of 1849, the sixth such state-supported school to be founded in this country. In the fall of that year it was located in Ypsilanti by the State Board of Education. In the fall of 1852, it opened its doors to its first classes.

In the act creating the school, the legislature declared the purpose of the school to be “...the instruction of persons, both male and female, in the art of teaching and in all the various branches that pertain to a good common school education...to give instruction in the fundamental laws of the United States, and in what regards the rights and duties of citizens.” In over 100 years the University has not changed its function; it has expanded it and has added new functions. It has grown with the public school systems of Michigan and a nation. As our concept of public education has grown, so has our concept of teacher education.

In 1897, recognizing that a good institution of teacher education must also be a good college, the legislature authorized the State Board of Education to designate the school as Michigan State Normal College. In 1899 this became its legal name. By act of the state legislature in the session of 1955, the college became Eastern Michigan College. On June 1, 1959, the College became Eastern Michigan University. A substantial proportion of the students who come to Eastern Michigan University come to get a good liberal education. It is the basic judgment of those concerned with the operation of the University that the education that produces good teachers also produces good citizens.

In 1953, the University first offered the degree of Master of Arts. The degree of Master of Science was approved in 1959, and the degrees of Specialist in Arts and Specialist in Science were approved in 1964.

ACCREDITATION

Eastern Michigan University is an accredited member of the North Central Association of Colleges and Secondary Schools, and is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and service school personnel. The specialist's degree is the highest degree approved.
LOCATION

Ypsilanti, in which Eastern Michigan University is located, is thirty miles west of Detroit and seven miles southeast of Ann Arbor. It is the center of an area which provides many outlets for cultural and recreational interests. It is on the main Detroit-Chicago line of the New York Central Railroad and is at the center of a network of bus lines providing direct connection with most larger cities. Frequent bus service is available to the greater Detroit area. Detroit Metropolitan airport, a few miles from Ypsilanti, provides air transportation to all parts of the world. Over three million people, sixty percent of Michigan's total population, live within fifty miles of Ypsilanti.

UNIVERSITY HOUSING

The University offers housing in residence halls and in apartments. At present, there are twelve residence halls for women, five for men, and 349 apartments. Another 100 apartments are scheduled to be completed for the Fall Semester, 1969. Graduate students are eligible to live in any of these units, as they are available.

Students living in the residence halls are required to board there also. Room and board in the residence halls is approximately $500 per semester. Apartment units rent for $100-$120 per month for one-bedroom apartments and $115-$135 per month for two-bedroom apartments. THE UNIVERSITY RESERVES THE RIGHT TO REVISE THESE RATES WHEN NECESSARY. Applications and additional information may be obtained from the Director of Housing, Housing Office, Eastern Michigan University.

RECREATION AND SOCIAL LIFE

Detailed information concerning recreational and social life on the University campus may be found in the Undergraduate Catalog. Except for intercollegiate Athletics, graduate students are eligible and urged to participate in all extra-curricular activities.

STUDENT EMPLOYMENT POSSIBILITIES ON CAMPUS

Students interested in earning money with which to pay in part their expenses will be given advice and detailed information upon application at the Placement Office. Students are urged not to come to the University unless they have at the time of entering sufficient money to meet the expenses of the first semester.

VEHICLE REGISTRATION AND FEE

All students meeting the requirements of the law, and who live in University housing or are defined as commuting students, are eligible to maintain and operate a motor vehicle on campus. Motor vehicles are required to be operated under the provisions of the Traffic, Parking and Pedestrian ordinance of the University.

Motor vehicles driven on University grounds must be registered with the University, and the appropriate fee paid at the Cashier's Office during the first week of the semester.

Further details are printed in the Ordinance and in the Parking and Traffic Regulations brochure.
TUITION AND REGISTRATION FEE

A student who holds a bachelor's degree will pay graduate tuition regardless of the type of credit received. A senior electing both graduate and undergraduate courses will pay only the undergraduate tuition.

PAYMENT OF TUITION

Tuition and other University costs are due and payable at the beginning of each semester. Effective with the Fall Semester, 1969, the Board of Regents has approved an optional plan for installment payments. Terms of the plan are subject to additional action by the Board of Regents and will be announced thereafter.

<table>
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<th>Hours</th>
<th>Tuition Schedule – Michigan Residents</th>
<th>Tuition Schedule – Out-of-State</th>
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<td>Registration Fee (non-refundable)</td>
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Registration Fee

All students are required to pay a nonrefundable registration fee of $15.00 for each session. This fee is collected when the student pays his tuition.
FEES SUBJECT TO REVISION

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

FINANCIAL OBLIGATIONS

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

Late Enrollments

No enrollments will be accepted after the second meeting of a graduate class. This rule will be set aside only during the summer session when the first week of campus classes overlaps the last week of school of an inservice teacher. However, such a student must complete registration in advance, either by mail or during the registration period.

Late Enrollment Fee

A late fee of $5.00 is charged after the last official day of registration.

Fee for Program Changes Initiated by the Student

After registration, a fee of $3.00 will be charged for (1) drop and add changes and (2) the addition of a course. Changes initiated by the Graduate Office, such as those resulting from closed or cancelled classes, do not carry the penalty.
Refund of Tuition—Fall and Spring Semesters

A. Withdrawal from the University
   When a graduate student withdraws from all classes, the following refund will be made:
   1. Through the final official registration day—100%.
   2. Twenty-one calendar days or less after the final official registration day—60%.
   3. After the 21st calendar day following the final official registration day, no refund will be granted.
   In all cases the date of reporting withdrawal to the Graduate Office will be used, and forms requesting refunds will be initiated by the Graduate Office.

B. Withdrawal from one or more classes
   When a graduate student finds it necessary to withdraw from one or more classes, the following refund will be made:
   1. Through the final official registration day—100% of the difference between fees for the two programs.
   2. Twenty-one calendar days or less after the final official registration day—60% of the difference between fees for the two programs.
   3. No refund will be granted for decrease in academic load after the 21st day.
   In all cases the date of reporting withdrawal to the Graduate Office will be used, and forms requesting refunds will be initiated by the Graduate Office.

Refund of Tuition—Summer Sessions, Six Weeks and Eight Weeks

A. Withdrawal from the University
   When a graduate student withdraws from all classes the following refund will be made:
   1. Through the final official registration day—100%.
   2. Seven calendar days or less after the final official registration day—60%.
   3. More than seven calendar days after the final official registration day—none.
   In all cases the date of reporting withdrawal to the Graduate Office will be used, and forms requesting refunds will be initiated by the Graduate Office.

B. Withdrawal from one or more classes
   When a graduate student finds it necessary to withdraw from one or more classes the following refund will be made:
   1. Through the final official registration day—100% of the difference between fees for the two programs.
   2. Seven calendar days or less after the final official registration day—60% of the difference between fees for the two programs.
   3. No refund will be granted for decrease in academic load after the 7th day.
In all cases the date of reporting withdrawal to the Graduate Office will be used, and forms requesting refunds will be initiated by the Graduate Office.

Refund of Tuition — Summer Sessions, Two Weeks

A. Withdrawal from the University

When a graduate student withdraws the following refund will be made:

1. To noon of the first day of class — 100%.
2. After noon of the first day of class — none.

In all cases the date of reporting withdrawal to the Graduate Office will be used, and forms requesting refunds will be initiated by the Graduate Office.

MAIL REGISTRATION

It is possible to complete graduate registration by mail. During a period preceding each session, the Graduate Office will send registration materials upon request to qualified students. If returned within the time limit listed in the schedule, the student goes to the first meeting of classes without reporting to the official registration in the Graduate Office, room 134, Pierce Hall. A primary advantage to the student is assurance of a place in the classes elected.

QUALIFICATIONS FOR MICHIGAN RESIDENCE

Residence in Michigan, for the purpose of registration in Eastern Michigan University, shall be determined according to the definitions and regulations hereby printed.

1. The residence of a student who is a minor follows that of his parents or legal guardians, except that a minor student who comes to the institution from another State or country cannot be registered as a resident of this State on the basis of having a resident of this State as a guardian except on permission of the board of the institution in each individual case.

2. A person who is at least 21 years of age at the time of registration in the institution and who has resided in this State 6 months next preceding the date of registration without being registered at a college or university during that period is deemed a resident of this State for the purpose of such registration.

3. The residence of a wife follows that of her husband, except that a woman student who is a resident under paragraphs 1 or 2 may continue to register as a resident of this State although subsequently marrying a nonresident student or other nonresident.

4. No person is deemed to have gained or lost a residence in this State while a student at any institution in this State, public or private, except by changes in status effected under paragraphs 1, 3, or 5.

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

6. An alien lawfully admitted for permanent residence in the United States and who has obtained his permanent visa, and his wife or minor children, who have met the other requirements herein for residence, may register as residents of this State.
7. Full-time members of the "teaching staff," members of the teaching staff whose appointments require at least three contact hours of teaching each week in regularly assigned formal classes, research staff members with equivalent responsibilities, and dependents of the staff may register as residents of this State.

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 Vice President for Business and Finance.

VETERANS

All veterans eligible for educational benefits under the new G.I. Bill should supply the Veteran's Affairs Office at the University with their Certificate of Eligibility (if available) prior to the start of classes.

They will complete registration with the University, paying the full tuition and fees.

PLACEMENT

Through its placement services, the University offers its graduates and alumni, aid in securing positions and in obtaining professional advancement. Cumulative records of professional experiences and advanced work are maintained. The Placement Center seeks to serve both graduates and hiring officials by identifying the person best qualified for each position, thus providing jobs that fit the qualifications of the individual graduate. The Placement Center serves as the channel through which much information about the performance of Eastern Michigan University graduates is brought back into the instructional program of the University. Each graduate of the University, as a condition of graduation, is required to complete a personnel folder for the Placement Center.

HEALTH SERVICES

The health services include: out-patient treatment, consultation, referral, selected treatments, mental hygiene clinic, laboratory studies, minor surgery, pharmacy, and inpatient bed care.
THE UNIVERSITY LIBRARY

The University Library is an instrument of education and as such plays an important part in the learning experience of the student. To achieve the maximum benefit from a university education, the student uses the Library in connection with his regular class work and for his own personal enjoyment and enlightenment.

Housed in new spacious, modern, air-conditioned quarters, the Library is organized on a divisional basis with the open stacks collections and services divided among the divisions of Education and Psychology, Science and Technology, Humanities, and Social Sciences. Special collections include a large Instructional Materials Center in conjunction with the Education and Psychology Division, a map library in the Science and Technology Division, the University Archives, and a collection of United States Government Documents in the Social Sciences Division. The total book collection numbers approximately 235,000 volumes. Special facilities are available for the use of microform materials, study in small groups, and typing of papers.

The Audio-Visual Center, a major department in the Library, supplements books and journals with films, filmstrips, recordings, and other non-book materials.

Library staff members are available to give service to students and faculty members. Students are first introduced to the Library during New Student Days (Orientation), and throughout the year more detailed instruction is given by library staff members in connection with various courses. Individual instruction is given as students request help in locating materials.
PURPOSE

For the most part, graduate programs at Eastern Michigan University are designed to provide training for teachers, supervisors, and administrators. Primary emphasis at all times is on a program of work which shall produce a better teacher. Through its graduate program, the University aims at broadening the general background and knowledge of the student and at substantially increasing his professional skills. The offerings of the Graduate School are sufficiently flexible to permit a program of courses adapted to the individual needs of the student.

Increasingly, graduate programs are available for students whose educational goals are not directed to employment in schools, colleges, and universities. Examples include: business administration, counseling for state agencies, pastoral counseling, industrial counseling, art, music, sciences, and social sciences.

SPECIAL ADMISSION TO GRADUATE STUDY

Special admission to the Graduate School of Eastern Michigan University is granted to a student who expects to transfer credit to another institution, or who is not working toward a degree, or who is uncertain as to the goal sought. Special admission is usually granted for 1 to 6 semester hours of graduate work, although 15 hours of credit in the Department of Special Education may be transferred to any state-supported institution.

A student who is not working toward a degree may elect more than 6 hours only after supplying a transcript of undergraduate credits or sending to the Graduate School a statement that he does not seek a degree at the University. In case a student exceeds the 6 hours originally granted for special admission and then applies for regular admission, the application of all credit on a degree is not automatic. Only those courses applicable on a required and suggested program of courses will be applied toward the degree.

REGULAR ADMISSION TO GRADUATE STUDY

Admission to the Graduate School of Eastern Michigan University is open to anyone who holds a degree from a college or university of recognized standing and who is qualified to pursue with profit a program leading to an advanced degree. Seniors in their last session at Eastern Michigan University may carry a combined schedule of graduate and undergraduate courses.

A student enrolling for the first time in graduate work at Eastern Michigan University must complete an Application for Admission form and return it to the Graduate School, together with official transcripts of undergraduate and graduate work taken at other institutions. Transcripts are not required for undergraduate work taken at this University. A student who has not completed all admission requirements shall not be given course credit or receive an official transcript for such credit.
GRADUATE PROGRAMS

Programs leading to the Degree of Master of Arts (Education)

Elementary Education
Junior High School Education
Senior High School Education
Reading
Educational Administration
Educational Psychology
Guidance and Counseling
Classroom Teaching
Curriculum (Secondary)
Community School Leadership (Flint)
Special Education

These programs are designed for students who have had teaching experience or who hold a contract to teach. Applicants for admission to the programs listed above must present evidence that they hold a provisional or permanent certificate which is valid in Michigan schools.

Programs Leading to a Master's Degree in a Specialized Field

- Art: Art Education
- Art: Fine Arts
- Biology
- Business Administration
- Chemistry
- Chemistry Education
- Economics
- French
- General Science
- Geography
- History
- Home Economics
- Industrial Education
- Literature
- Mathematics
- Music
- Physical Education
- Physics
- Psychology
- Social Studies
- Sociology
- Spanish
- Speech and Dramatic Arts

Admission to a program leading to a graduate major in a specialized field is the joint concern of the Dean of the Graduate School and of the department or departments concerned. Standards of admission are established by the department, and the Graduate School administers the policy.

The program of studies is prepared by a graduate adviser or an advisory committee in the applicant's department. A department may require a substantial paper of research quality. No more than 6 hours of credit may be granted for the research paper and no more than 2 hours of credit for the research paper may be elected in any one session without permission of the departmental adviser and the Dean of the Graduate School.

A department may require an oral examination or a written examination or both. After a student has completed 12 hours of graduate credit, his adviser or advisory committee shall review his progress and shall send to the Dean of the Graduate School and to the Graduate Council a recommendation concerning admission to candidacy for the master's degree.
Programs Leading to the Degree of Master of Arts (Education) and to a Provisional Certificate

- Elementary Education
- Special Education (Teaching the Handicapped)
- Junior High School Education
- Senior High School Education
- Classroom Teaching

These programs leading to a master's degree are designed for students who hold a bachelor's degree from an accredited institution but who lack some or all of the requirements for a provisional certificate valid in Michigan schools. Applicants for admission to the programs listed above, therefore, must take the initiative in completing all requirements, both graduate and undergraduate, for a provisional certificate. The Registrar's Office of the University will supply information concerning certificate requirements.

Undergraduate credit completed in this program will apply to provisional certificate but not on a master's degree; graduate credit required for the provisional certificate will apply on master's degree but not on a permanent certificate.

Programs Leading to a Specialist's Degree

- Administration (for principals, supervisors, business managers, and other administrators)
- Classroom Teaching
- Guidance and Counseling
- Industrial Education
- Physical Education
- Reading
- Special Education
- Elementary Education
- Other Areas (under study)

The degree Specialist in Arts shall be granted for programs with majors in Education and Special Education. The degree Specialist in Science shall be granted for programs with majors in physical education.

ADDITIONAL GRADUATE PROGRAMS CONTEMPLATED

The Graduate Council is studying additional graduate programs leading to a master's degree and to the specialist's degree. If you have a special goal for graduate specialization, please address a letter of inquiry to the Dean of the Graduate School.

PROGRAM OF WORK

Graduate Advisory Committees in the several departments of the University are charged with the task of preparing for each student a required and suggested program of courses leading to an advanced degree. This is a "tailor-made" program and is dependent upon the student's undergraduate training and upon his professional goal.

CREDIT REQUIREMENTS

The minimum credit requirement for a master's degree is thirty hours. This minimum is sufficient, however, only if the student's undergraduate record is satisfactory as to grade level achieved and exhibits competency in the broad subject areas with which the graduate program is concerned.

A student who has completed twelve hours of graduate work, with at least six hours on the campus at Ypsilanti, and who has met any special restrictions imposed at the time of admission, may apply for admission to candidacy. The
Graduate Council considers the initial twelve hours of graduate work as proba-
tionary and the granting of admission to candidacy as approval of the student for
additional graduate courses.

It is possible to transfer 12 hours of graduate work taken at other institutions,
provided the work is included on the required and suggested program of studies
for the student. Final approval of transfer credit rests with the Graduate Council.
Grades of B –, C+, C, and C – are not accepted for transfer credit.

COURSE LOADS

A student who is engaged in full-time teaching may elect a maximum of six
hours of work during a semester. A student employed in a non-teaching position
must raise the question of restriction on load of courses to be elected.

Fall and Spring Semesters

A student enrolled in eight hours or more of graduate work is considered a
full-time student. The maximum course load is twelve hours. Students in a
combined program of graduate and undergraduate courses, may secure approval
from the Dean of the Graduate School to exceed this maximum.

Six-Week Summer Session

A student enrolled in four hours of graduate work is considered a full-time
student. The maximum course load is six hours.

Post-Summer Sessions, Field Trips, Tours, and Institutes

The maximum credit which may be earned is one semester hour per week of
attendance.

ELECTION OF GRADUATE COURSES BY SENIORS

A senior in good standing at Eastern Michigan University may elect graduate
courses to be applied on the master's degree. Not more than 10 hours may be
earned in such courses, and in general the work will be elected during the session
at the close of which the bachelor's degree is to be awarded. Such credit may be
applied toward only one degree and it may not be applied on a permanent
certificate.

An in-service teacher who is within 15 hours of a bachelor's degree at Eastern
Michigan University and who is unable to enroll in courses applicable on that
degree may be admitted to graduate courses for graduate credit. The credit may
be applied toward the master's degree only after the bachelor's degree is received.
The six-year limitation applies from the date of first enrollment in a graduate
course.

UNDERGRADUATE COURSES APPROVED
FOR GRADUATE CREDIT

Graduate Advisers may approve undergraduate courses for graduate credit.
Many courses numbered in the 300's and 400's have been approved; a list of
approved courses is on file in the Graduate Office.

A maximum of three undergraduate courses may be approved for graduate
credit. Certificate requirements and recognizable gaps in certain undergraduate
subject matter areas usually constitute the reasons for granting such approval. A
graduate student admitted to such undergraduate courses should normally expect
to do additional work for graduate credit.
Only students with regular admission are given permission to enroll in undergraduate courses and receive graduate credit by completing additional work. A student who expects to transfer graduate credit to another institution may not be admitted to such courses.

GRADUATE ASSISTANTSHIPS AND TEACHING FELLOWSHIPS

Several graduate assistantships and teaching fellowships are available each year. Stipends vary with the work assigned, ranging from $600 to $3300 per academic year. In some cases, the course load of a graduate assistant may be restricted to 8 or 10 hours of graduate credit. All assistantships require 5 or more hours of work per week under the direct supervision of a member of the faculty.

From time to time graduate assistantships will be available for the summer session. The stipend will range from $60-$90 per week.

Quality of undergraduate and graduate credits, the possession of a teacher’s certificate or its equivalent, and breadth of training will be among the factors considered in the granting of assistantships.

For additional information a student should write to the Head of the Department in which he expects to elect a major.

STANDARDS AND POLICIES

The Academic Year

The academic year is divided into two semesters and one summer term consisting of several sessions, one of six weeks, one of eight weeks, and three of two weeks. Students may enroll at the opening of any semester or summer term. The calendar is printed on page 4 of this catalog.

Credits

The unit of work and of credit is the "semester hour." A semester hour is the credit granted in a course meeting once a week for fifteen or more weeks.

Unless otherwise noted, all graduate courses carry two semester hours of credit.

Grades

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per semester hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>9</td>
</tr>
<tr>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>A−</td>
<td>7</td>
</tr>
<tr>
<td>B+</td>
<td>6</td>
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<tr>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>B−</td>
<td>4</td>
</tr>
<tr>
<td>C+</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>C−</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Unsatisfactory (denotes failure)</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
</tr>
</tbody>
</table>

Approval for graduation and for candidacy require a grade-point average of 5.0 or B.
Standards and Policies

Application for Graduation

A candidate for graduation must make application for a diploma at the time of registration for the session at the close of which he expects to receive the master's degree. Application forms are available in the Graduate Office.

A candidate for graduation should check with the Placement Office to make certain that all placement forms have been completed. Completion of a personnel folder in the Placement Office is one of the requirements for graduation.

A candidate for a certificate should check with the office of the Dean of Records and Teachers Certification to make certain that all requirements and application forms have been completed.

Campus Credit

For a master's degree, at least 6 hours of credit must be earned on the campus at Ypsilanti or in travel-study tours sponsored by Eastern Michigan University. For a specialist's degree, at least 15 hours of credit must be earned on the campus at Ypsilanti. This requirement may be met by attendance in afternoon and evening classes during the year or in classes of a summer session.

Withdrawing from Classes

During the first eight weeks of a semester, a student may initiate withdrawal from one or more graduate classes in the Graduate Office. During this period a "W" is assigned when justifiable reasons are presented; otherwise, an "E" is assigned.

Beginning with the ninth week of a semester, it is not possible for a student to withdraw from a class with a "W" unless there are extenuating circumstances. Such proof should be presented to the Dean of the Graduate School for validation.

Removal of "Incompletes"

An "incomplete" should be removed by a student within four weeks from the beginning of the next session in which he is enrolled, but not later than one year after the incomplete was received.

Time Limitation

All requirements for advanced degrees must be completed within six years from the time of the first enrollment in a graduate course at this institution or elsewhere.

Research Paper

Graduate students are encouraged to write a research paper. For many, 592 Research Techniques affords opportunities to acquire basic research skills; for others, 597, 8, 9, 697, 8, 9 Independent Studies may supply an approach to research.
The Art Department offers two programs leading to the degree of Master of Arts—Art Education and Fine Arts. Both programs are largely studio oriented and require a graduate drawing class. In each case, awarding of the degree is dependent on successful presentation of a final exhibition representing the candidate's major concentration.

Individual programs are prepared with an art adviser and committee review. Candidates should enter the program with a strong background in art at the undergraduate level.

Further information about these programs may be obtained from Professor Charles Fensch or from Kingsley Calkins, Head of the Art Department.

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**FA 500 Masterpieces of Art. 2 sem hr** (Formerly CU 543)  
Historical art forms with readings, slides, and discussion of historical works in the visual arts; a study by the block and gap method rather than a chronological survey. Design principles involved in the creation of the visual arts are applied both to famous works and the work of the student; laboratory experience in media for adults. Not open to students who have a major in art.

**FA 501 Art Education Workshop. 2 sem hr**  
Emphasis on composition: emotional, expressive, decorative, intellectual. Variety of media, color theory, and color problems as they relate to art education in the elementary classroom.

**FA 509 Design for Tapestry. 2 sem hr**  
Weaving with adherence to the disciplines inherent in tapestry, giving emphasis to creativity and contemporary innovations.  
**Prereq:** Design in materials or graduate standing.

**FA 510 Ceramics. 2 sem hr**  
Advanced studio course in ceramics.

**FA 520 Drawing. 2 sem hr**  
Advanced studio course in drawing.
FA 530  Art History.  2 sem hr
Advanced course in art history.

FA 540  Jewelry.  2 sem hr
Advanced studio course in jewelry.

FA 550  Graphics.  2 sem hr
Advanced studio course in graphics.

FA 560  Watercolor.  2 sem hr
Advanced studio course in watercolor.

FA 570  Sculpture.  2 sem hr
Advanced studio course in sculpture.

FA 580  Oil Painting.  2 sem hr
Advanced studio course in oil painting.

FA 608  Exhibition in Art Education.  2 sem hr
For a major receiving a degree in Art Education the exhibition will include the works of the student or may include examples of work done under the supervision of the art education degree candidate as evidence of master teaching ability. To be elected in the last semester before receiving a master's degree.

FA 610-617  Ceramics. each 2 sem hr
Advanced studio courses in ceramics. Based on background and need of the student. Open only to majors.

FA 618  Exhibition in Ceramics.  2 sem hr
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 a master's degree.

FA 620-627  Drawing. each 2 sem hr
Advanced studio courses in drawing. Based on background and need of the student. Open only to majors.

FA 628  Exhibition in Drawing.  2 sem hr
For a candidate receiving a degree in Fine Arts, the exhibition will be composed of work done in the student's major area. To be elected in the last semester before receiving the master's degree.

FA 630-637  Art History. each 2 sem hr
Advanced courses in art history. Based on background and need of the student. Open only to majors.

FA 640-647  Jewelry. each 2 sem hr
Advanced studio courses in jewelry. Based on background and need of the student. Open only to majors.

FA 648  Exhibition in Jewelry.  2 sem hr
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 650-657  Graphics. each 2 sem hr
Advanced studio courses in graphics. Based on background and need of the student. Open only to majors.
FA 658  Exhibition in Graphics.  2 sem hr
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 660-667 Watercolor. each 2 sem hr
Advanced studio courses in watercolor. Based on background and need of the student. *Open only to majors.*

FA 668  Exhibition in Watercolor.  2 sem hr
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 670-677 Sculpture. each 2 sem hr
Advanced studio courses in sculpture. Based on background and need of student. *Open only to majors.*

FA 678  Exhibition in Sculpture.  2 sem hr
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 680-687 Oil Painting. each 2 sem hr
Advanced studio courses in oil painting. Based on background and need of the student. *Open only to majors.*

FA 688  Exhibition in Oil Painting.  2 sem hr
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.*
PURPOSE OF THE PROGRAMS:
The programs leading to the degree of Master of Science in Biology provide both depth and breadth of preparation for professional work in the biological sciences. Individual programs are tailored to accommodate the candidate's aims and interests whether these be in teaching at the high school or college level, in continuing for the doctorate in some specialized field of biology, or in a non-teaching career in such areas as nature interpretation, aquatic biology, or biological or paramedical technology.

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

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

ADMISSION REQUIREMENTS:
(1) bachelor's degree, (2) 20 semester hours in biology including 7 hours in botany and 7 hours in zoology, (3) one year of college chemistry, (4) one year of college physics, (5) an academic record of B (3.0) or better during the junior and senior years. The Graduate Record Examination is not required although it may be considered as one factor. Students deficient in one or more admission requirements may be granted provisional admission subject to removing deficiencies while beginning a graduate program. Hours earned in deficiency courses may not apply toward degree requirements.

GUIDANCE COMMITTEE:
The Guidance Committee for each student includes three faculty members of the Biology Department: a chairman, selected by the student, and two members, appointed by the Graduate Biology Program Coordinator. A temporary Graduate Adviser may be assigned to a graduate student until he has selected his chairman.

GRADUATE ASSISTANTSHIPS:
Available to graduate students in the Biology Department. Direct inquiries to Dr. Richard A. Giles, Head of the Biology Department before February 1.

BIO 500 Survey of the Plant Kingdom. 2 sem hr (Formerly BIO 542)
The major types of plants from algae to seed plants; emphasis on development of structure. Not open to graduate majors in biology nor to students who have credit in 205 General Natural History or 221 General Botany.

BIO 501 Survey of the Animal Kingdom. 2 sem hr (Formerly BIO 543)
A survey of the major animal groups from protozoans to mammals. Structure and function; the bases for classification and the evolutionary relationships of the several groups. Not open to graduate majors in biology nor to students who have credit in 205 General Natural History, 310 Natural History of Vertebrates, 421 Entomology, or 425 Ornithology.
BIO 502 Biology of Man. 2 sem hr
(Formerly BIO 521)
Man as a living organism in the world of living organisms, emphasizing his place among, and relationships with, the other organisms of the world; the morphological, physiological, taxonomic, and ecological relationships of Man. Lectures and laboratory experience. Not open to majors in biology.

BIO 503 Plants and Nature. 2 sem hr
(Formerly BIO 517)
Plants in their natural environment; identification and classification of local flowering plants, use of hand-lens and plant manuals, and methods of collection and preservation. Major plant groups and their climatic and geographic significance.

BIO 504 Field Zoology. 2 sem hr
(Formerly BIO 516)
Animals in their natural habitats; identification, behavior, and environmental relations. Field study and observations in woods, fields, ponds and streams; collecting and displaying living and preserved material. Not open to students with credit in 310 Natural History of Vertebrates, 421 Entomology, or 425 Ornithology.

BIO 505 Science in the Elementary School. 2 sem hr
(Formerly BIO 580)
A survey of subject matter and grade placement utilizing current science texts and courses of study; reading in current literature; the construction and use of science materials; and supply and equipment needs for elementary science. Should not be taken by students who have taken 402 Science in the Elementary Grades within the last 5 years.

BIO 506 Methods in Teaching Biology. 2 sem hr
(Formerly BIO 581)
Salient techniques and methodology in presenting biological principles; text analysis, test construction, course content, planning and equipping a modern high school biology laboratory. Not open to students who have credit in 403 Methods and Materials for Teaching Biology.

BIO 510 Bacteriology Laboratory. 2 sem hr
Techniques of isolating, cultivating and identifying bacteria. Includes experiments to demonstrate physiological and pathological properties of bacteria, and physical and chemical effects on growth and death of bacteria. Not open to students who have credit in 210 Bacteriology Lab.
Prereq: Must be accompanied or preceded by 514 Bacteriology or equivalent.

BIO 511 Physical Anthropology. 2 sem hr
(Formerly BIO 587)
The evolution of primates; current concepts of races; principles of archaeology; an appreciation of cultural differences. Not open to students who have credit in 306 Physical Anthropology.

BIO 512 Biogeography. 2 sem hr
Descriptive and historical plant and animal distribution and the basic principles governing the natural distribution in both space and time.
Prereq: A course in college biology and a course in earth science, or consent of department.

BIO 513 Principles of Heredity. 2 sem hr
(Formerly BIO 586)
The basic principles of heredity. Not open to students who hold credit in 301 Genetics.
Prereq: A recent course in introductory biology.

BIO 514 Bacteriology. 2 sem hr
An introduction to the nature and biology of bacteria and other microbes (metabolism, genetics, growth and death); their ecological relationship in natural and controlled environments, and the interactions of pathogenic micro-organisms and their animal and plant hosts. Not open to students who have credit in 211 Bacteriology.
Prereq: 105 Biological Science, or equivalent; 119 Fundamentals of Chemistry desirable; and 510 Bacteriology Laboratory is optional.

BIO 515 Genetics Laboratory. 2 sem hr
A laboratory course to accompany or follow BIO 515 Genetics. Work with organisms,
especially Drosophila and Neurospora; practice in gathering and analyzing data from living populations. Highly recommended for majors; others with interest in genetics should find it useful. Not open to students with credit in 302 Genetics Lab.
Prereq: BIO 515 Genetics, previously or concurrently.

BIO 516 Radiation Biology. 3 sem hr
The molecular, cellular, organismal, and supraorganismal effects of corpuscular and electromagnetic radiations; basic mechanisms of biological reactions to radiation, mutational effects of radiation, mammalian response to radiation, radiational studies with plants, and radiation safety. Not open to students who have credit in 480 Radiation Biology.
Prereq: Plant or Animal Physiology, 1 year physics, 1 year chemistry, genetics is desirable.

BIO 517 Radioisotopes in Biology. 3 sem hr
Basic isotope technology and its application to plant and animal physiology; use in diagnosis and treatment of human diseases will also be discussed. Not open to students who have credit in 481 Radioisotopes in Biology.
Prereq: 516 Radiation Biology or equivalent.

BIO 518 History of Biology. 2 sem hr
Development of major concepts in biology from the Greek natural philosophers to the present. Not open to students who have credit in 485 History of Biology.
Prereq: At least two courses in biology.

BIO 519 Organic Evolution. 2 sem hr
Origin and evolution of life and the implication for biology and our current world view. Not open to students with credit in 405 Organic Evolution.
Prereq: 221 Botany, 222 Zoology, and BIO 513; 230 Historical Geology is desirable.

BIO 520 Problems in Functional Biology. 2 sem hr (Formerly BIO 589)
The reduction of complex life functions to a few basic principles; development of an ability to approach physiological problems with confidence; laboratory demonstrations as an effective learning device.

BIO 521 Outdoor Science and Land Laboratories. 4 sem hr
Using the outdoors effectively in instruction; recognition of instructional resources on school sites and other land laboratories. Basic ecological factors affecting associations of organisms; correlations between physical and social sciences. Field trips.

BIO 522 Limnology. 3 sem hr
Physics, chemistry, geology, and biology of inland waters; special emphasis upon streams. Not open to students with credit in 410 Limnology.
Prereq: 20 hours of biology and one year of chemistry; ecology and physics are recommended.

BIO 523 Limnological Methods. 2 sem hr
Field and laboratory techniques in limnology. Not open to students who have credit in 411 Limnological Methods.
Prereq or coreq: BIO 522.

BIO 524 Ecology. 3 sem hr
Interrelationships of plant and animal populations and their physical environment; biological principles in terrestrial adaptations. Individual student field problems will be required. Not open to students who have credit in 420 Ecology.
Prereq: 221 Botany, 222 Zoology, and one taxonomic field course or permission of the department.

BIO 525 Conservation. 2 sem hr (Formerly BIO 584)
A survey of the natural resources of Michigan; its land, water, minerals, forests, grasslands, wildlife, and human powers. Some of the current problems in conservation peculiar to Michigan on the basis of its history, its present resource utilization, and its future possibilities.
BIO 526 Serology. 2 sem hr
The properties and behavior of antiserum to foreign antigenic substances such as bacteria, viruses and toxins; the rationales and procedures of antigen-antibody reactions in vitro; and the mechanism of immunity to infectious diseases. Application of such reactions in identification and classification of microbes in clinical work and in biological research. Lecture, but provision of time should be made for laboratory experimental work.
Prereq: 211 Bacteriology, 451 Biochemistry desirable.

BIO 530 Economic Botany. 2 sem hr (Formerly BIO 540)
The various ways in which plants and plant products are utilized in modern industry; plants as the source of technical raw materials; the dependence of man upon the plant kingdom. Not open to students who have credit in 215 Economic Botany.

BIO 531 Plant Anatomy. 3 sem hr
Basic plant histology; recognition of primary and secondary tissues as variously combined in root, stem, leaf, and flower of a wide variety of representative seed plants. Not open to students who have credit in 312 Plant Anatomy.
Prereq: 221 General Botany.

BIO 532 Tropical Economic Botany. 2 sem hr
The use of tropical plants and their products by man, including cultural and processing practices; daily lectures, discussions and field trips to forests, plantations, gardens, and mills. Not open to students who have credit in 415 Tropical Economic Botany.
Prereq: One course in botany or its equivalent.

BIO 533 Morphology of Algae and Fungi. 4 sem hr
Comparative morphology of the algae (freshwater and marine) and the fungi; the structure and life cycles of representative organisms; the relationship of morphology to reproduction, environmental adjustment, classification, and evolution. Not open to students who have credit in 430 Plant Morphology of Algae and Fungi.
Prereq: 15 hours biology including 221 General Botany.

BIO 534 Morphology of Mosses through the Vascular Plants. 4 sem hr
Comparative morphology of the mosses, liverworts, ferns, and other vascular plants; the structure and life cycles of representative forms; the relationship of morphology to reproduction, environmental adjustment, classification, and evolution. Not open to students who have credit in 431 Plant Morphology.
Prereq: 15 hours biology, including 221 General Botany, and 430 Plant Morphology of Algae and Fungi recommended but not essential.

BIO 540 Mineral Nutrition of Plants. 2 sem hr
A lecture course dealing with mineral nutrition in plants.
Prereq: General Botany and one year of Chemistry.

BIO 541 Mineral Nutrition of Plants Laboratory. 1 sem hr
Experimental studies dealing with inorganic nutrients of plants.
Prereq or coreq: BIO 540.

BIO 542 Plant Physiology. 3 sem hr
Major plant functions; lectures, demonstrations, and experimentation in laboratory and greenhouse. Not open to students who have credit in 310 Plant Physiology.
Prereq: 221 General Botany, 219 Elementary Organic Chemistry or equivalent.

BIO 543 Plant Pathology. 2 sem hr
Plant diseases caused by fungi, bacteria, viruses, insects, parasites, and malnutrition; their control by chemical, physical, ecological, cultural and genetic measures. Not open to students who have credit in 311 Plant Pathology.
Prereq: Plant Physiology is desirable.
BIO 550  Taxonomy of Tracheophyta.  3 sem hr  
(Formerly BIO 546)  
Theory and practice in identification and classification of vascular plants. *Not open to students with credit in systematic botany.*  
Prereq: General Botany 221.

BIO 552  Aquatic Tracheophyta.  3 sem hr  
Identification in the laboratory and field of herbaceous and shrubby vascular plants growing in aquatic habitats and in both vegetative and reproductive phases. *Not open to students who have credit in 450 Aquatic Tracheophyta.*  
Prereq: 221 General Botany.

BIO 560  Economic Zoology.  2 sem hr  
(Formerly BIO 541)  
The species, varieties, and breeds of animals that are used as beasts of burden; supply food, clothing, sport, and recreation; serve as pets; or are injurious to man or to his domestic animals and crops.  
Prereq: one course in college zoology.

BIO 564  Histology.  3 sem hr  
The structure and properties of vertebrate organs and their component tissues; techniques for their microscopic study. *Not open to students who have credit in 404 Histology.*  
Prereq: 222 General Zoology.

BIO 565  Parasitology.  2 sem hr  
Animal and plant parasites which affect man and his environment, the zoological inter­relationships. *Not open to students who have credit in 225 Parasitology.*  
Prereq: 221 General Botany and 222 General Zoology.

BIO 566  Invertebrate Zoology.  4 sem hr  
Phylogenetetic and anatomical study of representative types from each phylum of invertebrates; taxonomy, classical literature, and current research. *Not open to students who have credit in 430 Invertebrate Zoology.*  
Prereq: 222 General Zoology.

BIO 567  Vertebrate Physiology.  3 sem hr  
Physiological phenomena of the vertebrate body at the cellular and organ level. *Not open to students who have credit in 327 Vertebrate Physiology.*  
Prereq: 222 General Zoology, 219 Elementary Organic Chemistry or equivalent; some physics is desirable.

BIO 570  Natural History of Invertebrates.  3 sem hr  
A field course in the recognition, collection, identification and preservation of common invertebrates of Michigan, exclusive of the insects; natural history, ecology, and economic importance. *Not open to students who have credit in 300 Natural History of Invertebrates.*  
Prereq: 222 General Zoology.

BIO 571  Natural History of Vertebrates.  3 sem hr  
Vertebrates, their adaptations and natural history; the taxonomic classification, identification, and distribution of local and other forms. Field work, sometimes under adverse weather conditions and at night; accurate observation and permanent recording of original data on local species. *Not open to students who have credit in 310 Natural History of Vertebrates.*  
Prereq: 222 General Zoology.

BIO 572  Ichthyology.  3 sem hr  
Classification of the fresh water fish of the Great Lakes region and a general survey of the fishes of the world; the natural history, anatomy, ecology, and conservation of fishes. Lectures, laboratory studies, field trips, and demonstrations.  
Prereq: 222 General Zoology or equivalent.
BIO 573 Animal Embryology. 3 sem hr
Reproduction and development of animals with laboratory studies of the frog, chick, pig, and other forms. Not open to students who have credit in 323 Animal Embryology.
Prereq: 222 General Zoology.

BIO 574 Comparative Morphology and Evolution of Chordates. 4 sem hr
The comparative anatomy of the vertebrate organ systems; the evolutionary development of the groups. Detailed dissection in the laboratory of the shark and cat. Not open to students who have credit in 324 Comparative Anatomy of Vertebrates.
Prereq: 222 General Zoology.

BIO 575 Ornithology. 3 sem hr
Bird biology for the secondary teacher and for students with an advanced interest in biology; field identification and census methods of spring and summer bird populations, behavior, and ecology. A survey in the laboratory of major North American bird families. A student field project is required. Not open to students who have credit in 425 Ornithology.
Prereq: 222 General Zoology or consent of the department.

BIO 580 Advanced Field Ornithology. 2 sem hr
Field study and identification of fall migratory birds and the fall migration as biological phenomenon.
Prereq: 425 Ornithology, 210 Birds, or approval of department.

BIO 581 Tropical Ornithology. 2 sem hr
A field course covering activity of native Jamaican birds and wintering North American birds, and the relationships between the two groups.
Prereq: One course in ornithology or experience in field identification of birds, and consent of department.

BIO 582 Aquatic Entomology. 3 sem hr
Aquatic insect families and some common genera; ecology, including adaptations to the aquatic environment, life histories, and taxonomy. A collection of the common insect families of this area is required.
Prereq: 421 Entomology.

BIO 583 Field Parasitology. 3 sem hr
The helminth, protozoan, and anthropod parasites of animals, both vertebrate and invertebrate; collection, preparation and identification of parasites of local animals. A collection and a project is required.
Prereq: 222 Zoology; 225 Parasitology; 410 Invertebrate Zoology or 300 Natural History of Invertebrates; and 310 Natural History of Vertebrates or 324 Comparative Anatomy.

BIO 584 Protozoology. 3 sem hr
Survey of the protozoa, both free living and parasitic; their life cycles, morphology, and ecology. Techniques of collecting, culturing, and preserving protozoans and their identification. Not open to students with credit in 480 Protozoology.
Prereq: 222 General Zoology.

BIO 585 Entomology. 3 sem hr
A survey of the world of insects, their structure, function, behavior, and ecology; identification and classification of local insects. A field project is required. Not open to students who have credit in 421 Entomology.
Prereq: 222 General Zoology or consent of department.

BIO 595 Workshops in Selected Areas.
BIO 596  Seminar in Biology.  1 sem hr  
Presentation of special reports and group discussions on selected topics.  
Prereq: 20 hours of credit in biology, including botany and zoology.

BIO 596  Seminar in Limnology.  1 sem hr  
Current problems and topics in limnology.  
Prereq: Approval of department.

BIO 597, 598, 599  Independent Studies.  1, 2, and 3 sem hr  
An intensive study of a problem or group of problems under the direction of a University faculty member.

BIO 610  Cytogenetics.  4 sem hr  
The structure and behavior of cells with emphasis on their nuclear components. Implications for genetics and evolution; some opportunity in the laboratory for individual investigation and for demonstration of techniques in cytological study.  
Prereq: 15 hours of biology, including at least one course in genetics.

BIO 620  Virology.  2 sem hr  
The biological, physical and chemical nature and pathological activities of virions as found in bacteria, insects, plants and animals. Laboratory methods for propagation of virion and identification; selective inhibition of viral reproduction by chemicals in vitro; and, immunity to viral diseases.  
Prereq: 15 hours of credit in biology, including bacteriology and biochemistry.

BIO 628  Tropical Ecology.  2 sem hr  
Important biotic communities of the tropics. Investigation in both marine and terrestrial environments; lectures, laboratory, and field work. Not open to students who have credit in 428 Tropical Ecology.  
Prereq: Botany, Zoology, some concept of ecological principles, and some familiarity with use of taxonomic keys.

BIO 640  Plant Cell Physiology.  2 sem hr  
Selected topics on recent advances in molecular botany.  
Prereq: 221 General Botany, laboratory physiology (plant or animal), and organic chemistry.

BIO 650  Phycology.  2 sem hr  
Structure, function, distribution, and classification of the major groups of algae. Special attention to forms which may be found locally; opportunities for field collections, culturing algae.  
Prereq: 15 hours of credit in biology including general botany and plant anatomy, or approval of department.

BIO 651  Plant Taxonomy.  2 sem hr  
Modern techniques and systems of classification of the higher plants. The student will apply one or more of the techniques in a field problem.  
Prereq: one course in plant classification.

BIO 660  Experimental Animal Embryology.  2 sem hr  
Demonstration and laboratory experiences utilizing the experimental method. An individual research project is a major part of the course.  
Prereq: 323 Embryology or equivalent.

BIO 670  Animal Behavior.  2 sem hr  
The behavior of both vertebrates and invertebrates; instinct, learning, sociality, communication, and breeding behavior, with emphasis on the ontogenetic and adaptive significance of behavior patterns.  
Prereq: two courses in zoology.
BIO 671 Comparative Physiology. 4 sem hr  
A study of systems used to maintain endogenous homeostasis in a phylogenic series of animals.  
Prereq: organic chemistry, animal physiology.  

BIO 672 Endocrinology. 4 sem hr  
A biological and non-clinical survey of the invertebrate and vertebrate endocrine systems; the histology and function of each of the major endocrine organs, their specific hormones and integrative mechanisms.  
Prereq: organic chemistry and animal physiology.  

BIO 695 Workshop in Advanced Biology. 2 sem hr  

BIO 696 Seminar in Biology; Laboratory Instruction. 1 sem hr  
Analysis and discussion of the special problems of laboratory instruction in biology in college.  
Prereq: Appointment to a graduate assistantship.  

BIO 697, 698, 699 Thesis Problem. 1, 2, and 3 sem hr  
(Formerly 676, 677, 678, 679, 686, 687, 688, 689)
CHEMISTRY

The department offers degrees of Master of Science in Chemistry Education, and Master of Science in Chemistry. Graduate courses and research opportunities are provided in the areas of analytical, biological, inorganic, organic, and physical chemistry.

Chemistry Education

Objectives:
1. a program of advanced study for secondary school teachers
2. preparation for teaching chemistry in community college
3. preparation for admission to specialist’s degree programs in teaching

Degree Requirements:
1. forty-six hours in chemistry including credit earned for the bachelor’s degree
2. a minimum of thirty semester hours credit beyond the bachelor’s degree with twenty hours in the field of chemistry (cognate courses must be approved by the department and must include six hours outside the department)

Chemistry

Objectives:
1. a program of advanced study for students preparing for a doctoral degree in Chemistry
2. advanced professional training for industrial chemists and others
3. a program of advanced study for community college teachers

Degree Requirements:
1. a minimum of thirty semester hours of credit, distributed as follows:
   a. satisfactory completion or demonstrated proficiency in four advanced courses in inorganic, organic, biochemistry, analytical or physical chemistry
   b. laboratory research of 6-10 credit hours, or other independent study not to exceed six credit hours
   c. seminar, two credit hours
   d. the unspecified remainder to be drawn from advanced courses in chemistry and cognate fields (six hours outside the department)
2. some competence in scientific German or equivalent
3. completion in satisfactory fashion of a comprehensive examination administered by the Department of Chemistry

For further information regarding these programs and Special Admission contact Dr. Robbins or Dr. Spike in the Chemistry Department.

CHM 503  New Approaches to Teaching Chemistry.  2 sem hr
Laboratory procedures of the Chem Study Program. Pre-lab discussions and lectures.
Prereq: Three courses in chemistry.

CHM 520 Introductory Chemistry.  2 sem hr
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. 3 sem hr
Crystal symmetry including crystal classes, point groups, and space groups. The origin and production of X-rays, the design of X-ray equipment, and the diffraction of X-rays by crystals. The theory of single crystal and powder X-ray methods; the role of modern automated diffractometers and electronic computers in the solution of crystal structures; and 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. 3 sem hr
Physical and chemical methods for determining structures of inorganic substances and the relationship between structure and descriptive chemistry. 
Prereq: One year of physical chemistry and one course in advanced inorganic chemistry.

CHM 551 Biochemistry. 3 sem hr
A lecture course dealing with the chemical properties of biologically important compounds and the pathways and energy relationships of metabolism. 
Prereq: Organic chemistry. 
Coreq: Chemistry 552.

CHM 552 Biochemistry Laboratory. 2 sem hr
A laboratory course dealing with isolation and analysis of biologically significant compounds. One hour of lecture per week provides background in the laboratory techniques of biochemistry. 
Prereq: Organic chemistry laboratory. Quantitative analysis is strongly recommended. 
Coreq: Chemistry 551.

CHM 553 Enzymology. 2 sem hr
A lecture course covering the nomenclature, kinetics, mechanism, and isolation of enzymes. 
Prereq: Chemistry 551-552.

CHM 561 Advanced Physical Chemistry. 3 sem hr
A survey course at an advanced level; quantum mechanics, molecular spectroscopy, statistical mechanics, and kinetics. 
Prereq: One year of physical chemistry; at least two years of analytical geometry-calculus, and one year of college physics.

CHM 570 Modern Topics in Organic Chemistry. 4 sem hr
Modern chemical principles, update information for students lacking recent instruction in chemistry.

CHM 571 Advanced Organic Chemistry. 3 sem hr
A lecture course providing intensive coverage of stereochemistry and reaction mechanisms. 
Prereq: One year of organic chemistry.

CHM 575 High Polymer Chemistry. 3 sem hr
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, 373, 461, or consent of department.

CHM 581 Analytical Chemistry. 3 sem hr
The fundamental principles of quantitative analysis. 
Prereq: Instrumental analysis and one year of physical chemistry.

CHM 596 Seminar in Chemistry. 1 sem hr
Specific areas of chemistry discussed by staff and graduate students. Each student leads one or more discussions.
CHM 597, 598, 599  Research in Chemistry.  1, 2, and 3 sem hr
The student performs original research under direction. Thesis is submitted.

Other Courses for Credit:
374  Organic Chemistry Laboratory.*
432  Advanced Inorganic Chemistry.
461, 462, 463  Physical Chemistry.*
472  Qualitative Organic Chemistry.
481  Instrumental Analysis.
490  Literature of Chemistry.
491  History of Chemistry.*
496, 497  Special topics in Chemistry.

* No credit given toward the M.S. in Chemistry degree.
The graduate program for Economics will become formulized as a separate department with a department chairman later in the school year. In the meantime students should contact Dr. McLarty in the History and Social Sciences Department for further information.

**ECO 501 Economic Analysis and Policy I. 2 sem hr**
A basic course in economic analysis and policy.
Prereq: Not open to students having 220 and 221 or equivalent.

**ECO 502 Economic Analysis and Policy II. 2 sem hr**
Continuation of a basic course in economic analysis and policy.
Prereq: Not open to students having 220 and 221 or equivalent.

**ECO 504 Development of Economic Analysis. 2 sem hr**
Theories and policies of internal change and evolution in economic science.
Prereq: One course in economics or permission of department.

**ECO 528 Economics of State and Local Finance. 2 sem hr**
Economic analysis of expenditures, revenues, and debt management of state and local governments.
Prereq: Six hours of economics.

**ECO 530 Economics: Principles and Public Issues. 2 sem hr**
The basic analytic tools of economic theory and their use in considering policy for current major problems. Not open to students who hold credit in economics.

**ECO 532 Collective Bargaining. 2 sem hr**
Labor and management relations considered from the point of view of the two parties and the public welfare; labor contracts. Traditional and current areas of dispute and methods of settlement.

**ECO 533 White Collar and Public Employee Unionism. 2 sem hr**
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 department.

**ECO 535 Regional and Urban Economics. 2 sem hr**
Examination of problems of economic adjustment and development by regions, including inner-city and metropolitan areas; economic concepts and methods related to regional income and product accounting; economic base studies; input-output analysis; determinants of industrial location; transportation development pertaining to living patterns and other economic activities.
Prereq: 220 and 221, or equiv. or permission of department.

**ECO 541 Microeconomic Analysis. 2 sem hr**
Economic analysis of the behavior of individuals and firms; price determination in competitive and monopolistic markets; general static equilibrium and the allocation of resources.
Prereq: ECO 431 or permission of department.

**ECO 542 Macroeconomic Analysis. 2 sem hr**
National income accounting as a framework for economic analysis; determinants of con-
sumption, investment, and government expenditures; and models of underemployment and inflation.

*Prereq: ECO 430 or permission of the department.*

ECO 574 Economic Development of the Far East. 2 sem hr
An analysis of economic development in the Far East, including a comprehensive survey of the development policies and economic structures of individual countries.

*Prereq: Six hours in economics.*

ECO 577 Industrial Organization. 2 sem hr
The enterprise sector of a capitalist economy; incidence of competition and monopolistic tendencies in various industries and markets, market structure, conduct and performance, mergers and concentration, and public policies.

*Prereq: One course in economics or permission of department.*

ECO 578 Government and Business. 2 sem hr
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; and the responsibility of government in maintaining employment.

*Prereq: One course in economics and one course in political science.*

ECO 579 Economic Growth and Development. 2 sem hr
Conditions, courses, and consequences of growth and development; instruments of expansion and control and important theories and models of growth. Economic growth in both the United States and underdeveloped countries.

ECO 595 Workshop in Economics. 2 sem hr
Selected principles of economics presented by visiting consultants. Class discussions on phases of contemporary economics.

ECO 696 Seminar in Economic Development. 2 sem hr
Research on theoretical and empirical problems of economic growth; economic development policies and the role of capital formation in economic growth; and specific developmental problems of underdeveloped areas.

*Prereq: ECO 579 or permission of department.*
ENGLISH LANGUAGE and LITERATURE

The colossal enterprise of education in our time and country has created a growing demand for teachers possessed of the depth of knowledge and insight attainable only through protracted study of their subject matter. The degree Master of Arts in Literature is offered primarily for teachers of English, present and prospective. Many of our courses, however, interest other graduate students, who often constitute half or more of our class enrollments.

Requirements for the degree, in addition to the general Graduate School requirements set forth in the early pages of this catalog, include the following: (A) for admission to the program, at least 15 semester hours undergraduate literature; (B) for admission to candidacy for the degree, at least 12 semester hours graduate literature, grades averaging B or better; (C) for the degree, a minimum of 30 semester hours graduate work (usually 24 hours literature, 6 hours collateral studies) with grades averaging B or better; (D) a grand total of literary studies, graduate and undergraduate combined, totaling at least 48 semester hours and including one course in history of the English language, and minimal of two courses each in: English literature prior to 1744, English literature after 1744, American literature, and electives in literature as approved by the departmental committee on graduate studies.

Specific minimum requirements point to the importance of balanced distribution of courses; yet there is flexibility enough for individual programs accordant with the student's particular needs.

A master's thesis is not required. Papers assigned in course work provide ample opportunities to demonstrate scholarly competence. Reading knowledge of foreign languages is not at present required but is highly desirable, especially for students who think of working eventually toward a Ph.D. degree.

A substantial number of those who have attained our M.A.(LIT.) are now teaching English in junior colleges and community colleges—some in universities. Opportunities of this kind are increasing.

Graduate offerings of the Department of English Language and Literature, as set forth in the immediately following pages of this catalog, include not only those which qualify the student for the M.A.(LIT.) but also some courses which serve other purposes and do not count toward that degree.

Professor E. S. Gohn, Director of Graduate Studies, Department of English, is chief adviser for this program, assisted from time to time by other members of the Committee on Graduate Studies. Office hours of advisers are posted, 245 Pierce Hall.

Students are invited to seek needed information or counsel at any time, and are urged to plan each semester's schedule early.

I. General Courses

LIT 500-503 are courses not open to undergraduate students and, effective June 15, 1965, and thereafter, not credited toward an M.A. in Literature. Such courses are offered for the benefit of graduate students specializing in departments other than English who wish to take collateral or cognate work in the Department of English. Such students, however, are not restricted to these courses, they may take any graduate courses in English for which they have the prerequisites.

LIT 500 Masterpieces of Literature. 2 sem hr (Formerly CU 532)
A study of various literary forms—drama, poems, and prose works—to provide greater
understanding of the significance of literature to the individual and to society. Chosen for their excellence in themselves, and for their relevance to contemporary life are works of such authors as Homer, Sophocles, Shakespeare, Wordsworth and Ibsen.

LIT 502 Modern Problems as Portrayed in Modern Literature. 2 sem hr  
(Formerly CU 563)

The portrayal in modern literature of such problems as the relation between the individual and the state, the family, and the crowd; the relation between Western and other civilizations. The effects 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, Miller and Dos Passos.

LIT 503 Biography as Literature. 2 sem hr  
(Formerly CU 574)

The documentary biography, the portrait biography, and the narrative-pictorial biography; biography as fact, as psychological interpretation, and as art.

LIT 508 Teaching of Children's Literature. 2 sem hr  
(Formerly LE 534)

An appreciation of the several types of books available for children with suggested uses which might be made in the elementary schools. Not open to students who have credit in 207 Children's Literature. Offered for teachers in the elementary schools; not counted toward the M.A. in literature.

II. Courses for M.A. in Literature

A. AMERICAN LITERATURE

LIT 510 Problem of Evil in American Literature. 3 sem hr  
(Formerly CU 562)

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

LIT 520 Dickinson, Robinson, Frost. 3 sem hr  
(Formerly CU 568)

The lyric and narrative poetry of three New England poets: explication of poems; biography and the poets' reflection of their times.  
Prereq: 15 hours of credit in literature.

LIT 521 Whitman and Contrasting American Poets. 3 sem hr  
(Formerly CU 571)

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

LIT 523 Realism and Naturalism in the American Novel. 2 sem hr

Realism and naturalism as theory and as practice in the late 19th and early 20th centuries, with emphasis on Howells, Twain, James, Crane, Norris, and Dreiser.  
Prereq: 15 hours of credit in literature.

LIT 525 Henry James. 3 sem hr

Major novels, shorter fiction, and literary criticism of Henry James.  
Prereq: 15 hours of credit in literature.

B. BRITISH LITERATURE BEFORE THE ELIZABETHAN PERIOD

LIT 530 Studies in Chaucer. 3 sem hr  
(Formerly CU 575)

Intensive reading of Chaucer's major works and supplementary reading in Chaucerian criticism.  
Prereq: 15 hours of credit in literature.
C. BRITISH LITERATURE OF THE SIXTEENTH CENTURY

LIT 540 Elizabethan Drama. 3 sem hr  
(Formerly CU 567)  
The plays of Marlowe, Jonson, and Webster, considered primarily for their intrinsic literary and dramatic merit and secondarily for the light they throw on Shakespeare's milieu. A greater understanding of the term "Elizabethan Drama."  
Prereq: 15 hours of credit in literature.

LIT 541 Studies in Shakespeare. 3 sem hr  
(Formerly CU 564)  
Studies in the historical, biographical, textual, and critical scholarship relevant to two or three of Shakespeare's plays. Investigations, reports, papers.  
Prereq: 15 hours of credit in literature, including one course in Shakespeare.

LIT 542 Elyot, Sidney, Spenser. 3 sem hr  
(Formerly CU 566)  
To examine in depth the artistic aims, techniques, and achievements of three Sixteenth Century British authors, including their relation to Renaissance Christian Humanism.  
Prereq: 15 hours of credit in literature.

D. BRITISH LITERATURE OF THE SEVENTEENTH CENTURY

LIT 550 Donne, Browne, and Others. 3 sem hr  
(Formerly CU 565)  
The principal works of two or three English authors from the period 1600-1660, e.g., John Donne and Sir Thomas Browne.  
Prereq: 15 hours of credit in literature.

LIT 551 Studies in Milton. 3 sem hr  
(Formerly CU 570)  
The complete poetry and selected prose of John Milton, with some attention to his intellectual milieu.  
Prereq: 15 hours of credit in literature.

E. BRITISH LITERATURE OF THE NEO-CLASSICAL PERIOD

LIT 560 Dryden, Pope. 3 sem hr  
A study of the major works of Dryden and Pope, with an introduction to the most important criticism of their writings.  
Prereq: 15 hours of credit in literature.

LIT 562 Boswell and Johnson. 3 sem hr  
Major writings with attention to the men and times.  
Prereq: 15 hours of credit in literature.

LIT 563 Studies in Eighteenth-Century Comic and Satiric Fiction. 3 sem hr  
Major comic or satiric authors of the 18th century and the literary, historical, and critical problems arising from their work. On a cyclical basis, the authors studied will include Swift, Fielding, Sterne, and Smollett, and some of their imitators and minor successors; the Fielding-Richardson interreaction.  
Prereq: 15 hours of credit in literature.

LIT 564 Studies in Eighteenth-Century Sentimental and Gothic Fiction. 3 sem hr  
Major sentimental or Gothic authors of the 18th century and the literary, historical, and critical problems arising from their work. On a cyclical basis, the authors studied will include Defoe, Richardson, MacKenzie, Goldsmith, Godwin, Walpole, Radcliffe, and Lewis.  
Prereq: 15 hours of credit in literature.

F. BRITISH LITERATURE OF THE NINETEENTH CENTURY

LIT 570 Wordsworth. 3 sem hr  
(Formerly CU 572)  
An intensive study of the poetry and critical essays of Wordsworth.  
Prereq: 15 hours of credit in literature.
LIT 571 Byron, Keats. 3 sem hr
An intensive study of the poetry of Byron and Keats.
Prereq: 15 hours of credit in literature.

LIT 573 Tennyson and Browning. 3 sem hr
Reading and analysis of major works by Tennyson and Browning, with peripheral study of their social and literary background.
Prereq: 15 hours of credit in literature.

LIT 575 Carlyle, Arnold. 3 sem hr
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 to place these two major writers in their time, and to discover their relevance to our time.
Prereq: 15 hours of credit in literature.

G. BRITISH AND AMERICAN LITERATURE OF THE TWENTIETH CENTURY

LIT 580 The Making of the Modern Mind. 3 sem hr
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.
Prereq: 15 hours of credit in literature.

LIT 581 Eliot, Jeffers, Auden. 3 sem hr
Intensive study of the work of three major contemporary poets.
Prereq: 15 hours of credit in literature.

H. MISCELLANEOUS

LIT 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member. Not to be elected until a student has been accepted as a candidate for the master's degree in literature.

LIT 609 Literary Criticism. 3 sem hr
A study of various approaches to literary criticism with application to specific works.
Prereq: 15 hours of credit in literature.

LIT 696 Seminars in Selected Topics. 3 sem hr
Topics and instructors announced from time to time.
Prereq: 15 hours of credit in literature. Further prerequisites may be required for some topics.

III. Languages, Linguistics, and Composition

The University does not offer a master's degree in language, linguistics, or composition. All candidates for the M.A. in literature must, however, present one course in the history of the English language, either undergraduate or graduate. See description of ENG 509 below; other courses in this group are not counted toward the M.A. in literature.

ENG 501 Basic Studies for Teachers of Language Arts. 3 sem hr (Formerly CU 533)
Seeks to increase the student's understanding of the nature and function of language to the end that he may deal more effectively with the communication problems of his pupils. No special knowledge of grammar is assumed.

ENG 502 Linguistics Theory. 3 sem hr
Contemporary theoretical developments in linguistics for prospective teachers of grammar in college, high school, and elementary school.
ENG 509 The Development of Modern English. 3 sem hr  (Formerly CU 553)
The history of the English language. The scientific principles involved in linguistic evolution; the grammatical structure, the sources of the English vocabulary, the political, social, and cultural influences which have affected the language. This course is required of all candidates for the M.A. in literature who have not acquired undergraduate credit in the history of the English language. Not open to students who have credit in 221 History of the English Language.

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

The following courses for advanced undergraduates are also available to graduate students for either 2 or 3 semester hours credit each depending upon the circumstances of the student’s registration; on this matter the student should, before completing his registration, have a clear understanding with both the Dean of the Graduate School and the Chairman of the Committee on Graduate Studies in the Department of English. For descriptions of these courses, see the Undergraduate Catalog.

305 Shakespearean Comedy.
314 Old English.
315 Age of Chaucer.
316 English Literature 1500-1600.
317 English Literature 1600-1660.
318 English Literature 1660-1744.
319 English Literature 1744-1798.
327 Milton.
401 Modern American and British Poetry.
404 English Literature 1798-1832.
405 Victorian Poetry.
407 Victorian Prose.
409 American Literature to 1865.
410 American Literature since 1865.
420 Old English Poetry.
430 History of Literary Criticism.
434 English Literature in Transition, 1880-1914.
FOREIGN LANGUAGES AND LITERATURE

The department of Foreign Languages and Literature offers programs of study in French and in Spanish leading to the Masters of Arts degree.

For admission to one of the programs a student shall present an undergraduate major in French or Spanish, equivalent to the requirements for such a major at Eastern Michigan University. Students with less undergraduate preparation may be admitted to the program only by special approval of the departmental graduate committee, which shall establish compensatory requirements. Individual programs will be prepared in consultation with the advisers: Eugene M. Gibson, French; Francisco Villegas, Spanish.

The program may include a maximum of six hours of study in related areas, to be determined in advance by the departmental adviser and the student. A graduate student may elect upper-division courses numbered in the 400's for graduate credit with the advice and consent of his departmental adviser. No student will be recommended for the degree, despite an unusual undergraduate preparation, unless he has completed at EMU a minimum of 12 hours in literature courses and 8 hours in language courses.

For admission to candidacy for the degree, a student shall demonstrate to a departmental committee his proficiency in written or oral French or Spanish, and present 12 semester hours of graduate work in that language with grades of at least B. A research paper shall be completed and approved by the departmental committee before the student is recommended for the degree. A comprehensive oral or written examination will be required at least one month before the degree is granted.

FLA 511 Methods of Teaching Modern Language. 2 sem hr
History, theory, and techniques of modern language teaching. Not counted in Group I for degree, nor toward a major or minor in any modern language.

FLA 512 Methods of Teaching Modern Languages in the Elementary Grades. 2 sem hr
Techniques and materials of teaching French and Spanish in elementary grades. Not counted in Group I for degree, nor toward a major in any modern language.

I. French

FRN 516, 517 Reading French for Graduate Students. 2 sem hr each
Structure, basic vocabulary, and common idioms of French for reading proficiency. Open to beginning students. Enrollment in both parts is required.

FRN 519 French Diction. 2 sem hr
Study of physiology of the fundamental vowel and consonant sounds in French. Drill on rhythm and intonation. Practice and recording in the laboratory.

FRN 520 French Grammar and Syntax. 2 sem hr
An advanced course in grammar and syntax. Intended to give a solid basis for oral and written expression and for the teaching of French.
FRN 521 Advanced Conversation in French. 2 sem hr
Acquisition of an active vocabulary for daily life and greater oral facility. The student will
work in the laboratory listening to and making his own recordings.

FRN 522 Stylistics. 2 sem hr
Translation of selected passages into French; some free composition in French.
Prereq: 443 French Syntax or its equivalent.

FRN 524 Modern French Literature. 2 sem hr
Contemporary prose fiction from Gide to Michel Butor. Works of Malraux, Camus, Sartre,
and others will be studied and discussed.

FRN 561 Old French Literature. 2 sem hr
Literature of the Old French period; from Chanson de Roland to Villon. Recommended to
be taken after Old French.
Prereq: Four courses in French Literature, including Survey of French Literature.

FRN 563, 564 Sixteenth Century French Literature. 2 sem hr each
Literature of the sixteenth century in France, from Grands Rhetoriqueurs and Rabelais, to
the Edict of Nantes.
Prereq: Two courses in French literature, beyond Survey.

FRN 585, 586 Old French. 2 sem hr each
Development of Old French from its Latin roots, major emphasis upon the morphological
changes. A companion course to FRN 561 Old French Literature.
Prereq: 481 History of the French Language or its equivalent.

II. Other Courses for Credit Toward M.A. in French

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

443 French Syntax
444 Advanced French Conversation
481 History of the French Language
431 Molière
432 French Drama
441, 442 French Novel
471, 472 Eighteenth Century French Literature
491, 492 Seventeenth Century French Literature

III. SPANISH

SPN 520 Grammatical Structure of Spanish. 2 sem hr
The morphological and syntactical structure of Spanish.
Prereq: 481 History of the Spanish Language.

SPN 521 Graduate Spanish Conversation. 2 sem hr
A continuation of advanced conversation with emphasis on matters of diction and style.
SPN 522 Stylistics. 2 sem hr
The manner in which literary Spanish makes use of the means of expression available in the language.
Prereq: 481 History of the Spanish Language, 520 Spanish Grammar.

SPN 523 Phonetics. 2 sem hr
A general introduction to theoretical and experimental phonetics with emphasis on the characteristics of Spanish. Exercises in pronunciation.
Prereq: 481 History of Spanish.

SPN 524 The Spanish Language in the New World. 2 sem hr
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, 520 Spanish Grammar.

SPN 561 Medieval Spanish Literature. 2 sem hr
Spanish literature of the Middle Ages from the Poema del Cid to the end of the 15th Century.
Prereq: 4 courses in Spanish literature including the Survey of Spanish Literature.

SPN 585, 586 Old Spanish. 2 sem hr
Development of Old Spanish from its Latin roots, with major emphasis on the structural changes. A companion course to Spanish 561, Medieval Spanish Literature.
Prereq: Spanish 481, History of the Spanish Language or its equivalent.

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

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

443 Advanced Spanish Composition
444 Advanced Spanish Conversation
431, 432 Survey of Spanish-American Literature
445 Spanish-American Novel
446 Spanish-American Theatre
447 Modern Novel
448 Modern Drama
453 Drama of the Golden Age
454 Modernism in Spanish America
455 The Generation of 1898
463 Don Quijote
451, 452 Readings in Spanish
481 History of the Spanish Language
GEOGRAPHY AND GEOLOGY

There is an acute shortage of professional geographers today. Students with a graduate degree in geography have a great number of opportunities for teaching careers at the college, junior college, secondary and elementary level. Geographers are in great demand for positions with federal, state, and local government agencies, working in urban and regional planning, analysis of foreign areas, resource management, soil and agriculture, transportation, cartography, climatology, military geography, and general economic geography. Many opportunities in private industry also exist for geographically trained persons in marketing research and industrial location.

The master’s program in geography is tailor-made for each student and prepares him for professional work in the field and provides him with a program compatible with his interests. In general, programs are designed to either prepare students who wish to work towards a doctorate degree in geography; as a terminal degree for those who wish a career in professional geography, excluding teaching; or as a terminal degree for those who intend to teach at the elementary, secondary, junior college and college level and desire to increase their proficiency in the field of geography.

Normally, a minimum of thirty semester hours, including the thesis, will be required for a Master’s degree. Twenty-two to twenty-four hours must be graduate courses in geography; the remaining hours will be taken in a cognate field, or fields.

All graduate students are required to write a thesis as part of the master’s program. The subject of the thesis is determined by the student and his advisers to provide an opportunity for the student to work in his special field of interest.

Students desiring more information concerning the master’s program in geography should contact Dr. Paul Buckholts, Departmental Graduate Adviser.

GEO 507 Resources and Nations. 2 sem hr
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. 2 sem hr
Rocks and minerals and their significance in the development of landforms. Not open to students who hold credit in GEO 108.

GEO 509 Earth Science II. 2 sem hr
Weather and climate and related phenomena such as natural vegetation and soils. Not open to students who hold credit in GEO 108.

GEO 522 Processes of Landform Development. 2 sem hr
Interrelation of climate, soil formation, landform development, and vegetation; glaciation, streams, wind and shoreline environments in Michigan. Classroom, laboratory and field trips.

GEO 528 Biogeography. 2 sem hr
Descriptive and historical-plant and animal distribution and the basic principles governing the natural distribution in both space and time.

GEO 529 Common Rocks and Minerals. 2 sem hr
Materials and processes in the formation and distribution of important minerals and rocks. Not open to students who have credit in GEO 229.
GEO 530 Principles of Earth History. 2 sem hr
Relationship of geologic processes to the rock record of earth, its relationship to the solar system, time, earth change, and the succession of life. Not open to students who have credit in GEO 230.

GEO 535 The Geography of Energy. 2 sem hr
The problems of production, transportation, distribution and consumption of electricity. Energy sources: coal, petroleum products, natural gas, water power and nuclear fission. 
Prereq: GEO 339 or approval by the department.

GEO 541 South American Lands. 2 sem hr
A regional geography study of the countries and colonies on the South American continent; resources, people, and national cultures.
Prereq: 15 hours of credit in geography and permission of the department.

GEO 542 Middle America and the Caribbean World. 2 sem hr
A regional study of Mexico, Central America, and islands of the Caribbean Sea. Conditions leading to the present political upheavals in the area and an effort made to chart future trends.
Prereq: 15 hours of credit in geography including one course in urban geography or approval by the department.

GEO 544 Problems in Urban Geography. 2 sem hr
Selected geographic problems: urban sprawl, deterioration of the urban environment, changing urban functions, and others. Acquisition of analytical techniques and geographical insights.
Prereq: 15 hours of credit in geography including one course in urban geography or approval by the department.

GEO 545 Problems in Political Geography. 2 sem hr
Individual and group research in the geopolitical relationships among sovereign states, alliances and coalitions.
Prereq: 15 hours of credit in geography including GEO 432 or approval by the department.

GEO 552 Social Studies of Michigan. 2 sem hr
The geographic, economic, political and sociological backgrounds of important historical events in Michigan. The Indians, French, and British in Michigan; the territorial period; early statehood; the rise of mining, lumbering, manufacturing, and commercial agriculture; the utilization of natural resources for recreation.
Prereq: One geography course and one American history course.

GEO 553 Geography of the Great Lakes. 2 sem hr
A geographic and economic survey of water and land uses, primarily within the area of the Great Lakes drainage basin; the role of the St. Lawrence Seaway. Documents and statistical source material to acquire knowledge about a vital and dynamic area.
Prereq: A course in economic geography or the geography of Anglo-America or approval by the department.

GEO 555 Geography of Australia. 2 sem hr
A regional study of the physical and economic geography of Australia and New Zealand including the physical setting, distribution of people and economic development.
Prereq: One course in geography.

GEO 556 Problems in the Geography of Western Europe. 2 sem hr
Selected problems in the cultural and economic geography of Western Europe.
Prereq: 15 hours of credit in geography including one course in the geography of Europe or approval by the department.
GEO 557 Field and Project Geography. 6 sem hr
Use of field instruments and methodologies in physical, agricultural, urban, industrial, and settlement geography. Not open to students who hold credit in GEO 403.
Prereq: Graduate majors in geography or approval by the department.

GEO 558 Geography of the Moslem World. 2 sem hr
A regional study of the areas of the Africa and Asia practicing the religion of Islam. An assessment of the resource bases, current issues, and possible future trends in those countries which have grown in importance since 1940. Not open to students who hold credit in an equivalent course.
Prereq: One course in geography.

GEO 559 Problems in Soviet Geography. 2 sem hr
Individual and group research in selected problems in the geography of the Soviet Union.
Prereq: 15 hours of credit in geography including a course in Soviet Geography or approval by the department.

GEO 561 Physical Landscapes. 2 sem hr
An understanding of selected landscapes; the agents and processes at work in the formation of surface features such as: weathering, wind, ice, water, waves, vulcanism and diastrophism.
Prereq: One course in physical geography or geology or approval by the department.

GEO 562 Weather. 2 sem hr
Insolation, temperature, pressure, winds, moisture, precipitation, air masses and their activities, fronts, cyclones, hurricanes, tornadoes and jet streams; observation and application of weather elements. Not open to students who hold credit in GEO 223.

GEO 563 Climate. 2 sem hr
Solar and physical climates. Koppen Classification of Climates; trends, statistics, and timely topics of climate. A laboratory course.
Prereq: GEO 223 or GEO 562.

GEO 568 Geography Field Trips. Variable Credit
Representative geographic regions in the area visited; significant geographic and geologic characteristics of each region. Students will have an opportunity to visit typical mining, forestry, agricultural, industrial, and cultural enterprises of the regions. A written report is required.

GEO 569 The American Midwest. 2 sem hr
A regional treatment. The natural setting, the distribution of the people, the important occupations, and the present and future problems in each of the several regions.
Prereq: 15 hours of credit in geography including a course in geography of Anglo-America or approval by the department.

GEO 571 Teaching of Social Studies. 2 sem hr
Subjects included: selecting and securing, organizing, presenting, and evaluating materials.

GEO 574 Problems of Sub-Saharan Africa. 2 sem hr
Individual research in selected problems in the Geography of Sub-Saharan Africa.
Prereq: 15 hours of credit in geography including a course in the Geography of Africa or approval by the department.

GEO 585 City and Regional Planning. 2 sem hr
Philosophy, history, legal aspects, and techniques of the planning process. Case studies in the United States and Europe illustrating the impact of planning on man's economic, social and political activities.
Prereq: 10 hours of credit in geography or approval by the department.
GEO 596  Seminar in Geography. 1 sem hr
The problems involved in modern geography and analysis of subfields.
*Prereq: Geography majors.*

GEO 597, 598, 599  Independent Studies. 1, 2 and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

GEO 649  Problems in Economic Geography. 2 sem hr
Research problems and techniques dealing with the production, distribution, and consumption aspects of economic geography.
*Prereq: 15 hours of credit in geography including a course in economic geography and approval by the department.*

GEO 655  Field Studies in Michigan. 2 sem hr
The geographic and geologic environment: On-campus sessions and field trips include both subject matter and methodological content. Write department for information on content. Offered as two-week workshop in the summer session.

GEO 660  Area Analysis. 2 sem hr
Advanced geography field research. A philosophy of field geography; selected problems concerned with industry, recreation, agriculture, and commerce.
*Prereq: 15 hours of credit in geography including 303 or 403 or GEO 557 or permission of the department.*

GEO 663  Analytical Climatology. 2 sem hr
An advanced course in climatology which treats in detail the causes and effects of climates in specific areas of the world. Analysis of various climatic classification systems, regional climatology, and applied climatology are stressed.
*Prereq: 223 or GEO 562 and GEO 563.*

GEO 670  History of Geographic Thought. 2 sem hr
The main themes of geographic thought from ancient times to the present day; the evolution of ideas fundamental to modern American geography.
*Prereq: Approval by the department.*

GEO 696  Seminar in Methods and Research. 2 sem hr
Basic research techniques applicable to Geography. Location and identification of source materials, statement and analysis of problems, and preparation and presentation of results of research.
*Prereq: Approval by the department.*

GEO 697, 698, 699  Thesis. 1, 2 and 3 sem hr
An intensive study of a problem of group direction or problems under the direction of a University faculty member.
HISTORY AND SOCIAL SCIENCES

For admission to a Master of Arts in history the student shall present a minimum of 15 hours in history. Normally the graduate major shall include 20 hours in history and 6 hours in a cognate field. Forty-four hours in history are required including credit earned for the bachelor’s degree. The minimum total of graduate hours for a degree is 30. The student who gains admission to the program with fewer than 20 undergraduate hours in history will need more than 30 hours of graduate credit for a degree.

Distribution requirements, undergraduate and graduate combined:
1. United States history 8 hours
2. Modern European history 8 hours
3. Ancient history 2 or 3 hours
4. Medieval history 2 or 3 hours
5. Non-Western history 5 hours
   or
   Latin America and Canada 5 hours

Additional required graduate courses:
1. Historical Method 2 hours
2. Historiography 2 hours
3. Seminar 3 hours
   (A substantial research paper shall be an essential part of the seminar)

An oral examination is required of all students admitted to the Graduate School after September 1, 1966, who apply for candidacy for the Master of Art’s degree in History. The examination is scheduled soon after the student has completed 12 hours of graduate study. He selects three examination fields in consultation with the graduate adviser. The examination committee will consist of three historians; each a specialist in one of the selected fields.

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

The departmental graduate adviser is Dr. R.N. McLarty, 213 Welch Hall.

I. History

(An oral examination is required of master’s degree candidates in history. For details see graduate adviser in the Department of History.)

A. COURSES FOR M.A. IN HISTORY

HIS 503 Colonial American History. 2 sem hr
Colonial American political, economic, and social institutions; current scholarship and interpretation.
Prereq: History 223 and permission of the department.

HIS 507 History of Religions I: Judaism and Islam. 2 sem hr
Major themes and movements in the development of two great Semitic religions, with reference to an understanding of the present scene.
Prereq: History 291 or permission of the department.
HIS 508 History of Religions II: Christianity. 2 sem hr
Formative influences in the development of Latin, Byzantine, and Reformation Christendom, with special concern for their influences in current events.
Prereq: History 291 or permission of the department.

HIS 509 History of Religions III: Hinduism and Buddhism. 2 sem hr
The development of Hinduism and Buddhism with emphasis on the influences they exercise in Asia in the twentieth century.
Prereq: History 291 or permission of the department.

HIS 511 Ancient History I. 2 sem hr
Greek City-State Civilization; the political, economic, social, cultural, and religious life of the Greeks in the period between the Persian Wars and the successors of Alexander the Great (479-323 B.C.) with special attention to fifth-century Athens, the legacy of Greece to the modern world.

HIS 512 Ancient History II. 2 sem hr
Roman Imperial Civilization; the political, economic, social, cultural, and religious life of the Romans from the accession of Augustus to the death of Constantine (31 B.C.-337 A.D.).

HIS 514 The Reformation Era. 2 sem hr
Causes of the Reformation; Europe on the eve of the Reformation; the Reformation in Germany; spread of Protestantism; spread of Calvinism; the Catholic Reformation; religious conflicts and consequences; secularization of European States and the legacy of the Reformation.

HIS 515 Medieval History I. 3 sem hr
The intellectual and institutional history of the Middle Ages; the philosophy of the Middle Ages; the Carolingian Renaissance, the Ottonian Renaissance, and the Twelfth Century Renaissance, the history of education from Antiquity through the Middle Ages; and the rise of the universities.

HIS 516 Medieval History II. 3 sem hr
The intellectual and institutional history of the High and Late Middle Ages; education, philosophy, and medieval institutions in a growing secular society.

HIS 517 Historical Background of Modern Britain. 2 sem hr
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. 2 sem hr
World War I, the Weimar Republic, the rise of National Socialism and the National Socialist state, World War II, and contemporary Germany.
Prereq: 338 or permission of the department.

HIS 519 Modern France. 2 sem hr
Developments in the French nation from the Revolution of 1789 to the present.

HIS 527 Religion and Public School Education. 2 sem hr
Problems relating to religion in public school education; the general problem is well stated by F. Ernest Johnson as follows: “How can public education, in accord with its function of putting each generation in possession of its full cultural heritage, do justice to the religious phase of that heritage without doing violence to religious liberty as constitutionally safeguarded in the First Amendment to the American Constitution and in similar provisions in the constitutions of the several states?”
HIS 531  Studies in Negro History.  3 sem hr
The major developments in the history of Negro Americans from 1619 to the present.
Prereq: 6 hours of U.S. History

HIS 533  Studies in Michigan History.  2 sem hr
Intensive study of differing periods and topics in Michigan history.
Prereq: 313 or 414 or permission of the department.

HIS 535  Culture of Western Europe I.  2 sem hr
Historical and cultural development in the 17th and 18th centuries; formation of the modern state system, the Age of Enlightenment, and the Era of Revolution.

HIS 536  Culture of Western Europe II.  2 sem hr
Historical and cultural development in the 19th and 20th centuries; the impact of the Industrial and Scientific Revolutions; the life and thought of the people.

HIS 541  The United States, 1825-1860: Ferment and Reform.  2 sem hr
Reform movements of the period; the labor movement, education, immigration, the Negro, and the democratization of politics.
Prereq: Three courses in American history.

HIS 543  Nationalism and Modernization in the Middle East and North Africa.  3 sem hr
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: HIS 441 or 442 or permission of the department.

HIS 548  History Travel-Study Tours.  6 sem hr
Representative areas with significant historical background.

HIS 550  Twentieth Century Russia.  2 sem hr
Political, economic, and diplomatic developments in the history of Russia from the Revolution of 1905 to the death of Stalin.

HIS 554  Studies in Modern India.  2 sem hr
The development of India from mid-19th century to the post-independence period; major problems confronting contemporary India.
Prereq: HIS 375 or permission of the department.

HIS 557  Intellectual History of the Far East.  2 sem hr
Major texts of Chinese classical thought; dominant trends in the later development of Chinese and Japanese ideas. The enduring influence of Confucianism.
Prereq: One course in Far Eastern history or permission of the department.

HIS 558  Diplomatic History of the Far East.  2 sem hr
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 560  Federalist-Jeffersonian America.  2 sem hr
The period 1789-1815 and the foundations of the American Republic. Ideology; political, constitutional, and economic issues; and problems arising from territorial and commercial growth.
Prereq: Three courses in American history including 223 or its equivalent.
HIS 561 Studies in Latin American History I.  2 sem hr
Selected political, economic, social, and intellectual aspects of Spanish American and Portu­
guese American history from the period of discovery to the independence era.
Prereq: One course in Latin American History or permission of the department.

HIS 562 Studies in Latin American History II.  2 sem hr
Selected political, economic, social, and intellectual aspects of the history of Spanish and
Portuguese America during the National Period, from independence to the present.
Prereq: One course in Latin American history or permission of the department.

HIS 565 Problems and Trends in Recent American History.  2 sem hr
Significant aspects of selected minority, industrial, agrarian, and governmental problems.

HIS 566 Contemporary World Problems.  2 sem hr
The global problems of colonialism, the exchange of raw and processed materials and their
relation to foreign policy, the implications of the present conflict between communism and
democracy, and the possibility for present and future peaceful coexistence.

HIS 567 American Democratic Thought.  2 sem hr
An intellectual history, tracing the sources, mutations, and evolution of democratic concepts
in the United States.

HIS 568 The New Deal.  2 sem hr
Political, social, and economic problems of the 1930’s and early 1940’s; attempted solutions
and their ramifications.
Prereq: Three courses in American History including 224 or its equivalent.

HIS 572 Nationalism.  2 sem hr
Several definitions of nationalism; the rise of nations and nationalities in the several histori­
cal periods. The increasing functions of the state.

HIS 573 America in the Atlantic Community.  2 sem hr
American and Europe since 1492. The impact America has made upon Europe and Europe
upon America; the development of social, cultural, and intellectual cross-Atlantic currents.

HIS 582 Constitutional History of the United States.  3 sem hr
The formulation and development of the Constitution by usage, interpretation, and amend­
ment; preservation of individual liberty and creation of an adequate national government.

HIS 583 Studies in the Civil War and Reconstruction.  2 sem hr
Major problems of interpretation in the period from 1850 to 1877.
Prereq: Two courses in American History.

HIS 584 The United States: 1877-1917.  2 sem hr
The history of the United States for the four decades preceding 1917.

HIS 585 Emergence of Canada.  2 sem hr
The Canadian people and their culture; the government (English-Canadian relationship),
the resources, the development of industry, United States-Canadian relations, and the
emergence of Canada as a contemporary world power.

HIS 586 United States in World Politics.  2 sem hr
American foreign policy in the twentieth century; the nation’s transition to great-power
status and its adjustment to the demands of that role.

HIS 596 Seminar in Current Affairs.  2 sem hr
The problems involved in the teaching of current affairs and exploration of the most
effective techniques and materials available in this field.
HIS 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

HIS 687 Historical Method. 2 sem hr
The relationship of history to the humanities and social sciences; the use of the library, standard bibliographical aids, and collected source materials. The skills and experience necessary to evaluate historical writing critically and to conduct historical research in a mature and professional manner.
Prereq: 15 hours of graduate credit in history.

HIS 688 Historiography. 2 sem hr
A critical study of the writings, philosophy, and influence of major historians.
Prereq: 15 hours of graduate credit in history.

HIS 696 Seminar in History. 3 sem hr
Research in problems of significance in history; areas of concentration will vary. The preparation of a paper demonstrating the ability of the student to apply the canons of historical scholarship will constitute a substantial part of the course.
Prereq: 15 hours of graduate credit in history plus HIS 687.

HIS 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

B. OTHER COURSES FOR CREDIT TOWARD THE M.A. IN HISTORY
The following courses for advanced undergraduates are also available to graduate students. The student, before completing his registration, should have a clear understanding with both the Dean of the Graduate School and the Graduate Adviser in the Department of History concerning the number of semester hours credit each course will carry. For descriptions of these courses see the Undergraduate Catalog.

Ancient and Medieval History.
323 Greek History.
324 Roman History.
327 The Early and High Middle Ages.
328 The Late Middle Ages.
430 History of the Byzantine Empire, 324-1453.

European History.
307 British Empire.
311 England to 1689.
312 England 1689 to Present.
333 Europe since 1919.
337 German History to 1815.
338 German History since 1815.
343 Russia to 1855.
344 Russia since 1855.
435 Italy since 1815.
440 French Revolution and Napoleon, 1774-1815.
471 Social and Intellectual History of Nineteenth Century Europe.
American History.
313 Michigan History.
361 Foreign Relations of the United States.
363 History of the West.
365 The Old South.
368 Social and Intellectual History of the United States to the Civil War.
369 Social and Intellectual History of the United States since the Civil War.
402 The American Revolution.
451 Background of Current Latin-American Problems.
380 The American Colonies to 1763.
383 The Age of Jackson.
385 Civil War and Reconstruction.
402 The American Revolution.
414 Michigan in the Twentieth Century.

Non-Western History.
371 The Far East to 1800.
372 The Far East since 1800.
375 Modern India.

II. Philosophy

PHI 528 Foundations of Western Thought. 2 sem hr
Writings of some of the most influential philosophers, e.g., Plato, Aristotle, Descartes, Berkeley, Hume, and Kant. For graduate students with no previous work in philosophy.

PHI 529 Studies in the Philosophy of Art. 2 sem hr
An application of contemporary analytical methods to problems in the philosophy of art. The reading matter consists of leading journal articles published during the twentieth century.
Prereq: 210 Aesthetics or permission of department.

PHI 530 Plato. 2 sem hr
Major and minor Platonic dialogues and some of the epistles.
Prereq: One course in philosophy.

PHI 531 British Empiricism. 2 sem hr
Prereq: One course in philosophy.

PHI 542 Philosophy of Mind. 2 sem hr
Questions about the mind as a whole and about particular features of the mind like choice, intention, emotion, feeling, sensation, and the unconscious.
Prereq: One course in philosophy.

PHI 543 Aristotle. 2 sem hr
The main works of Aristotle either in part or completely. The student will concentrate on one aspect of Aristotle and write a paper on it.
Prereq: One course in philosophy.
III. Political Science

PLS 505 Problems in Public Administration. 2 sem hr
Selected problems in public administration on the local, state, and federal levels; intergovernmental administrative relationships.

PLS 506 American Parties and Politics. 2 sem hr
An exploration of the devices, dilemmas, and delights of party politics as played in the United States. Not open to students who hold credit for 358 Political Parties and Pressure Groups.

PLS 540 Public Opinion. 2 sem hr
The role of public opinion in a democracy. Opinion methodology; the techniques of measuring public opinion.

PLS 541 Studies in Latin America. 3 sem hr
Comparative government of Latin America; political development theories applied to a Latin American context.
Prereq: 367 or permission of the department.

PLS 543 Political Behavior. 2 sem hr
Empirical and theoretical knowledge concerning certain aspects of the actions and interactions of men in the political process; political participation, political affiliations and party identification, political leadership, political communication, political institutions, and voting behavior.
Prereq: One course in political science.

PLS 545 International Relations. 2 sem hr
Relations between nations; factors affecting behavior in the state system and possibilities of developing a viable international system.
Prereq: 112 or 202.

PLS 546 Studies in International Law. 2 sem hr
Selected problems in International Law: the Law of the United Nations; world law; the law of war and peace; the International Court of Justice; and national concepts of International Law.
Prereq: 341 International Law or permission of department.

PLS 549 Comparative Administrative Systems. 2 sem hr
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: 211 Comparative Government or permission of department.

PLS 580 American Governmental Executives-National. 2 sem hr
The American Presidency; creation of the office; its historical evolution; its national and world significance; problems related to the powers, responsibilities, and limits of the office; election to the office; and succession to the office.

PLS 581 Contemporary Problems in American Government. 2 sem hr
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. 2 sem hr
PLS 588 Problems in Representative Government. 2 sem hr
The right to vote; apportionment of legislative bodies; operation of the electoral college; accurate administration of elections; informing the electorate; and securing the public interest.

PLS 596 Seminar in Current Affairs. 2 sem hr
The problems involved in the teaching of current affairs and exploration of the most effective techniques and materials available in the field.
MATHEMATICS

The Department of Mathematics offers a program which leads to the degree of Master of Arts.

The Graduate Advisory Committee of the Department (henceforth referred to as the Graduate Committee) will recommend admission to the program, assign each student to an adviser, and prepare "tailor-made" programs and file them in the Graduate Office. After the student completes 12 hours of credit, the Committee will recommend admission to candidacy to the Dean of the Graduate School.

I. Requirements for admission to the program:
   A. admission to the Graduate School
   B. a strong undergraduate major in mathematics comparable to that offered at Eastern Michigan University; students without such a major may be admitted to the program after meeting requirements specified by the Graduate Committee
   C. acceptance by the Graduate Committee after individual consultation with member(s) of the Committee.

II. Degree requirements
   A. The Graduate Committee, after consultations with the student, will recommend that a minimum of thirty semester hours credit beyond the Bachelor's Degree be divided in one of the following two ways:
      1. a. at least 24 semester hours in mathematics, including at least one course each in algebra, analysis and geometry
      b. six semester hours in cognate courses outside the Mathematics Department
      2. a. a minimum of 20 semester hours of credit in mathematics, including analysis, algebra, geometry, and probability or statistics
         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
   For further details, contact Dr. Robert S. Pate, Head of the Mathematics Department.

The following courses may be elected for graduate credit and course descriptions may be found in the undergraduate catalog: 400, 402, 403, 411, 414, 416, 420, 421, 423, 425, 436, 440, 441, 445, 446, 470, 471, 491, 492.

The Specialist's Degree

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

Admission to the program ordinarily requires the student to have 44–48 semester hours of mathematics and/or mathematics education. Ten of these hours must be at the graduate level. Formal admission by the Graduate Committee of the Department of Mathematics is required.

Admission to candidacy requires 12 hours of work beyond a master's degree with a grade-point average of 5.0 and approval of certain committees and offices.
Thirty-two semester hours of approved graduate credit beyond a master's degree is required together with an examination, all within a period of six years. Sixteen to twenty hours of the work must be in mathematics, including MTH 515 or MTH 544; MTH 526; MTH 626; MTH 517 or MTH 518; or equivalents.

Students preparing for secondary school teaching or supervision take four hours of methods courses not included in the master's degree. Others complete MTH 681, unless exempted. All students take MTH 691 and one or more from MTH 697, MTH 698, and MTH 699. Six or eight hours of cognate work are elected with the approval of the student's adviser. Students preparing for secondary school work include MTH 536, MTH 542, MTH 561, and MTH 574.

Students preparing either for graduate work beyond the Specialist's Degree or college teaching complete both MTH 515 and MTH 544 or one from MTH 519, MTH 610, and MTH 614. Also, they complete MTH 527, MTH 627, MTH 517, and MTH 518.

MTH 500 Modern Mathematics Content, K-6. 2 sem hr  
(Formerly MTH 512 or SC 524)
The modern mathematics required for teaching this subject in the elementary grades, K-6: set theory, logic, numeration systems, the real number system, and geometry. Not open to students who have credit in MTH 501.

MTH 501 New Topics in Modern Mathematics, K-8. 2 sem hr  
(Formerly SC 529)
New topics new in modern mathematics programs; the materials of various study groups; practical problems in teaching mathematics in grades K-8. Not open to students who have credit in MTH 500 or MTH 512.
Prereq: Teaching experience or 349 or 351 or 381 or 464.

MTH 503 Arithmetic Methods. 2 sem hr  
(Formerly LE 564)
Current problems in teaching arithmetic. Evaluating pupil achievement; new topics.
Prereq: Teaching experience or 349 or 351 or 381 or 464.

MTH 506 Introduction to Mathematical Logic. 2 sem hr
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. 2 sem hr
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 515 Elements of Set Theory. 2 sem hr  
(Formerly SC 527)
Sets and subsets, set operations, sets of numbers, relations, cardinal numbers, ordinal numbers, ordered sets and other topics.
Prereq: A minor in mathematics.

MTH 516 The Theory of Integers. 2 sem hr  
(Formerly SC 548)
Elementary properties, divisibility, congruences, powers and other topics.
Prereq: An undergraduate major in mathematics.

MTH 517 Linear Algebra. 2 sem hr
Linear equations, vector spaces, dimension, linear transformations and multiplication. Orthogonality, adjoint, and the determinant. The characteristic and minimum polynomials. Miscellaneous topics.
Prereq: 15 hours of undergraduate credit in mathematics.
MTH 518  Group Theory I.  2 sem hr
Definitions and examples, modules, commutative groups, homomorphisms, quotient groups, permutations, groups with operators, and dimension.
Prereq: 15 hours of undergraduate credit in mathematics and permission of department.

MTH 519  Group Theory II.  2 sem hr
Homomorphism and groups with operators, construction of composite groups, Sylow p-groups and p-groups, transfers into subgroups and other topics.
Prereq: MTH 518.

MTH 520  The Real Number System.  2 sem hr
A development of the real number system and a study of its properties.
Prereq: A minor in mathematics.

MTH 522  Fourier Analysis.  2 sem hr
An introduction to Fourier series and their application to the solution of boundary value problems in the partial differential equations of physics and engineering.
Prereq: 320, 420 or equivalents.

MTH 526  Real Analysis I.  2 sem hr
Sets, compact, perfect and connected sets, metric spaces, convergence of sequences and series, continuous and differentiable functions (including functions of bounded variation).
Prereq: 420 or permission of department.

MTH 527  Real Analysis II.  2 sem hr
Riemann-Stieltjes integral, uniform convergence, Stone-Weierstrass theorem, power series, exponential logarithmic and trigonometric functions, Fourier series.
Prereq: MTH 526

MTH 531  Modern Mathematics Content, Junior High School.  2 sem hr
(Formerly MTH 514 or SC 526)
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.  2 sem hr
An introduction to the IBM 1620 computing system and the FORTRAN programming language; explanation of basic FORTRAN statements and illustration of statement usage in sample programs. Students will write several FORTRAN programs and run them on Eastern-s 1620. Not open to students who have credit in 336 or 236.
Prereq: College algebra and permission of department.

MTH 537  Introduction to Numerical Analysis.  2 sem hr
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.
Prereq: A course in computer programming, 121 Analytic Geometry and Calculus II.

MTH 542  Non-Euclidean Geometry.  2 sem hr
(Formerly SC 552)
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 544  Introduction to General Topology.  2 sem hr
Brief introduction to elementary set theory, topological spaces and mappings, con-
nectedness, compactness, product spaces and metric spaces.

Prereq: 12 hours beyond sophomore level mathematics.

**MTH 546 Graph Theory. 2 sem hr**

A study of undirected and directed graphs and their structural properties including connectivity and traversibility. Associated matrices, groups and relations, and applications to networks.

Prereq: A minor in mathematics.

**MTH 547 Geometry for High School Teachers. 2 sem hr**

Fundamental concepts of Euclidean and non-Euclidean geometrics including topology, developed from a postulational point of view.

Prereq: A minor in mathematics.

**MTH 548 Introduction to Differential Geometry. 2 sem hr**

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

Prereq: An undergraduate major in mathematics.

**MTH 550 Number Theory II. 2 sem hr**

Basic principles and ideas of algebraic number theory: Divisibility, Algebraic Number Fields, Ideals, Arithmetic in Algebraic Number Fields, Fundamental Theorem of Algebraic Number Theory and its consequences.

Prereq: 414 or 516.

**MTH 561 Modern Mathematics Content, Senior High School. 2 sem hr**

(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. 2 sem hr**

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

Prereq: 15 hours of undergraduate credit in mathematics.

**MTH 575 Statistical Problems. 2 sem hr**

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.

Prereq: MTH 574 or 470.

**MTH 576 Selected Topics in Probability and Statistics. 2 sem hr**

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

Prereq: 470 and 471, or 574 and 575.

**MTH 581 Modern Mathematics Methods, K-6. 2 sem hr**

(Formerly SC 525)

Effective techniques in presenting materials, planning class activities, and creating good learning situations; current problems in a modern mathematics curriculum for grades K-6.

Prereq: MTH 500 or MTH 512 or SC 524 or permission of department.

**MTH 583 Modern Mathematics Methods, Junior High School. 2 sem hr**

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 or MTH 514 or SC 526 or permission of department.
MTH 585 Modern Mathematics Methods, Senior High School. 2 sem hr
For students lacking an undergraduate high school methods course in mathematics. Not open to students who have credit in 306.
Prereq: A minor in mathematics.

MTH 586 Teaching of Modern High School Mathematics. 2 sem hr
Current problems in a modern high school mathematics curriculum; recommended courses at the senior level. Content and methods; high school reform movements.
Prereq: A major in mathematics including 306 or MTH 585.

MTH 587 Enriching Instruction in Mathematics, Senior High School. 2 sem hr
New teaching aids and supplementary reading materials; subject matter usually not developed in standard texts (e.g. linear programming, principles of computers, and advanced geometric constructions). Topics for accelerated high school classes.
Prereq: 306 or MTH 585 or MTH 586, and MTH 561.

MTH 591 Special Topics in Mathematics. 2 sem hr
A graduate level course in a specific area of mathematics, to be determined by the field of specialization of the instructor and the interest of the students.
Prereq: Permission of department.

MTH 610 Rings and Ideals I. 2 sem hr
Polynomial rings, ideals and homomorphisms, imbedding theorems, prime ideals, the radical, minimal and maximal prime ideals belonging to an ideal.
Prereq: Any course in abstract algebra.

MTH 611 Rings and Ideals II. 2 sem hr
Direct and subdirect sums, Boolean rings, rings of matrices and additional theory of ideals in commutative rings.
Prereq: MTH 610.

MTH 614 First Course in Field Theory. 2 sem hr
Finite fields and finite projective geometries. Prime fields and their extensions, splitting fields, separability, irreducibility, Galois theory and the fundamental theorem of algebra.
Prereq: MTH 518, MTH 610, or equivalents.

MTH 626 Complex Analysis I. 2 sem hr
Stereographic projection and the Riemann sphere, mappings, Bolzano-Weierstrass theorem, power series and their properties, analytic functions and conformal mapping, and rational functions; exponential, trigonometric, hyperbolic, logarithmic, and inverse functions; paths, regions, continua, and the definite integral.
Prereq: MTH 526 or 420 and MTH 544.

MTH 627 Complex Analysis II. 2 sem hr
Cauchy's integral theorem and formula, uniform convergence, Taylor's series and related topics, analytic continuation, Liouville's and Casorati-Weierstrass factor theorem, meromorphic functions, Riemann surfaces and multiple-valued functions.
Prereq: MTH 626.

MTH 681 The Teaching of Junior College Mathematics. 2 sem hr
Current problems in a junior college mathematics program. The role of algebra and trigonometry, elementary functions, analytic geometry, the calculus, and linear algebra; content and techniques of instruction. CUPM recommendations for a college program.
Prereq: Permission of the department.

MTH 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
A report on an approved subject in the field of mathematics, the history of mathematics, or the teaching of mathematics, under the guidance of Mathematics Department staff.
Prereq: Completion of 10 hours of graduate credit in mathematics and permission of department.
The Graduate Program in Music is devoted to expanding musicianship and to making available the most recent developments in the materials and techniques of music teaching at all levels.

A minimum of thirty hours of credit is required for the degree; twenty-two are earned in the music department, six in other departments, and two in a Master's degree project or recital. Students are encouraged to cover a wide spectrum of musical interests, including theory, composition, applied music, music literature, conducting, and methods courses, all of which are seen as contributing to the skill of the musician and teacher.

Concentration in one of the above areas is elected by the student after having successfully completed six credit hours in the Music Department, and by applying for acceptance in the area of his choice. Admission to such concentration comprises formal acceptance for work toward a degree in the Music Department.

The Music Department is currently in the process of expanding its interactions with Michigan schools, and is developing new programs for the Master's and Specialist's degrees in Music. It is already a member of the Institute for Music in Contemporary Education.

For further information, apply to the Director of Graduate Studies in Music.

Admission to a program leading to the degree Master of Arts in Music, requires a prior instrumental or vocal audition. Placement examinations in conducting, music literature and history, music theory, and piano proficiency are given for all students whose undergraduate degrees were earned at other institutions or at Eastern Michigan University before 1960. All entering students should consult the Chairman of the Department of Music about times for audition and placement examinations well in advance of their intended registration.

Music Fee

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

Music Majors: $60.00 per semester for all instruction.

Other University Students:

$60.00 per semester for one-hour lessons.

$30.00 per semester for half-hour lessons.

I. General Courses

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

MUS 501 Masterpieces of Music. 2 sem hr
Promotes interest, enjoyment, and understanding of some of the important works of great composers; importance of music as a factor in human experience and as a mode of thought.

Not open to students who have a major or minor in music.

II. Courses for M.A. in Music
A. BASIC COURSE

MUS 510 Introduction to Graduate Studies. 2 sem hr
Available source materials for graduate research; research, documentation, evaluation and scholarly presentation, organizing and assembling a bibliography.

B. COMPOSITION AND THEORY

MUS 511 Survey of Harmonic Techniques. 2 sem hr
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. 2 sem hr
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. 2 sem hr
Polyphonic techniques and forms based upon stylistic principles of the sixteenth century.
Prereq: 202 Music Theory-Literature IV or equivalent.

MUS 517 Music Composition I. 2 sem hr
The creative process in music through analysis or traditional and new music; original composition in small forms illustrating various techniques and media.
Prereq: Permission of department (may be repeated for credit).

MUS 518 Music Composition II. 2 sem hr
Original composition based upon techniques of the twentieth century; composition of works of moderate length.
Prereq: MUS 517 or equivalent.

MUS 519 Music Composition III. 2 sem hr
Original composition in larger forms with the intent of performance.
Prereq: MUS 517 and 518 or equivalent.

C. LITERATURE AND HISTORY

MUS 504 America's Music. 2 sem hr
The diversified styles of music made and continuously used by the people of the United States in terms of our historical cultural traditions.

MUS 531 Renaissance Music. 2 sem hr
Selected works representing the forms, styles, and idioms of the fifteenth and sixteenth centuries. Open to majors and non-majors.

MUS 532 Baroque Music. 2 sem hr
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. 2 sem hr
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. 2 sem hr
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. 2 sem hr
Study of major works, composers, and aesthetic systems of twentieth-century music. Selected works to be announced each time the course is offered. Open to majors and non-majors.

MUS 540 The Symphony. 2 sem hr
The symphony as an art form; and a musical and historical survey of the influences, trends, and styles found in examples from its inception to the present. Open to majors and non-majors.

MUS 541 The Band and Its Literature. 2 sem hr
The history and development of the band and its music.

MUS 542 The Organ and Its Literature. 2 sem hr
Organ music from its beginning to the present; types of instruments representing regional and epochal schools, as they influence the structure of music and its interpretation. Prereq: Keyboard proficiency; or previous organ performance; or permission of department.

MUS 543 The Piano and Its Literature. 2 sem hr
Music for the piano from the Baroque to the present. Open to majors and non-majors.

MUS 544 Solo Song Literature. 2 sem hr
The art song literature from the American, English, French, German, and Italian repertorie, with an introduction to the literature of the arias from operas and oratories. Prereq: Demonstrable singing knowledge of one of the foreign languages.

MUS 545 The Opera. 2 sem hr
Opera from its inception to the present day as music and theatre. Open to majors and non-majors.

MUS 596 Seminar: History of Jazz. 2 sem hr
The origins of jazz; its roots in Afro-American culture; its development in the United States; the significance of the Negro's contribution to this unique American musical expression; the history of recorded jazz; a discussion of the major personalities and the importance of jazz in American composition. Open to majors and non-majors.

D. MUSIC EDUCATION

MUS 551 The General Music Class. 2 sem hr
The place of music in the education of adolescents, involving methods and materials for the general music classes.

MUS 556 Development of a String Program in the Public Schools. 2 sem hr
Problems related to building a public school string program; including techniques and materials. Prereq: Permission of department.

MUS 558 Supervision and Administration of School Music Education Programs. 3 sem hr
Trends and practices in the teaching of vocal and instrumental music at the elementary and secondary school levels.

MUS 559 Piano Pedagogy. 2 sem hr
Individual instruction; teaching problems and procedures for developing techniques; teaching materials at various levels of advancement.

MUS 652 Advanced Techniques and Materials for Vocal Music in the Elementary Schools. 2 sem hr
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.  2 sem hr
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.  2 sem hr
Current trends in techniques and materials for the high school band.

MUS 655  Advanced Techniques and Materials for Orchestras in the Secondary Schools.  2 sem hr
Selected problems and their solution pertaining to the improvement of the musical performance of the school orchestra. Major emphasis is placed on the string section and its problems.

E. PERFORMANCE

MUS 546  Collegium Musicum.  1 sem hr
Various ensembles of soloists-instrumental, vocal, and mixed. Opportunity to perform old and new music infrequently heard. Open to all interested students by permission of department.

MUS 547  Collegium Musicum.  2 sem hr
Various ensembles of soloists-instrumental, vocal, and mixed. Opportunity to perform old and new music infrequently heard. Credit beyond one semester hour is earned through individual projects and research. Open to all interested students by permission of department.

MUS 548  Collegium Musicum.  3 sem hr
Various ensembles of soloists-instrumental, vocal, and mixed. Opportunity to perform old and new music infrequently heard. Credit beyond one semester hour is earned through individual projects and research. Open to all interested students by permission of department.

MUS 549  Collegium Musicum.  4 sem hr
Various ensembles of soloists-instrumental, vocal, and mixed. Opportunity to perform old and new music infrequently heard. Credit beyond one semester hour is earned through individual projects and research. Open to all interested students by permission of department.

MUS 571, 572, 573, 574, 575, 576  Applied Music (Secondary Instrument or Voice).  1 sem hr each

MUS 577  Advanced Instrumental Conducting.  2 sem hr
Interpretative factors and more subtle baton techniques; greater understanding of style and form through analysis of representative scores.

MUS 578  Advanced Choral Conducting.  2 sem hr
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: MUS 326.

MUS 581, 582, 583, 584, 585, 586  Applied Music (Principal Instrument or Voice).  2 sem hr each
Prereq: Audition.

MUS 595  University Summer Choir.  1 sem hr
Open to all students of the University by permission of the department.

MUS 596  Chamber Music: Performance Seminar.  2 sem hr
Study and performance of contemporary and traditional literature for chamber music ensembles. Open to advanced undergraduate and graduate students.
Prereq: Permission of department. (May be repeated for credit.)
MUS 681, 682, 683, 684, 685, 686 Performance. 2 sem hr each
Open only to students concentrating in applied music, with a graduate recital required in partial fulfillment of the Master of Arts in Music degree.
Prereq: Audition.

MUS 689 Graduate Recital. 2 sem hr
Required in partial fulfillment of the Master of Arts degree of those students concentrating in applied music.

F. MISCELLANEOUS

MUS 595 Choral Arts Workshop. 2 sem hr
Choral workshop.

MUS 595 Band Workshop for Music Teachers. 2 sem hr

MUS 595 Choir Workshop for Music Teachers. 2 sem hr

MUS 595 Orchestra Workshop for Music Teachers. 2 sem hr

MUS 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

MUS 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.
PHYSICS AND ASTRONOMY

The Department of Physics and Astronomy supervises four programs leading to the degree of Master of Science.

1. Physics (a program for the student who expects to continue towards a more advanced degree, who plans a professional career in physics, or who plans to teach in a two-year college.) Graduation requirements include an undergraduate and graduate combined total of 50 approved semester hours in physics and 22 approved semester hours in mathematics, as well as a research problem culminating in a written thesis. Additional requirements and information may be obtained from Dr. Walter Gessert, Graduate Adviser, Physics and Astronomy Department.

2. Physics Education (a program for the secondary school physics teacher). Graduation requirements include an undergraduate and graduate combined total of 44 approved semester hours work in physics and astronomy and 16 approved semester hours of mathematics, as well as an essay in physics, physics history, or the teaching of physics. Additional requirements and information may be obtained from Dr. Walter Gessert, Graduate Adviser, Physics and Astronomy Department.

3. Physical Science (a program for teachers of physics, chemistry, or physical science in small high schools). Graduation requirements include an undergraduate and graduate combined total of 60 semester hours of approved work in chemistry, physics, and mathematics (including one year of calculus). Additional requirements and information may be obtained from Dr. Charles Breedlove, General Science Adviser, Physics and Astronomy Department.

4. General Science (a comprehensive program for the junior high or middle school science teacher). Graduation requirements include an undergraduate and graduate total of 70 approved semester hours work in biology, chemistry, earth science, and physics. Additional requirements and information can be obtained from Dr. Charles Breedlove, General Science Adviser, Department of Physics and Astronomy.

PHY 503 Astronomy I. 2 sem hr
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.

PHY 504 Astronomy II. 2 sem hr
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: PHY 503 or 303 Astronomy or equivalent.

PHY 511 Mechanics for Teachers. 2 sem hr
A study of kinematics, dynamics, gravitation, and energy designed particularly for teachers of general science who have little previous experience with physics.
PHY 512 Heat and Light for Teachers. 2 sem hr
A phenomenological study of heat, elementary kinetic theory, geometrical and physical optics.
Prereq or corequisite: PHY 511, or equivalent.

PHY 513 Electricity for Teachers. 2 sem hr
A study of electrostatics, magnetism, and electronics.
Prereq: Physics 511 or equivalent.

PHY 520 Teaching of Physical Science. 2 sem hr
Scientific attitudes for use with elementary pupils; the scientific method; a selected group of physical principles; and simple experiments which may be used in the elementary school.

PHY 521 Physical Science for Secondary Teachers. 2 sem hr
Simply constructed or easily available materials will be used to stress laboratory centered instruction in physical science at the secondary level. Topics will include properties and structure of matter, force and motion, heat, electricity, optics, conservation laws, and radioactivity.
Prereq: One college course in physical science or physics.

PHY 524 Introductory Physical Science I. 2 sem hr
A laboratory course; introductory materials for teachers of physical science in secondary schools. Experiments and demonstrations by class participants.
Prereq: Three laboratory courses in science, or science teaching experience.

PHY 525 Introductory Physical Science II. 2 sem hr
An interdisciplinary course; selected topics in physics and chemistry.
Prereq: Three laboratory courses in science, or science teaching experience.

PHY 526 Introductory Physical Science III. 2 sem hr
Seminar course; problems and projects in a physical science curriculum.
Prereq: Three laboratory courses in science, or science teaching experience.

PHY 550 New Approaches to Teaching Physics I. 2 sem hr
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 calculus.

PHY 551 New Approaches to Teaching Physics II. 2 sem hr
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.

PHY 552 Supervision of the Science Program. 2 sem hr
Problems in organizing, staffing, and curriculum planning for the K-12 Science Program.
Prereq: Graduate standing.

PHY 580 Atomic and Nuclear Physics I. 2 sem hr
Electron physics, radiation, atomic structure, x-rays, the quantum properties of waves and particles, relativity, the Bohr atom and atomic spectra, wave mechanics, and the Schrödinger equation.
Prereq: One year of college physics.
PHY 581 Atomic and Nuclear Physics II. 2 sem hr
Nuclear structure, radioactive decay, detection and measurement of nuclear radiation, fission, fusion, cosmic rays, production of radioisotopes in neutron howitzer.
Prereq: One year of college physics.

PHY 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.
Prereq: Prior approval of physics graduate adviser.

PHY 630 Classical Physics (Theoretical Physics I). 3 sem hr
(Formerly 630 Continuum Theory of Matter)
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: PHY 430 Intermediate Mechanics I or equivalent.

PHY 631 Advanced Mechanics. 3 sem hr
Provides the background required for graduate courses in electromagnetic theory and quantum mechanics, shows the power and beauty of classical physics. Topics covered include: Lagrangian formalism, Hamiltonian formalism, small vibrations, rigid bodies, canonical formalism, Hamilton-Jacobi theory, perturbation theory, continuous media.
Prereq: PHY 431 Intermediate Mechanics II, or permission of department.

PHY 650 Electromagnetic Theory. 3 sem hr
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: PHY 450 Electricity and Magnetism, or permission of department.

PHY 660 Modern Physics (Theoretical Physics II) 3 sem hr
(Formerly 660 Theory of Fields: Molecular Theory of Matter)
A continuation of 630 Theoretical Physics I. Topics include electromagnetic theory, relativity, and quantum concepts. This course is particularly recommended for physics teaching majors.
Prereq: Phy 630 Theoretical Physics I.

PHY 675 Relativity and Quantum Theory (Theoretical Physics III). 2 sem hr
The principle of invariance and absolute velocity; implications of relativity theory; the quantum theory; wave-particle duality; the Schroedinger equation; uncertainty principle; and philosophical implications.
Prereq: MTH 221, PHY 430, 470. PHY 431, 460 recommended but not required.

PHY 676 Quantum Mechanics. 4 sem hr
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: PHY 475 Introduction to Quantum Mechanics.

PHY 692 Research Techniques. 2 sem hr
(Formerly PHY 694)
Under direction the student will study and report on a subject in physics, physics history, or the teaching of physics. Laboratory research, library research, or both.
Prereq: Admission to candidacy for an M.S. in physics education.
PHY 697 Research in Physics. 1 sem hr
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 department.

PHY 698, 699 Research in Physics. 2 and 3 sem hr
A continuation of PHY 697.
Prereq: PHY 697 and admission to candidacy for an M.S. degree in physics.

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

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

430 Intermediate Mechanics I
431 Intermediate Mechanics II
436 Vibration and Sound
440 Optics
441 Modern Optics
450 Electricity and Magnetism
452 Electrical Measurements
454 Vacuum Tubes and Their Applications
455 Semiconductor Electronics
460 Heat and Thermodynamics
462 Kinetic Theory and Statistical Mechanics
470 Atomic Physics
471 Nuclear Physics
475 Introduction to Quantum Mechanics
476 Solid State Physics
481 Mathematical Physics
PSYCHOLOGY

The graduate program was initiated in 1964. The Master of Science degree is awarded in general psychology with training emphasis on theory, research methodology, and problem-solving approaches. Application for admission to the graduate program in psychology must include the results of the Graduate Record Examination scores on verbal, quantitative, and psychology in addition to the application materials required by the Graduate School. Students may be accepted into the program with regular status or interim status. Students are reevaluated when advancement to candidacy is required.

In order to meet the requirements for the Master of Science degree, a student must earn a total of 44 undergraduate and graduate credits in psychology which includes a minimum of 24 graduate credits with at least a B average. Twelve to fourteen of these hours are required courses which include: PSY 513 Advanced Psychological Statistics, PSY 514 Correlational Analysis or PSY 515 Analysis of Variance, PSY 510 and PSY 511 Basic Concepts of Psychology, G453 History and Systems of Psychology, PSY 516 Research Design, PSY 599 Thesis. Six hours are required in a cognate area. The remaining hours are selected by the student and his psychology adviser. All graduate students in psychology are required to have their programs approved by the Graduate Adviser prior to registration each semester. Requirements also include passing a comprehensive examination as well as completion of an approved master's thesis.

Students interested in the psychology graduate program should address inquiries to the Chairman, Psychology Department Committee on Graduate Studies.

I. Basic Courses

PSY 510 Fundamentals of Psychology. 2 sem hr
Advanced readings and lectures on the major findings and recent research developments in the areas of scientific method, sensation and perception, learning, and motivation and emotion.
Prereq: Major or minor.

PSY 511 Basic Concepts of Psychology. 2 sem hr (Formerly PSY 502)
Advanced reading and lectures on the major findings and recent research developments on the areas of developmental, personality, psychopathology, and social psychology.
Prereq: Major or minor.

PSY 512 Statistics in Psychology. 2 sem hr (Formerly PSY 510)
The tools of descriptive statistics applied to psychological and educational research.
Prereq: One course in psychology.

PSY 513 Advanced Psychology Statistics. 2 sem hr
Characteristics of families of distributions, inference of population parameters from sample statistics, hypothesis testing by parametric and nonparametric techniques, relationships of statistical methods to underlying mathematical models.
Prereq: PSY 205.

PSY 514 Correlational Analysis. 2 sem hr
Simple correlation and regression; special correlational techniques, including multiple correlation and factor analysis.
Prereq: PSY 205 or equivalent.
PSY 515  Analysis of Variance.  2 sem hr
Analysis of variance techniques as related to psychological research.
Prereq: PSY 205.

PSY 516  Research Design.  2 sem hr
Research methods, and analysis of data.
Prereq: Experimental psychology and PSY 512 or equivalent.

PSY 519  Instrumentation for Behavioral Research.  2 sem hr
Design, construction, maintenance, and evaluation of apparatus for behavioral research.
Prereq: MTH 104 or equivalent.

II.  General Courses for Majors

PSY 522  Human Learning.  2 sem hr
Conditioning and learning in the acquisition and modification of individual responses; theories and principles having application to personality theory, psychotherapy, and education.
Prereq: 10 hours of credit in psychology.

PSY 524  Advanced Motivation and Emotion.  2 sem hr
A review of major findings, theories, and recent research developments in the areas of motivation and emotion.
Prereq: 20 hours of credit in psychology, including PSY 301.

PSY 526  Cognitive Processes.  2 sem hr
A review of theoretical and empirical developments in the areas of thinking, problem solving, concept formation, creativity, and decision making.
Prereq: 20 hours of credit in psychology, including PSY 301.

PSY 528  Advanced Sensation and Perception.  2 sem hr
A review of research and theory dealing with sensory experience and perception.
Prereq: 20 hours of credit in psychology, including PSY 301.

III.  Courses in Growth and Development

PSY 532  Development Psychology.  2 sem hr
Biological, intellectual, social, and emotional changes through the life span. Major concepts and problems related to developmental stages of life.
Prereq: 20 hours of credit in psychology, including PSY 321 or 322.

PSY 534  Psychology of Adolescence.  2 sem hr  (Formerly SC 501)
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.

IV.  Clinical Courses

PSY 540  Psychology of Adjustment.  2 sem hr  (Formerly SC 502)
Issues, concepts, principles, and theories in human adjustment.
Prereq: One course in psychology; open to majors and minors with permission of adviser.

PSY 543  Abnormal Psychology.  2 sem hr  (Formerly SC 560)
Behavior pathologies of children and adults, including symptom origins and methods of treatment. Not open to students who hold credit in PSY 460.
Prereq: One course in psychology; open to majors and minors with permission of adviser.
PSY 545  Clinical Psychology I.  2 sem hr
The responsibilities and tasks of the clinical psychologist; common diagnostic tools; the
clinician’s role in differential diagnosis; review of major treatment approaches used by
clinicians.
_Pre req: PSY 512 and PSY 543._

V.  Theoretical Courses

PSY 550  Dynamics of Human Behavior.  2 sem hr  (_Formerly SC 565_)
The determinants of behavior and personality with emphasis on the physiological, psy­
chological, and cultural bases.
_Pre req: One course in psychology; open to majors and minors with permission of adviser._

PSY 552  Theories of Personality.  2 sem hr
Major theories of personality including Freud, Jung, Adler, Rank, Sullivan, Kelly, Holistic,
and learning theorists.
_Pre req: One course in psychology._

PSY 553  Existential Psychology.  2 sem hr
Origins, growth, major contributors, and foci of concern of the existential movement(s) in
psychology and psychotherapy.
_Pre req: Two courses in psychology. PSY 552 is recommended._

PSY 554  Theory of Psychological Testing.  2 sem hr  (_Formerly SC 585_)
Assumptions, rationale, and statistical foundations of psychological tests used in differential
diagnosis.
_Pre req: 10 hours in psychology, including statistics._

PSY 555  Individual Testing I.  2 sem hr
Training and supervised experience in the administration and interpretation of the WISC
and WAIS Tests.
_Pre req: PSY 545 and 554._

PSY 556  Individual Testing II.  2 sem hr
Training and supervised experience in Binet and special diagnostic tests.
_Pre req: PSY 555._

VI.  Practicum (Not Available)

VII.  Applied Courses (Not Available)

VIII.  Courses in Tests and Measurements

PSY 580  Psychology of Individual Differences.  2 sem hr  (_Formerly SC 575_)
The objective and quantitative investigation of human variability in behavior phenomena
and the factors influencing these differences.
_Pre req: One course in psychology; open to majors and minors with permission of adviser._

IX.  Special Courses

PSY 595  Workshop in the Scientific Approach to Problem Solving.  2 sem hr  (_Formerly SC 595_)
The scientific approach to the solving of problems; the application of psychological prin­
ciples.
_Pre req: One course in psychology._
PSY 597, 598, 599  Independent Studies.  1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

PSY 601  Personality Evaluation I.  4 sem hr
An introduction to individual clinical tests and projective methods in the study of personality diagnosis. Includes learning to administer, score, and interpret the MMPI, 16 PF, Bender-Gestalt, Draw-A-Person, and Rorschach. Entails a knowledge of the clinical assessment research literature covering the reliability and validity of each testing method.
Prereq: PSY 555 and permission of instructor.

PSY 602  Personality Evaluation II.  4 sem hr
This course emphasizes the integration and synthesis of a battery of clinical psychological tests as exemplified in writing a psychological report. Supervised practice is given in test administration, scoring, and interpretation of test protocols administered to psychiatric patients and emotionally disturbed children.
Prereq: PSY 601.
SOCIOLOGY

Program Purpose
The program in sociology leading to the degree of Master of Arts provides the basic professional preparation for advanced graduate training beyond the master's level, for teaching positions at the secondary and college level, and for positions in social agencies in Michigan and other states.

Admission Requirements
1. admission to the Graduate School of the University
2. an undergraduate major or minor in sociology with courses in statistics, methodology, and theory
3. removal of deficiencies in preparation in key areas of sociology
4. scores on the Graduate Record Examination if required
5. receive the recommendation of the Graduate Committee in Sociology

Admission to Candidacy for a Degree
With the completion of 12 hours of graduate credit including at least 9 in sociology, the department will transmit a recommendation to the Dean of the Graduate School.

Course Requirements
- Advanced Methodology: 3 hours
- Advanced Statistics: 3 hours
- Advanced Theory: 2 hours
- Electives in Sociology (with approval of adviser): 8 hours
- Independent Study (thesis or equivalent): 6 hours
- Seminar in Sociology: 2 hours
- Cognate courses (outside Department): 6 hours

Minimum total: 30 hours

Financial Aid
A number of graduate assistantships, loans, and grants are available.

SOC 500 Man in Society. 2 sem hr
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. 2 sem hr
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 or SOC 500.

SOC 513 Social Deviance. 2 sem hr
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: SOC 525 or equivalent and permission of the department.
SOC 524 The Family. 2 sem hr
Family structures and processes in American society. The functions of the family in socialization, status placement, and social mobility.
Prereq: SOC 520 or equivalent.

SOC 525 Social Psychology. 2 sem hr
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 who hold credit in SOC 308.
Prereq: SOC 500.

SOC 526 Criminology. 2 sem hr
Criminal law as an instrument of social control; theories of criminal behavior and penology. The response of society to the breaking of laws; police, courts, prisons, and programs of prevention and control. Not open to students who have credit in SOC 308.

SOC 540 Sociological Theory. 2 sem hr
Major sociological theories of the past century in Europe and America; the implications of modern sociological theory for research methodology.
Prereq: SOC 403 and SOC 404.

SOC 555 Contemporary Community Structure. 3 sem hr
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 institutions.
Prereq: 9 hours of sociology.

SOC 556 Human Ecology & Community Development. 2 sem hr
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 United States.
Prereq: 9 hours of sociology.

SOC 557 Problems in Population Theory and Analysis. 2 sem hr
Demographic structure of societies; the interplay between social and cultural organization, economic organization, and population size and composition. The techniques of population analysis. Not open to students who have credit in SOC 339 or equivalent.
Prereq: One course in statistics and nine hours of sociology.

SOC 560 Principles of Cultural Anthropology. 3 sem hr
The study and analysis of non-literate societies.
Prereq: Graduate standing.

SOC 575 Techniques of Social Research. 2 sem hr
A review of the methods currently employed in sociological research, with particular emphasis upon the sample survey technique. Laboratory experience with some phase of an ongoing research project is provided.
Prereq: 9 hours of credit in sociology.

SOC 576 Intercultural Relations. 2 sem hr
Two purposes; to analyze the sources of tension and conflict among the major cultural, religious, and racial groups in American society; and to examine the various methods of bettering human relations. Not open to students who have credit in SOC 214.

SOC 586 Crime and The Community. 2 sem hr
Crime and law enforcement as expressions of community organization.
Prereq: SOC 206, or 526, or permission of the department.
SOC 587  The Causes of Crime.  2 sem hr
Crime, criminals, and criminal behavior; the development of criminal law. Individual and environmental factors in criminal acts and the dynamics of criminal and delinquent behavior.
Prereq: SOC 206 or 526 or permission of the department.

SOC 588  The Treatment of Crime.  2 sem hr
Contemporary correctional policies and programs in the United States and other nations. Efficacy of law enforcement; police, courts, prisons, and probation in the control of crime. Effective rehabilitation and crime prevention.
Prereq: SOC 206 or 526 or permission of the department.

SOC 589  Social and Cultural Aspects of Personality.  2 sem hr
The imprint on personality from contacts with many groups; personality types in different societies, with particular reference to selected patterns of group membership and the consequences for individual behavior.

SOC 594  I and II Field Work in Community Organization.  2 sem hr each
Supervised placement in a community agency such as a correctional institution, human relations committee, city planning agency, or in a project for the rehabilitation of persons in culturally or economically deprived segments of the community. Students are ordinarily placed for two consecutive semesters.
Prereq: Permission of the department.

SOC 596  Seminar in Problems of Criminology.  2 sem hr
Issues and research problems in criminology.
Prereq: 6 hours of graduate credit in sociology and permission of the department.

SOC 596  Seminar in Community Behavior and Social Change.  2 sem hr
Community power structure, voluntary social action groups, and institutional practices; their implications for producing and reducing change.

SOC 596  Seminar in Ecological Theory and Methods.  2 sem hr
The theoretical implications of ecological theory for the study of functional and spatial relationships of social organizations; methods of ecological research and the development of research problems.
Prereq: 15 hours of sociology.

SOC 596  Seminar in Selected Population Problems.  2 sem hr
The techniques of demographic analysis, population theory, and population control.
Prereq: One course in statistics and 15 hours of sociology, including SOC 334 or SOC 557.

SOC 596  Seminar in Sociological Theory.  2 sem hr
The relevance of the work of sociological theorists to current problems.
Prereq: SOC 540.

SOC 596  Research and Theory in Intergroup Relations.  2 sem hr
Empirical and theoretical issues and problems in cultural assimilation, conflict, and ethnic stratification; designing empirical research proposals in an area of specific interest.
Prereq: SOC 575 and SOC 576.

SOC 596  Seminar in Personality & Culture.  2 sem hr
Theory and research on the relationship between personality patterns and socio-cultural variables; a research proposal is required.
Prereq: SOC 549 and SOC 575.
The Department of Speech and Dramatic Arts provides the following program of graduate study leading to the Master of Arts in Speech and Dramatic Arts.

I. Objectives:
   A. to provide advanced preparation for the teaching of speech and dramatic arts
   B. to provide preparation for the further pursuit of advanced graduate study in speech and dramatic arts

II. Requirements for Admission:
   A. undergraduate major or minor in speech and dramatic arts
   B. regular admission to the graduate school as described in the Graduate School Catalog
   C. acceptance by the Graduate Committee of the Department of Speech and Dramatic Arts

III. Course of Study:
   A. the completion of a minimum of at least thirty semester hours credit beyond the bachelor's degree
   B. course work to include training in research approaches and resources in Speech and Dramatic Arts, an extra-departmental cognate, and a choice of emphasis in either public address or in dramatic arts

IV. Terminal Requirements:
   A. either the successful completion of a terminal qualifying examination covering:
      1. public address or dramatic arts
      2. a selected cognate
   B. or the submission and defense of a written thesis

For further information about the graduate program in Speech and Dramatic Arts contact Dr. John W. Sattler, Head of the Department of Speech and Dramatic Arts.

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, but they may take any other graduate courses in Speech and Dramatic Arts for which they have prerequisites.

SPH 501 Creative Drama. 2 sem hr (Formerly DRA 501)
The theory and techniques of informal drama, improvisation and dramatic play.

SPH 502 Drama for Children. 2 sem hr (Formerly DRA 502)
Theory and techniques of directing plays with and for children.

SPH 503 Play Production—Junior-Senior High School. 2 sem hr (Formerly DRA 503)
Principles and techniques of play production with emphasis on problems encountered in secondary schools. Dramatic structure, play selection, directing, scene design and construction, stage lighting, make-up, costuming, properties and business management; improvement of effectiveness in both curricular and extracurricular theatre.
SPH 509 Communications for Leaders. 2 sem hr  (Formerly DRA 590)
Principles and techniques in effective communication; the use of communication skills in
interviews, discussions, staff meetings, abstracting printed materials, bulletins, written and
spoken reports.

SPH 536 Broadcast Management. 3 sem hr  (Formerly 327)
An analysis of station management in the areas of advertising, programming, promotion
and publicity, applied research and labor relations.

SPH 537 Mass Communications. 2 sem hr  (Formerly SPH 522)
A study of the sociological and psychological aspects of the mass media. 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. 2 sem hr  (Formerly SPH 523)
Skills and techniques needed by classroom teachers for the effective presentation of educa­
tional materials through the medium of television. Theory and practice.

SPH 548 Television Techniques for Classroom Teachers II. 2 sem hr  (Formerly SPH 526)
A continuation and intensification of the theoretical and practical experience in instructional
Television provided in SPH 538. Laboratory hours to be arranged.

SPH 551 Theatre Planning. 2 sem hr  (Formerly DRA 551)
A study of the steps and considerations appropriate to the design of theatre structures with
emphasis on institutional and community playhouses.
Prereq: 9 hours credit in Dramatic Arts or permission of department.

SPH 589 Discussion and Conference. 2 sem hr
The principles and practice of discussion in problem solving and learning groups: confer­
ence, committee, panel, symposium and forum.

SPH 595 Workshop in Broadcasting. 2 sem hr
Practical experience in both radio and television. Available to teachers and high school
students interested in broadcasting.

SPH 596 Seminar in Directing Speech Activities. 2 sem hr
The philosophy, organization and administration of forensic programs for those who direct
or plan to direct extracurricular speech activities.

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.

SPH 552 Theatre Management. 2 sem hr  (Formerly DRA 552)
The materials and procedures of theatrical business management including scheduling,
budgeting, accounting, ticket sales, house management, program editing and public rela­
tions.
Prereq: 9 hours of credit in Dramatic Arts or permission of the department.

SPH 556 Advanced Directing Lab. 1 sem hr  (Formerly DRA 556)
Intensive scene study of selected dramatic styles and theatrical variants.
Prereq or coreq: SPH 558.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
<th>Prerequisites</th>
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<tr>
<td>SPH 557</td>
<td>Advanced Acting Lab.</td>
<td>1 sem hr</td>
<td>Intensive scene study of selected dramatic styles and theatrical variants.</td>
<td>Prereq or coreq: SPH 559.</td>
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<td>SPH 558</td>
<td>Advanced Directing</td>
<td>2 sem hr</td>
<td>Theoretical and practical considerations involved in the direction of selected nonrealistic</td>
<td>Prereq: 335 or permission of the department.</td>
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<td>styles of drama.</td>
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<td>SPH 559</td>
<td>Advanced Acting</td>
<td>2 sem hr</td>
<td>Theoretical and practical considerations involved in the acting of selected nonrealistic</td>
<td>Prereq: 242 or 335 or SPH 558 or permission of the department.</td>
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<td>SPH 560</td>
<td>Ancient Dramatic Theory</td>
<td>3 sem hr</td>
<td>Study of the main theories regarding the nature and purpose of drama from ancient Greece to</td>
<td>Prereq: 406 or permission of the department.</td>
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<tr>
<td>SPH 561</td>
<td>Modern Directing Theory</td>
<td>3 sem hr</td>
<td>The main theories regarding the nature and purpose of drama from the beginning of the 18th</td>
<td>Prereq: SPH 560 or permission of the department.</td>
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<td>century to the present.</td>
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<tr>
<td>SPH 562</td>
<td>American Theatre History</td>
<td>2 sem hr</td>
<td>A tracing of the main currents in the history of the American theatre from its beginnings in</td>
<td>Prereq: 406 or permission of the department.</td>
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<td>the late 1700's to the present.</td>
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<td>SPH 570</td>
<td>College Teaching of Speech</td>
<td>1 sem hr</td>
<td>Theory and practice of teaching speech at the college level.</td>
<td>Prereq: Permission of the department.</td>
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<tr>
<td>SPH 576</td>
<td>Public Address</td>
<td>3 sem hr</td>
<td>Critical study of the significant speeches of leading speakers with reference to their</td>
<td>Prereq: 15 hours of credit in speech.</td>
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<td>dominant issues and their influence on social and political life.</td>
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<td>SPH 581</td>
<td>Rhetorical Theory</td>
<td>3 sem hr</td>
<td>Study of the principles of rhetorical criticism.</td>
<td>Prereq: 15 hours of credit in speech.</td>
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<td>(Formerly SPH 596)</td>
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<td>SPH 584</td>
<td>Studies in Group Discussion, Argumentation and</td>
<td>3 sem hr</td>
<td>A review of contemporary research and theory in decision-making, communications, and group</td>
<td>Prereq: 15 hours of credit in speech.</td>
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<td>Perusasion</td>
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<td>processes with evaluation of the relation of such research and theory to current problems and</td>
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<td>practices in group discussion, argumentation and persuasion.</td>
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<tr>
<td>SPH 592</td>
<td>Research Techniques in Speech and Dramatic Arts.</td>
<td>2 sem hr</td>
<td>An introduction to the nature and value of research; the research problem; basic research</td>
<td>Prereq: 15 hours of credit in speech and major/graduate.</td>
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<td>tools; philosophical foundations of historical, descriptive, and experimental research;</td>
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</table>
SPH 596 Seminar in Dramatic Arts for Children. 2 sem hr  (Formerly SPH 565)
Advanced study of the history, theory, and techniques of dramatic arts for children.
Prereq: 222 or 323 or SPH 501 plus 322 or SPH 502.

SPH 596 Seminar in Theatre History. 2 sem hr  (Formerly SPH 566)
This course will be concerned with a penetrating study of the theatrical activity and technology prevalent during two or more periods in world history.

SPH 596 Seminar in Design and Technical Theatre. 2 sem hr  (Formerly SPH 567)
An intensive study of the organic theory of theatre production with emphasis on the contributions of Craig, Appia, Bakst, Reinhardt, Jones, Simonson and BelGeddes.
Prereq: 370, 376, 406 or permission of the department.

SPH 596 Seminar in Acting. 2 sem hr  (Formerly SPH 568)
Discussion in depth of outstanding representatives from the literature of the field of acting.
Prereq: 9 hours of credit in Dramatic Arts or permission of the department.

SPH 596 Seminar in Directing. 2 sem hr  (Formerly SPH 569)
Discussion in depth of outstanding representatives from the literature of the field of directing.
Prereq: 9 hours of credit in Dramatic Arts or permission of the department.

SPH 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr  (Formerly DRA 597, 598, 599)
An intensive study of one or more problems in group direction under the direction of a University faculty member.

SPH 651 Design I. 2 sem hr  (Formerly DRA 651)
Intermediate consideration of the theoretical and mechanical factors governing the design of scenery for the stage.
Prereq: 6 hours of credit in Dramatic Arts.

SPH 652 Lighting. 2 sem hr  (Formerly DRA 652)
A continuation of 376 Stage Lighting.
Prereq: Graduate standing.

SPH 653 Costume I. 2 sem hr  (Formerly DRA 653)
Intermediate study of the approaches to and the historical sources for stage costuming.
Prereq: 6 hours of credit in Dramatic Arts.

SPH 654 Costume II. 2 sem hr  (Formerly DRA 654)
Problems of construction and design of period costumes for the stage with emphasis on practical application culminating in a final design and construction project.
Prereq: 377, SPH 653 or permission of the department.

SPH 655 Playwriting I. 2 sem hr  (Formerly DRA 655)
Intermediate study of the approaches to and the structural composition of dramatic writing.
Prereq: 6 hours of credit in Dramatic Arts.

SPH 656 Playwriting II. 2 sem hr  (Formerly DRA 656)
A continuation of 386 Dramatic Writing.
Prereq: Graduate standing.

SPH 657 Creative Drama. 2 sem hr  (Formerly DRA 657)
A continuation of 323 Creative Drama.
Prereq: Graduate standing.
SPH 658  Theatre for Children.  2 sem hr  (Formerly DRA 658)
Intermediate consideration of the theoretical and practical factors involved in play production for child audiences.
Prereq: 6 hours of credit in Dramatic Arts.

SPH 697, 698, 699  Independent Studies. (Thesis)  1, 2, and 3 sem hr  (Formerly DRA 697, 698, 699)
An intensive study of one or more problems in group direction under the direction of a University faculty member.

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 2 or 3 semester hours of credit each, depending upon the circumstances of the student's registration; on this matter the student should, before completing his registration, have a clear understanding with both the Dean of the Graduate School and the Chairman of the Committee on Graduate Studies in the Department of Speech and Dramatic Arts. For descriptions of these courses, see the Undergraduate Catalog.

Communication and Public Address
259  Discussion and Conference
350  Persuasive Speaking
356  Argumentation and Debate
440  Survey of Public Address
460  Theory of Speech Criticism
485  Theories of Speech Communication Behavior

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

Interpretation
314  Interpretation of Drama
411  Advanced Problems in Interpretation

Speech Science and Pedagogy
300  Phonetics
307  The Teaching of Speech

Dramatic Arts
323  Creative Dramatics
322  Theatre for Children
335  Play Direction
84 Speech and Dramatic Arts

370 Scene Design.
375 Stage Costuming and Make-up.
376 Stage Lighting.
385 Dramatic Writing.
386 Dramatic Writing.
406 History of the Theatre.
422 Independent Study in Dramatic Arts for Children.
423 Independent Study in Dramatic Arts for Children.
424 Independent Study in Dramatic Arts for Children.
425 Honors Course in Theatre.
426 Honors Course in Theatre.
427 Honors Course in Theatre.
428 Honors Course in Theatre.
499 Seminar in Theatre.
The College of Business offers two graduate programs, one leading to the degree of Master of Business Administration (MBA), and the other to the degree of Master of Business Education (MBE). The former provides professional preparation for business, the latter for teaching of business subjects at secondary and community college levels.

Qualified applicants must (1) possess a baccalaureate degree from an accredited institution, (2) present an above average record of undergraduate credit, and (3) supply scores for the Admission Test for Graduate Study in Business (ATGSB).

Each applicant admitted to a degree program will be advised as to the content of his program of courses. This may include 3 to 21 hours in the foundation curriculum if his undergraduate work has not included two semesters each in Economics, Accounting, Marketing, and Management, and one semester each in Computers, Finance, and Statistics. For the MBE program, one semester each in Business Law and Business Communication are taken rather than Computers, Finance, and Statistics. In addition to any foundation courses needed, the Master of Business Administration (MBA) program includes: GBS 576, GBS 586, GBS 588, and GBS 592 (12 hours for the four courses); electives in one field of business (9 hours); free electives in the College of Business (3 hours); and free electives outside of the College of Business (6 hours), for a minimum of 30 hours. In addition to any foundation courses needed, the Master of Business Education (MBE) program includes: Business Administration courses (5-9 hours); Business Education courses (9-13 hours); Professional Education courses (6 hours); and General Education courses (6 hours outside of the College of Business), for a minimum of 30 hours.

A thesis is optional; those who anticipate study toward a doctoral degree are advised to include one.

More detailed information regarding graduate study in the College of Business may be obtained from these advisers:

MBA Degree Program: Samuel R. Anderson, 517 Pray-Harrold Building
MBE Degree Program: Charles H. Duncan, 511 Pray-Harrold Building

ACCOUNTING AND FINANCE

ACC 501 Accounting Principles. 3 sem hr
For students whose undergraduate major was not in business. The development of accounting principles and techniques for use as a tool in making financial decisions; an analytical rather than a procedural approach. The completion of a self-instruction, programmed text on the basic accounting process is required.
ACC 502  Financial Principles.  3 sem hr
For students whose undergraduate major was not in business. Key financial problems in
business management; an understanding to work effectively with financial specialists in
overlapping problem areas; develops a strong base for those students who expect to return
to the subject of finance and to build further competence in this area. Treatment of a limited
number of key financial concepts.
Prereq: ACC 501 or equivalent.

ACC 515  Accounting for School Administrators.  2 sem hr
Principles, theory and procedures of public school fund accounting; accounting principles as
applied to various kinds of public school funds, financial statements and reports, internal
accounting control, payroll accounting, business papers and procedures. *Not open to Business
Administration majors.*

ACC 544  Tax Accounting for International Business.  3 sem hr
International accounting problems; the interaction of tax laws of the United States and of
selected foreign countries.
Prereq: 344 or equivalent.

ACC 573  Securities Analysis.  2 sem hr
Procedures and methods of security analysis including valuation, timing, and psychological
factors which influence the individual security, the industry, and the securities market.
Designed for individual investors and for future securities analysts and managers.
Prereq: Principles of Finance 250 and Principles of Accounting 241, or equivalent.

ACC 583  Financial Administration Policies.  2 sem hr
The internal policies and problems of financial management encountered by businesses.
Developing administrative insight in funds administration planning, capital structure plan­
ning, security distribution arrangements and timing, expansion financing, and solvency
maintenance.
Prereq: Principles of Accounting 241 and Principles of Finance 250, or equivalent.

ACC 584  Administrative Controls.  2 sem hr
An interdisciplinary approach to decision making requiring accounting data; the
effectiveness of accounting information. Representative problem areas include: profit plan­
ning, cash flow, make or buy, capital investment and product pricing.
Prereq: 12 hours of credit in accounting or permission.

ACC 610  Accounting System Design and Installation.  3 sem hr
Provides the fundamentals of developing and analyzing accounting systems to produce
efficient recording optimum data processing procedures, and appropriate analysis and
interpretation for management, treated in the context of data processing methods. Case
studies are used.
Prereq: 15 hours of credit in accounting.

ACC 664  Theory of Accounting.  2 sem hr
The historical evolution of accounting and the contributions made by accounting theorists,
accounting societies, and governmental agencies. The evaluation and application of theories
to select accounting problems.
Prereq: Undergraduate major in accounting or permission.

ACC 696  Seminar in Accounting Theory and Practice.  2 sem hr
An intensive study of selected problems in accounting.
Prereq: ACC 664 and MKT 592.

ACC 697, 698, 699  Independent Studies.  1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University
faculty member.
Prereq: MKT 592 and permission of the department.
BUSINESS EDUCATION

BED 555 Teaching Data Processing. 3 sem hr
Basic information in the area of storage and retrieval systems and the methodology for presenting such information.
Prereq: Permission of department.

BED 562 Cooperative Programs in Business Education. 3 sem hr (Formerly 462)
Purpose and philosophy of vocational education in the fields of distributive and office occupations. Focus on organization and administration of vocational business education under federal, state, and local regulations. Open to graduate students and seniors in Business Education.

BED 568 Coordination of Cooperative Programs in Business Education. 3 sem hr
To acquaint the student with the function and scope of the teacher-coordinator's duties and responsibilities. Required of all potential coordinators. Recommended for school administrators. Open to qualified seniors in Business Education.

BED 569 Foundations of Business Education. 2 sem hr
Principles and developments in business education for school administrators and business teachers. The objectives and curricular patterns in business for different types of educational institutions; professional leadership and current research in the field. Open only to graduate students.

BED 571 Current Problems in Business Education. 2 sem hr
Current problems confronting business teachers in the secondary schools. Organization and administration of business education programs; physical facilities, equipment, and instructional materials; student personnel relationships; school-business relationships; evaluation of business education programs. Open to Business Education majors only.

BED 572 Administration of Business Education. 2 sem hr
Analyzes administrative and supervisory duties and responsibilities. Local, state, and federal programs, finance and budgeting, physical facilities, selection and placement of teaching staff, public relations and publicity, equipment selection and maintenance.

BED 595 Workshop in Business Education. 2 sem hr
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. 2 sem hr
Concepts and problems of business education in secondary schools and community colleges; current literature and research supplemented by individual research in selected areas.

BED 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

BED 611 Curriculum Models in Business Education. 3 sem hr
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 head.

BED 630 Psychological Development of Office Skills. 3 sem hr
Psychological techniques and procedures for developing both basic and higher levels of facility in typewriting and shorthand courses.
Prereq: Business Education majors only.
GENERAL BUSINESS

GBS 501 Introductory Probability and Statistics for Business. 3 sem hr
Fundamental concepts of quantitative analysis for business and economics. Emphasis on probability as a basis for statistics, probability distribution, sampling distributions, regression, correlation, and time series.
Prereq: Business major.

GBS 530 Public Law of Business. 3 sem hr
Examination of case law and statutory law which sets the limits on the manager's discretion in formulating and implementing policies. Major topics: Administration and the law; Unfair Trade Practices Law; Anti-trust Law; Labor Law; Securities Law.
Prereq: 303 Business Law, and Business major.

GBS 567 Risk and Risk Management. 3 sem hr
Study of the nature of risk and the principles and methods used in risk management. Emphasis on use of insurance in handling business risks.
Prereq: Business major.

GBS 568 Administrative Communications. 2 sem hr
Seminar in administrative communications covering theory, principles and practices. Applications to business research, case analyses, and report writing to help student become aware of management's problems and use of communications in managing a business.
Prereq: Business major.

GBS 570 Problems in Contemporary Economics. 2 sem hr
Basic business and economic problems in a free enterprise system; current economic problems. Not open to students who have credit in economics.

GBS 586 Quantitative Analysis for Business. 3 sem hr
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: Business major, Statistics 365.

GBS 589 Business Conditions: Analysis and Forecasting. 3 sem hr
(Formerly GBS 592)

GBS 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the directions of a University faculty member.

MANAGEMENT

MGT 501 Management of Human Resources. 3 sem hr
For graduate students whose undergraduate major was not in business. An understanding of management concepts in organizational theory, human relations and administrative control.
Prereq: Open only to graduate students.
MGT 576 Business in Society. 3 sem hr  (Formerly GBS 576)
Intellectual and cultural foundations of business. The ideas and concepts upon which our society is based; the relationship of these concepts to the meaning of today's business.
Prereq: Business major.

MGT 585 Organization Theory and Systems. 3 sem hr
The man-machine system of business enterprise; system concepts, feasibility studies, designing, planning, authorizing, installing, operating and modifying. Management decision-making concerning organizational concepts and staffing.
Prereq: 6 hours of credit in management.

MGT 696 Seminar in Administrative Policy. 3 sem hr  (Formerly MGT 596)
Policy making and administration from the viewpoint of the executive; an appreciation of the nature and origin of policies, leadership, and authority. Environment influence and experience in decision making.
Prereq: 12 hours of credit in business administration.

MGT 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr  (Formerly MGT 597, 598, 599)
An intensive study of a problem or group of problems under the directions of a University faculty member.
Prereq: MGT 696, MKT 592.

MARKETING

MKT 501 Marketing. 3 sem hr
The development of skills in the analysis and resolution of management problems related to the marketing process; economic, psychological, and sociological characteristics of demand for various products and markets; channels of distribution; advertising; personal selling; pricing policies; and regulation of marketing. Open only to graduate students.

MKT 518 Marketing Policies and Problems. 3 sem hr
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: Marketing 501 or equivalent.

MKT 588 Managerial Economics. 3 sem hr  (Formerly GBS 588)
Application of analytical methods in internal and external business management problems. Methods and techniques that facilitate decision making and forward planning under conditions of uncertainty. Management, uncertainty, prediction, measurement. Selected decision making problems. Management and technique of problem analysis and evaluation.
Prereq: Business major, Statistics 365.

MKT 592 Business Research. 3 sem hr  (Formerly GBS 592)
Scientific research; basic considerations in research methodology; economic analyses. Oral and written reports.

MKT 660 International Marketing. 3 sem hr
Investigation of international marketing and its role in the multinational corporation. Subjects included are appraising international market opportunities, international product, promotion, price and distribution policies and international marketing environments.
Prereq: Marketing 501 or equivalent.
MKT 680  Application of Quantitative Techniques to the Marketing Process.  3 sem hr
The development of student skills in quantitative data and marketing decision-making process. Forecasting models, inventory models, transportation models, models of customer behavior and advertising models. Attention is given to problem definition, gathering data, methods of analysis, and decision theory.
Prereq: Marketing 501 or equivalent.

MKT 696  Seminar in Advanced Marketing Theory and Practice.  3 sem hr
Selected topics of importance in marketing theory and practice. Contributions of economics, behavioral science, and mathematics to the marketing process.
Prereq: Marketing 501 or equivalent.

MKT 697, 698, 699  Independent Studies.  1, 2, and 3 sem hr
(Formerly MKT 597, 598, 599)
An intensive study of a problem under the direction of faculty members of professional rank.
Prereq: 6 hours of graduate credit in marketing.
EDUCATIONAL ADMINISTRATION

The Division of Educational Administration offers a Master's program in Educational Administration, a Master's program in Community School Administration, and a Specialist's program in Educational Administration.

The Master's program includes as a minimum:

- Foundations courses: 8 hours
- Administration courses: 12 hours
- Electives in the College of Education: 4 hours
- Electives outside the College of Education: 6 hours

Total: 30 hours

The Specialist's program includes:

- Behavioral Science and Administration: 4 hours
- Administration courses: 14 hours
- Independent Study or Internship: 6 hours
- Electives outside the College of Education: 6 hours
- Elective: 2 hours

Total: 32 hours

Program Requirements for a Master's Degree

1. Admission to the Graduate School
2. A favorable recommendation from an adviser in the Administrative Division upon or before the completion of 12 hours of credit
3. A Michigan certificate or its equivalent.

Program Requirements for a Specialist's Degree

1. Admission to the Graduate School
2. A Michigan certificate or its equivalent
3. One year of successful educational experience
4. A favorable recommendation from an adviser in the Administrative Division upon or before the completion of 12 hours of credit

Course Substitutions

Substitutions for administration courses must be approved by an adviser.

Area of Concentration

With the approval of an adviser, one course outside of the education area may be substituted for one in administration.

Courses Outside of Education

A suggested list of such courses has been prepared by the Division. Courses in teaching methods shall carry credit in education.
Internships
Information on internships is available in the office of the Director of Internship Programs.

Registration
Registration forms for students majoring in Administration must be signed by an adviser. Members of the staff and advisers are: E. Duvall, D. Fox, K. Grinstead, C. Hudson, J. Minzey, A. Schwarz, and G. Brower (Chairman).

ADM 502 Educational Organization. 2 sem hr
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.

ADM 515 Accounting for School Business Administrators. 2 sem hr
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.

ADM 540 Community Organization. 2 sem hr
An understanding of the community as a social group. Emphasis on community analysis, leadership, criteria of a good community, community change and action, and community problems. Open to teachers and community members.

ADM 550 Adult Education. 2 sem hr (Formerly ADM 594)
Organization and administration of adult education programs for communities. Open to nonmajors.

ADM 553 Economics of Public Education. 2 sem hr
Economic assumptions and theories of support for education; the effectiveness with which school funds are spent. 
Prereq: 6 hours of credit in administration.

ADM 556 The Community School. 2 sem hr
The basic principles in the organization and administration of community school activities. Observations of community schools and their varied programs together with textual and research materials. The Flint Community Schools will receive particular attention. Open to nonmajors.

ADM 557 Community School Administration. 2 sem hr
Selected problems in community school administration for students who are directors or instructors in a community school. 
Prereq: ADM 556.

ADM 562 Educational Leadership. 2 sem hr
The process and function of various school leadership positions is explored including current practices, theories, and concepts of educational administration. A general course describing the role of principal, superintendent, board of education, and other administrative positions in the public schools.

ADM 566 Supervision of Instruction. 2 sem hr (Formerly ADM 595)
Identification, validation, and use of criteria for appraising and improving teaching and learning, with focus on the classroom; principles underlying techniques of improving instruction. Open to nonmajors.
ADM 587 Evaluating Educational Services. 2 sem hr
Principles and procedures involved in the evaluation of: administrative and supervisory functions, the planning and management of school business affairs, the special services programs, the curriculum and auxiliary services. Public opinion and criticism, follow-up studies, standardized tests, and studies of educational change in behavior and attitudes.

ADM 590 Problems and Issues in School Administration. 2 sem hr
A "frame of reference" for administration and supervision; integration of previous learning and an examination of persistent problems.
Prereq: 6 hours of credit in administration.

ADM 596 Seminar: Federal Legislation Affecting Education. 2 sem hr
Consideration in depth of a selected number of recent federal statutes affecting public education; a brief summary of some of the major social forces currently shaping national policy; and a general review of legislation processes, by administrative and federal operations.
Prereq: 6 hours in administration.

ADM 605 Leadership Research and Theory. 2 sem hr  (Formerly ADM 505)
Theories and models of administration and leadership; general theories of leader behavior. A philosophy of social change and an understanding of social action.

ADM 650 School Law for Teachers. 2 sem hr
Legal principles underlying the day-to-day teaching activities; how laws operate and legal principles develop. Open to nonmajors.

ADM 651 Collective Negotiations in Education. 2 sem hr  (Formerly ADM 595)
An analysis of negotiations; issues which may be encountered by school administrators and teachers in collective negotiations in education. Open to nonmajors.

ADM 655 Problems in School Building Planning. 2 sem hr  (Formerly ADM 555)
Functional layouts and locations of school buildings in the light of recent trends toward involvement of staff and community.
Prereq: 6 hours in administration.

ADM 658 School Personnel Administration. 2 sem hr  (Formerly ADM 558)
The basic principles of staff relationships and policies necessary for effective service and high-level morale.
Prereq: 6 hours in administration.

ADM 660 School and Community Understanding. 2 sem hr  (Formerly ADM 593)
Interpreting the school to the community; some basic understandings in the use of the community as a laboratory to enrich the education of the child and to serve the needs of the community. Open to nonmajors.

ADM 671 Elementary School Principalship. 2 sem hr
Educational leadership in the elementary school and school-community relations; curriculum, instruction, special services, buildings and equipment, pupil relations, and personnel relations.
Prereq: 6 hours in administration.

ADM 672 Junior High School Principalship. 2 sem hr
Educational leadership in the junior high school and school-community relations; curriculum, instruction, special services, buildings and equipment, pupil relations, and personnel relations.
ADM 673  Senior High School Principalship. 2 sem hr  
Educational leadership in the senior high school and school-community relations; curriculum, instruction, special services, buildings and equipment, pupil relations, and personnel relations.

ADM 677  School Business Management. 2 sem hr  
School business procedures; budgeting, construction, purchasing, salary schedules, school indebtedness, and insurance problems. 
*Prereq: ADM 553.*

ADM 680  Legal Aspects of Administration. 2 sem hr  
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: 6 hours of credit in administration.*

ADM 682, 683  Behavioral Science in Administration and Supervision I and II. 2 sem hrs each  
Emphasizes contributions of research in the behavioral sciences. Explores studies of psychologists, sociologists, political scientists and others that have special value in understanding such concepts as leadership, organization, power, authority, communication, innovation and decision making.

ADM 693  Practicum in Field Research. 2 sem hr  
Orientation to research and proposal development, development of research instruments and procedures to be used in independent study, and review of the literature for the proposed research area. *Must be taken prior to Independent Studies.* 
*Prereq: ADM 683 and permission of the department.*

ADM 694  Internship in Educational Administration. 2 sem hr  
On-the-job training experience in an administrative job. Is completed in schools which have contracted with the University to conduct this program. Arrangements made with instructor prior to registration. 
*Prereq: Prior approval of the department.*

ADM 696  Research Seminar in Administration and Supervision. 4 sem hr  
Explores research proposals in administration and supervision. Requires acquaintanceship with research literature in administration and supervision. 
*Prereq: 6 hours of credit in administration.*

ADM 696  Advanced Seminar in Administration and Supervision. 2 sem hr  
An intensive study of selected problems in administration and supervision.

ADM 696  Interdisciplinary Seminar in Educational Administration. 4 sem hr  
Offered on an interinstitutional basis by the Departments of Education of seven state-supported institutions. Recent research and theory from education and behavioral sciences. *Enrollment by invitation only.*

ADM 696  Advanced Seminar: Implementation of Federal Legislation. 2 sem hr  
Consideration in depth of several bases for the development of policy guidelines, administrative procedures, and project objectives in the implementation of federal legislation affecting public education. 
*Prereq: ADM 396.*
ADM 696  Advanced Seminar: School Finance.  2 sem hr
Designed to acquaint students with specific areas of school finance. Probable areas for study are: (1) the capital outlay program, (2) the school bond market, (3) the bond prospectus, (4) model state foundation programs, (5) the development of sound debt management policies.  
Prereq: ADM 553.

ADM 696  Interuniversity Seminar.  2 sem hr
Students from various Michigan universities will meet at Flint for eight sessions on the first Friday of the month, beginning in October. Speakers of national significance will discuss topics from fields outside of, but pertaining to vital issues in, education.  Students must apply to instructors for admission to the course prior to July 1. May be used by administration majors for cognate credit.

ADM 697, 698, 699  Independent Studies.  1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.  
Prereq: ADM 683, AMD 693, and permission of the department.
Graduate programs in elementary education at Eastern Michigan University are intended for professional educators seeking careers in early childhood education, elementary education and supervision.

The Master’s degree program in early childhood education is designed to further the student’s knowledge of the preschool, nursery, kindergarten, and primary years. Courses, seminars, workshops and field experiences focus on critical examination of the basic concepts of growth, development, and behavior and of the multidimensional aspects of the teacher’s role with children, parents, professional colleagues, and community. Current practices will be evaluated in the light of theoretical foundations and relevant research findings.

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

The Specialist’s degree program in each area involves two years of study beyond the Bachelor’s degree and affords the student an opportunity to prepare in depth for a variety of positions in early childhood and elementary education. The program consists of three phases designed to integrate the candidate’s courses, work and professional experience.

Faculty members who may be contacted regarding these programs are: H. Smith, K. Kramer, B. Borusch, H. Wass.

Graduate programs in secondary education at Eastern Michigan University are intended for professional educators seeking teaching and/or supervisory careers in Secondary School Curriculum and Secondary and Junior High School teaching.

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

The Master’s degree in Secondary School Curriculum is designed primarily for the student who wishes to attain a broader and more comprehensive understanding of the American secondary school.

The Master’s degree in Education for Secondary School Teachers is designed for the graduate student who wishes to take his master’s in the field of education and who also wishes to improve his teaching effectiveness in the academic areas.

The Master’s degree in Education for Junior High School Teachers is designed for teachers, department heads, supervisors and principals who have a particular interest in the development and understanding of competencies for work in the junior high school and the middle school.

Faculty members who may be contacted regarding these programs are: Wm. Goldsmith, W. Russell, N. S. Moore, R. Hoexter.

CUR 504 Creative Activities in Early Elementary Education. 2 sem hr
Relationship of creative activities to the development of fully functioning, integrated individuals in kindergarten and primary grades. Planning for and implementing creative activities in play, dramatization, music, and art.
CUR 523 The Junior High School Curriculum. 2 sem hr
(Formerly CO 561 The Junior High School)
History and philosophy of the junior high school; curriculum, provision for individual
differences, modern classroom procedures, use of materials and aids of instruction, the
activity program and guidance.

CUR 532 Elementary School Children and Social Studies. 2 sem hr
Current issues and controversies in the teaching of social studies in the elementary school.

CUR 540 Curriculum Foundations. 2 sem hr
Curriculum content and patterns of schools in the United States. Historical and theoretical
authority for the curriculum; criteria for the choice of content.

CUR 541 Curriculum—Elementary School. 2 sem hr
Fundamentals of curriculum development; selected types, several basic determinants, some
approaches to organization, and the concept of change. In curriculum building, emphasis is
placed on the role of the teacher and on the problem-census approach to defining problems.

CUR 542 Curriculum—Secondary School. 2 sem hr
The development and present status of the secondary curriculum; principles of curriculum
revision and some factors involved in curriculum changes. Students are encouraged to
concentrate on curriculum problems present in their school system.

CUR 543 Core Curriculum. 2 sem hr
An insight into the nature and techniques of core teaching.

CUR 546 The Dropout Problem. 2 sem hr
An intensive review of this national problem; practical procedures based upon school and
community resources for improving holding power.

CUR 566 Improving Instruction. 2 sem hr
Identification, validation, and use of criteria for appraising and improving teaching and
learning, with focus on the classroom; principles underlying techniques of improving
instruction.

CUR 567 Enriching the Early Elementary Classroom Program. 2 sem hr
Types of organization of elementary classroom activities and programs in relation to behav­
ioral 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 dis­
advantaged.

CUR 571 Teaching of Social Studies. 2 sem hr
Subjects included in social studies, problems related to the presentation of materials, plan­
ing of units, and types of class activities. Not open to students who have credit in 481 or 348
Teaching Social Studies.

CUR 585 Kindergarten Education. 2 sem hr
Basic principles and philosophy of kindergarten education; curriculum planning and cur­
riculum materials for kindergarten children.

CUR 586 Trends and Issues in Kindergarten Education. 2 sem hr
Important trends and issues affecting the education of kindergarten children.
CUR 587 Early Childhood Education. 2 sem hr
Educational implications of historical, developmental, and curricular research; continuity in program development; foundations and techniques for establishing cooperative home-community-school relationships for the improvement of the education of young children.

CUR 591 Supervision of Student Teachers. 2 sem hr
Preparing the public school teacher to work with student teachers.

CUR 595 Teaching the Disadvantaged. 2 sem hr
The problems of teaching disadvantaged children and youth in inner-city, suburban, and rural schools.

CUR 595 Early American Life—Colonial Williamsburg.

CUR 595 Workshop in East African Studies. 2 sem hr
This workshop is designed to study the culture, geography, and economy as they affect education in Ethiopia, Kenya, Somalia, Tanzania, Uganda and Zambia. These countries are forming an expanded East African Economic Community. A follow-up Education Study Tour to East Africa is being planned for the summer of 1970.

CUR 596 Seminar in Secondary Curriculum. 2 sem hr
Problems and concerns in curriculum making in junior and senior high schools; content is determined by students' interests and concerns.
Prereq: CUR 540, CUR 542, and 20 hours of graduate credit.

CUR 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

CUR 696 Seminar in Elementary School Curriculum. 2 sem hr
An intensive evaluation of curriculum materials and problems in elementary schools.
Prereq: CUR 541 and 20 semesters of graduate credit.

CUR 696 Seminar: Early Childhood Education. 2 sem hr
Systematic analysis of critical issues and research areas in early childhood education. Presentation of individual reports to seminar group for discussion and criticism.

CUR 696 Seminar: Reassessing Human Potential. 2 sem hr
New theories regarding human potential as they influence current curriculum concepts and practices.
Prereq: CUR 540.

CUR 696 Seminar: Changing Process of Elementary Education. 2 sem hr
Childhood education in its cultural setting; a reappraisal of objectives in an educational future which is changing rapidly.
Prereq: CUR 540.
READING

(Part of Curriculum and Instruction)

The graduate programs in reading are primarily designed for the preparation of specialized personnel in this field; special teachers of reading at both the elementary and the secondary levels; supervisory reading specialists, such as consultants, coordinators, and supervisors; specialists for reading clinic positions, such as clinic directors and reading counselors.

Courses are also designed to aid administrators, supervisors, directors, and persons in guidance and related work whose main responsibilities in schools are general in nature.

The programs at Eastern Michigan University are consistent with the “Minimum Standards for Professional Training of Reading Specialists” as defined by the International Reading Association. A student can plan a program with his adviser that will enable him to meet the State of Michigan requirements for a reading specialist.

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

The Specialist’s program is planned for professional personnel who have completed a Master's degree program in reading identical with or equivalent to the Master's program outlined by Eastern Michigan University. The program is specifically designed for personnel who wish to serve as reading consultants, reading supervisors, or reading coordinators.

Persons who wish to have further information regarding these programs may contact Dr. Irene Allen, Dr. Kathleen Hester, Dr. Robert Krebs, Dr. Muriel Langman, and Dr. Ingrid Ylisto.

RDG 500 Foundations of Reading Development. 4 sem hr (Formerly RDG 572)
History of trends in reading instruction in America; factors influencing achievement in reading; goals, critique of current methods, reading skills functional in the content areas, and organization, location, and evaluation skills. This is the first course in the concentration area.

RDG 501 Developmental Reading—Elementary. 2 sem hr (Formerly RDG 591)
Objectives, approaches, materials, and techniques for reading in the elementary school classroom. Factors influencing development; fundamental skills, assessing and providing for individual strengths and needs.
Prereq: Nonmajor.

RDG 502 Developmental Reading—Secondary. 2 sem hr (Formerly RDG 592)
Curricular objectives and their implementation through recommended activities, methods, and materials; functional programs for disabled readers.
Prereq: Nonmajor.

RDG 560 Reading Problems of the Disadvantaged. 2 sem hr
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 effects reading.

RDG 573 Programs in Language Arts. 2 sem hr
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. 2 sem hr
Problems of underachievement; weaknesses and deficiencies in attitudes, comprehension, word recognition, and facility and flexibility in silent and oral reading; physical, psychological, environmental, and educational factors.
Prereq: RDG 500

RDG 589 Developing School-Wide Reading Programs. 2 sem hr
Organization of school-wide reading programs; determinants of variability; effective inter­relationships and communication; roles of special reading teachers and consultants.
Prereq: 8 hours of credit in reading.

RDG 594 Internship in Reading. 6 sem hr
Supervised experiences in selected school systems; major functions and problems of reading consultants and/or co-ordinators.

RDG 595 Workshops in Selected Areas. 2 sem hr

RDG 595 Workshop in Providing for Individual Differences in Reading. 2 sem hr

RDG 596 Seminar: The Teaching of Reading. 2 sem hr
Sources, research studies, and a critical examination of selected studies and investigations; evaluation of student's background in reading.
Prereq: 10 hours of credit in reading.

RDG 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems in the field of reading or language arts. The completed study must give evidence of the student’s ability to select a problem, set it up, and pursue it to satisfactory completion. Must be done with recommendation and/or approval of a full-time member of the reading staff.

RDG 601 Programs in Language Arts: Secondary School. 2 sem hr
Curricular objectives and their implementation through listening, speaking, spelling, and creative, narrative, and expository writing; evaluative procedures and some consideration of corrective techniques.

RDG 660 Survey of Resources and Materials in the Language Arts. 2 sem hr
Publications useful in teaching, listening, speaking, reading, and writing; special-purpose reading materials such as high-interest, low-vocabulary materials, materials for the gifted, materials for bibliotherapy. Determinants of readability.
Prereq: 8 hours of credit in reading.

RDG 661 Analysis and Treatment of Common Reading Problems. 2 sem hr
(Formerly RDG 661 & 662)
Survey of diagnostic procedures, formal and informal; organization and interpretation of case history and test data; determinants of prognosis, preparation of recommendations; designing individualized programs.

RDG 663 Evaluation of Reading Growth and Development. 2 sem hr
Standardized and informal tests; selection, administration, and interpretation; techniques for appraising achievement in listening, speaking, reading, and writing. Kindergarten through 12th grade.

RDG 693 Reading Practicum I. 2 sem hr
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.
RDG 693 Reading Practicum II. 2 sem hr
Supervised and directed experience in teaching reading appropriate to the student's needs. The practicum student will work with an individual remedial case. The detailed case-study approach will emphasize specialized planning based upon a thorough diagnosis. Approved and supervised by the reading staff professor.

RDG 696 Seminar: The Reading Process. 2 sem hr
For the research in the behavioral and medical sciences; linguistic studies; critical examination of selected studies, investigations, and reports.
Prereq: 20 hours of credit in reading.

RDG 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems in the field of reading or language arts. The completed study must give evidence of the student's ability to select a problem, set it up, and pursue it to satisfactory completion. Must be done with recommendation and/or approval of a full-time member of the reading staff.
EDUCATIONAL MEDIA

AUDIO-VISUAL (Former Prefixes CUR)

EDM 512 Audio-Visual Instruction. 2 sem hr
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. 2 sem hr
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 or EDM 512.

EDM 524 Radio and T.V. in Education. 2 sem hr
Extent and nature of experimentation in instruction by radio and television; current philosophy and attitudes toward teaching by radio and television.

EDM 595 Production of Instructional Materials—Workshop I. 2 sem hr
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 projectinals; and display boards of all types.
Prereq: 344 or EDM 512.

EDM 595 Workshop in Television Utilization. 2 sem hr
For teachers; advanced problems in the use of television in the classroom.
Prereq: One course in television.

EDM 596 Seminar in Instructional Materials. 2 sem hr
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 or EDM 512, or permission of department.

EDM 596 History and Appreciation of Motion Pictures and Photography. 2 sem hr
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 or EDM 512, or permission of department.

LIBRARY SCIENCE (Former Prefixes LIB)

EDM 525 Resource Materials for the Elementary School. 2 sem hr
Criteria and sources for selection and purchase of books, pamphlets, periodicals and free materials for nursery school through the sixth grade. Teachers only.

EDM 595 Workshop in Reading Guidance for Children. 2 sem hr
Reading guidance for teachers and librarians learning to meet the special needs of the individual child. Pre-school children to adolescents.

EDM 596 Seminar: The Administrator and the School Library. 2 sem hr
For administrators, supervisors, beginning audiospecialists, and beginning librarians; services, activities, materials and standards of a materials center in a school library.
EDUCATIONAL PSYCHOLOGY

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

ADVISING AND SELECTION

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

Following admission to the Graduate School, each applicant interested in a degree in Educational Psychology will be screened by the Graduate Committee. If accepted into the program, each applicant will be assigned to a member of the committee who will serve as his adviser.

COURSE REQUIREMENTS

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

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

Foundations
- Basic Concepts in Educational Psychology
- Introduction to Research
- Curriculum Foundations
- Social Foundations
- Alternates approved by the Graduate Committee

Areas of Concentration
- Development
- Learning and Educational Technology
- Personality
- Measurement and Research

Courses in One of the Areas of Concentration or an Approved Research Project

Cognates (outside of the Department of Education)

Seminar in Educational Psychology

minimum 30 hours

Graduate Committee: Mary F. Gates, Eugene Haddan, Kishor Wahi, Wilbur A. Williams, and Israel Woronoff (Chairman).
A. Survey

EDP 502 Basic Concepts. 2 sem hr
The major areas in Educational Psychology; recent developments in human development, measurement and research, learning and technology, and personality.

B. Development

EDP 500 Human Development. 2 sem hr
Hereditry, physiological changes, and physical growth of the child. Learning differences, mental abilities, and intelligence testing. The gifted and mentally limited.

EDP 501 Psychology of Adolescence. 2 sem hr
Physical, intellectual, emotional, and social development from puberty to adulthood with emphasis on the significance for teachers and others interested in youth.

EDP 509 Problems in Child Psychology. 2 sem hr
Ways in which children may be helped to accept greater responsibility; possible approaches for reducing tensions and increasing motivation of pupils. Course content will be determined by the needs of the students and the availability of community resources.

C. Learning and Educational Technology

EDP 503 Principles of Classroom Learning. 2 sem hr
Major principles of learning are examined for their applications in a classroom setting. Recent contributions are studied, and the value of learning theories for the teacher is discussed.

EDP 504 Essentials of Programmed Instruction. 2 sem hr
Principles of programmed instruction are discussed, and students examine published programs and evaluate them. Students construct short programs in their areas of interest and revise and evaluate them.
Prereq: One course in Educational Psychology.

EDP 506 Technology of Instruction. 2 sem hr
Classroom management of learning and instruction; the tools of instruction. Educational technology is more than the study of machines used in education.
Prereq: EDP 502.

EDP 508 Computer Applications in Education. 2 sem hr
Computer applications in education for school administrators, teachers, and others; the computer (hardware), the basic concepts of computer languages (software), and language skills to communicate with "experts." Scheduling, test scoring, record keeping; unique uses of computers for administrators, teachers, and counselors.

D. Personality

EDP 505 Mental Hygiene. 2 sem hr
The role and responsibility of the teacher in promoting good mental health. Factors and conditions contributing to maladjustment; the nature of mental disorders and diseases; school and agency services in their prevention and treatment. Not open to students who have credit in 206 Mental Hygiene.

EDP 584 Psychoanalytic Theory and Education. 2 sem hr
The applicability of psychoanalytic theories and concepts to problems of education.
Prereq: EDP 500.
E. Measurement and Research

EDP 521 Educational Statistics. 2 sem hr  
(Formerly R&S 521)
Comprehension and understanding of statistical procedures. Areas covered include: distribution, measures of central tendency, measures of dispersion and correlation.

EDP 531 Measurement and Evaluation. 2 sem hr
An analysis of educational achievement and individual prognosis. Includes a study of the construction and use of standardized and teacher-made educational tests, rating scales, questionnaires and similar devices.

EDP 551 Intermediate Statistics. 2 sem hr  
(Formerly R&S 551)
Inferential statistics, both parametric and nonparametric; theory of hypothesis testing.
Prereq: EDP 521.

EDP 592 Research Techniques. 2 sem hr  
(Formerly R&S 592)
Kinds of research in a variety of settings; reviewing reports of research; developing an interest in research activities. Students will present a plan for a research problem.

EDP 631 Advanced Statistics: Analysis of Variance. 2 sem hr  
(Formerly R&S 631)
Involves statistical principles in experimental design through the study of single and multifactor analyses of variance.
Prereq: EDP 521 and EDP 551.

EDP 598 Special Project. 2 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

EDP 599, 699 Master's Project. 3 sem hr each
An intensive study of a problem or group of problems under the direction of a University faculty member.
GUIDANCE, COUNSELING, AND PERSONNEL WORK

The Master's program consists of three major segments: (1) foundation courses, 8 hours, (2) a major sequence in Guidance and Counseling, 14 - 16 hours, and (3) cognate courses to be selected from the behavioral sciences with approval of an adviser. The major sequence includes the following: G&C 500 or G&C 501, G&C 510, G&C 520, G&C 540, G&C 680, and G&C 696. Additional courses from G&C offerings to complete 14 - 16 hours are selected with the approval of an adviser.

Students planning to enter counseling in a public school must present a valid teaching certificate or plan to earn one before completing the degree. Students who plan to counsel in other than public schools will make appropriate adjustments in their programs, with the approval of an adviser.

The Specialist's degree program qualifies candidates to function as professional counselors, able to work with little or no supervision, to organize and direct guidance services, and to furnish leadership and supervision to other staff in guidance and counseling. They should also have the basic research competence to be able to evaluate the services in which they are employed.

The program is designed to provide maximum flexibility in the planning of the individual candidate's degree plan. The 32 semester hours are divided into: (1) foundation courses, 6 hours, (2) major sequence, 16 hours, and (3) cognate courses, 10 hours. The major sequence includes: G&C 610, G&C 685, G&C 699, and additional supervised experience. Additional courses from G&C offerings to complete 16 hours and courses in the foundation and cognate areas are selected with the approval of an adviser.

Students who hold a Master's degree in another field, and who choose to pursue a Specialist's degree in Counseling will include 2 - 10 additional hours to compensate for the core program normally included in the Master's program.

For information, students should contact Dr. Winton Kloosterman, Advising Chairman, or Dr. James Weeks, Chairman, G&C Division.

G&C 500 Introduction to Guidance and Counseling. 2 sem hr (Formerly G&C 544)
A general course designed to present the philosophy, practice, and principles underlying counseling and guidance services in schools and other agencies. It is intended to provide an overview of the counseling and guidance field as well as an introduction to the professional program for the counselor. *Not open to students who have credit in G&C 501.*

G&C 501 Guidance in the Elementary School. 2 sem hr (Formerly G&C 549)
The unique contributions of guidance to the work of the classroom teacher and other staff in the elementary school are surveyed. Relationships between guidance, instruction, and administration in the elementary school are explored. *Not open to students who have credit in G&C 500.*

G&C 510 Counseling Principles and Practices. 2 sem hr (Formerly G&C 545)
An introduction to the theory and practice of counseling. In addition to an acquaintance with various approaches to the counseling process students begin counseling contacts in a setting providing supervised and self-evaluation.
*Prereq: G&C 500 or G&C 501.*
G&C 520 Standardized Group Testing. 2 sem hr  
(Formerly G&C 547)  
An introduction to the principles of psychological measurement and their application to counseling, guidance, and personnel work.  
Prereq: G&C 500 or G&C 501, EDP 521.

G&C 540 Group Guidance. 2 sem hr  
(Formerly G&C 548)  
This course affords the student an opportunity for experience in a small group. Included in the content will be the skills, techniques, and materials for group methods in guidance and personnel programs.  
Prereq: G&C 500 or G&C 501.

G&C 601 Student Personnel Services in Higher Education. 2 sem hr  
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.  
Prereq: G&C 500 and G&C 510.

G&C 610 Theories of Counseling. 2 sem hr  
(Formerly G&C 647)  
The rationale, historical development, and research underlying selected theories of counseling, with emphasis on the implications of each theory for practice. Each student is encouraged to develop a theoretical basis for his own counseling practice.  
Prereq: 10 semester hours in G&C courses and counseling experience.

G&C 611 The Elementary School Counselor. 2 sem hr  
The function of the elementary school counselor, his evolving role and relationships to students, teachers, parents, and special service personnel. Emphasis will be placed on techniques for the early identification of pupil's intellectual, emotional, social, and physical characteristics; development of his abilities and talents; diagnosis of his learning difficulties; and early use of available resources to meet his needs.  
Prereq: G&C 501, G&C 510.

G&C 612 Case Studies in Counseling. 2 sem hr  
An opportunity for advanced students to make an intensive study of selected counseling cases. Purpose of this study will be to acquaint students with critical areas in the counseling process and to develop professional skills which will assist in working through these areas.  
Prereq: Admission to Specialist's program and permission of department.

G&C 620 Individual Appraisal in Guidance and Counseling. 2 sem hr  
(Formerly G&C 640)  
Testing and nontesting procedures, techniques, and the processes of psychoeducational appraisal and their application to counseling, guidance, and personnel work. Major emphasis is placed on the relevance of individual assessment to an increase in self-understanding.  
Prereq: G&C 510, G&C 520.

G&C 621 Individual Mental Testing for Counselors. 2 sem hr  
(Formerly G&C 642)  
An introduction to the administration, scoring and interpretation of Wechsler psychological scales. Special emphasis is placed on the use of these test results by the school counselor in elementary or secondary schools.  
Prereq: Permission of the department.

G&C 630 Educational and Occupational Information. 2 sem hr  
(Formerly G&C 646)  
Supplying educational-vocational information as a major guidance service; sources, organization and dissemination of such information to students.  
Prereq: 6 hours in G&C courses.
G&C 631 Dynamics of Vocational Development. 2 sem hr
An in-depth study will be made of the process of vocational development in educational and other settings as it relates to general human development and the economics and sociology of work. Theoretical constructs and significant research findings will be examined. Implications will be drawn for professional workers in guidance and counseling and related to the manpower resources, locally and in the community at large.
Prereq: G&C 630.

G&C 632 Vocational Rehabilitation Counseling. 2 sem hr
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.

G&C 650 Organization and Administration of Guidance Services. 2 sem hr (Formerly G&C 645)
The philosophy and principles of guidance as implemented in practice; the administration of the various special guidance services. Guidance functions of various school staff members will be considered.
Prereq: 10 hours in G&C courses.

G&C 651 Professional Problems of Counselors. 2 sem hr (Formerly G&C 649)
Selected problems typical to the professional activities of the school counselor.
Prereq: 10 hours in G&C courses.

G&C 680 Counseling Practicum I. 2 sem hr (Formerly G&C 643)
An introduction to supervised counseling experiences. A variety of counseling cases, criticism by other members of the class and the instructor, together with self-evaluation combine to produce greater skill and understanding of the counseling relationship.
Prereq: Permission of the Graduate Committee in Guidance and Counseling.

G&C 681 Field Work in Guidance, Counseling, and Personnel Work. 2-4 sem hr
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 instructor.

G&C 685 Counseling Practicum II. 2 sem hr (Formerly G&C 644)
An advanced course in supervised counseling experience.
Prereq: Prior approval of the department.

G&C 686 Supervision of Counseling Practicum. 2 sem hr
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: G&C 685 or equivalent experience.

G&C 694 Internship in Guidance, Counseling, and Personnel Work. 8 sem hr
A supervised work experience in an approved program of counseling, guidance, pupil personnel work, student personnel services or other setting appropriate to the interest and background of the enrollee. The intern will be required to spend at least 500 clock hours on the job to satisfy the course requirement.
Prereq: Permission of the adviser.
G&C 696 Seminar in Guidance, Counseling, and Personnel Work I. 2 sem hr
An integrating experience for the M.A. program. Includes organization and administration of services, and other selected topics for intensive study.
Prereq: 10 semester hours in G&C courses.

G&C 697, 698 Independent Studies. 1 and 2 sem hr
An opportunity to explore topics of interest to the student in an intensive and independent manner. Topics must be selected, and an independent study pursued with the consent and supervision of a member of the faculty in Guidance and Counseling.

G&C 699 Specialist in Arts Report. 3 sem hr
A formal research paper required of each candidate for the Specialist's degree in Guidance and Counseling. Each candidate's study will be supervised and approved by a committee consisting of the adviser and one additional member of the Graduate Committee in Guidance and Counseling.
The Master's degree program in Social Foundations is designed to provide a broad experience in the major areas of Anthropology of Education, Comparative Education, History of Education, Philosophy of Education, and Sociology of Education. From this program, the student is expected to gain better understanding of the structures and dynamics of the culture setting particularly as they relate to the individual and to the process of education. Illustrative of the concerns of the program are the impact of tradition upon the contemporary setting, the struggle between the individual on one hand and mass culture on the other, and the analysis of the challenges of varied philosophical alternatives in the face of changing domestic as well as international perspectives.

Admission to the program requires that the applicant hold a baccalaureate degree from an accredited institution and a valid teaching certificate, and has been granted Regular Admission to the Graduate School of Eastern Michigan University.

Completion of the program includes a minimum of thirty semester hours of graduate credit which are divided into eight hours of foundation courses, twelve hours in area of concentration, and ten hours of electives. Eight hours of credit in social foundations courses must be completed during the first twelve to sixteen hours of study for the Master's degree.

The Graduate Committee on Social Foundations will adjudicate all student appeals for exception from program policies or faculty interpretations of those policies when requested in writing by the student.

For further particulars, please address inquiries to: Dr. Erma Muckenhirn, Chairman, Division of Social Foundations, Department of Education, Eastern Michigan University.

SFD 509  International Agencies in Education.  2 sem hr
The objectives, methods, and materials for teaching international understanding, UNESCO, AID, and other agencies involved in international education; the development of educational systems in underdeveloped nations and the relationship of education to such forces as nationalism and colonialism.

SFD 520  Education in Europe and U.S.S.R.  2 sem hr (Formerly SFD 521)
A comparative analysis of selected educational systems in Europe including the U.S.S.R. Patterns, trends and problems of various phases of education such as foundation, administration, organization and curriculum are examined.

SFD 523  Education in New Nations.  2 sem hr (Formerly SFD 522)
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.

SFD 524  The Development of European Education.  2 sem hr
Consideration of ancient traditions as the Graeco-Roman and Hebraic-Christian and such modern forces as nationalism, democracy, science, and industrialization in terms of their impact on educational development in selected European countries. Focus is upon organization, philosophy, curriculum, methods of instruction, and evaluation.
SFD 525 Philosophy of Education. 2 sem hr
Through a study of the development of educational thought, the student is enabled to find his way through the maze of conflicting current opinions. The course should help him to find a tenable and satisfying philosophy to guide his own educational thinking.

SFD 526 History of American Education. 2 sem hr
A sound historical foundation upon which to base judgments about our present educational practice in the United States.

SFD 527 Juvenile Delinquency. 2 sem hr
Nature, meaning, basic causal factors and conditions of delinquency in home, school, and community; problems in personality and behavior; the juvenile court; delinquency prevention and control programs. Opportunity to study problems of particular individual interest. Not open to students who have credit in 354 Juvenile Delinquency.

SFD 528 Progressivism in American Education. 2 sem hr
The genesis and development of pragmatism; the special contributions of Pierce, James, Mead, and Dewey; the educational theories and practices of the Progressivists Bode, Kilpatrick, Counts; present thought and new influences.

SFD 529 Sociology of Education. 2 sem hr
Selected points of view and empirical studies on social organization, social change, policymaking, power and authority structures, social class system, and social movements in relation to the school as an institution.

SFD 548 Workshop in British Education. 4 or 6 sem hr
British education in its social and cultural setting. Taught at Reading, England, in cooperation with Reading University.

SFD 562 Cultural Determinants of Learning. 2 sem hr
The educational theories and practices in literate and preliterate societies as illustrative of various theories of cultural dynamics and change which relate to citizens who will be living in the twenty-first century; the relationship between culturally held values and the learning process.

SFD 593 International Understanding. 2 sem hr
Available local and national resources for promoting international understanding in the classroom; selected issues in international understanding and selected school projects and programs. Resource persons will be invited to participate.

SFD 595 Workshop on India: Its Culture and Education. 2 sem hr
The critical issues affecting education in selected areas of the Indian subcontinent; a sociological, political, historical and economic perspective focused on the allocation of educational resources, the reconciliation of tradition and technical education, social change, and the balance between nationalism and internationalism.

SFD 596 Seminar in Social Foundations II. 2 sem hr
An intensive study of problems in social foundations.

SFD 612 The Logic of Teaching. 2 sem hr
Philosophical analysis of concepts central to the processes of education: learning by doing, teaching as telling, and the curriculum as content, knowing “that” and knowing “how.”
SFD 620 Anthropology of Education. 2 sem hr
An overview of the learning process in human societies, addressing universal problems of motivation, selectivity, thinking - remembering-forgetting, language and thought, value orientation and cultural sets.

SFD 621 Existentialism and Education. 2 sem hr
An historical and comparative analysis of the relationship of pragmatism to existentialism; factors which affect theories and practices of American education.

SFD 622 Pragmatism and Education. 2 sem hr
(Formerly SFD 622 Development of American Pragmatism)
Consideration of pragmatists' psychology, sociology, ethics, social philosophy and their influence upon educational philosophy and practices.

SFD 625 History of Educational Thought. 2 sem hr
A study of the history of educational thought as a means of understanding the evolutionary process by which modern concepts of education developed.
Prereq: SFD 525.
HEALTH, PHYSICAL EDUCATION AND RECREATION

Degree
Master of Science in Physical Education

Admission
1. bachelor’s degree from an accredited institution with a major-minor in Health, Physical Education, Recreation, and Athletics
2. minimum of 8 semester hours in the basic sciences

Requirements for the Degree
1. fulfillment of the Graduate School requirements
2. successful completion of a minimum of 30 semester hours with 20-24 hours in H.P.E.R.
3. recommendation of the Departmental Graduate Adviser

Curriculum Requirements
Candidates will have the responsibility of scheduling conferences with their Graduate H.P.E.R. Adviser to complete the following:

1. CORE CLASSES ................................................................. 10 hours
   a. PED 585 Physical Education in Elementary Schools
   or
   PED 586 Physical Education in Secondary Schools
   b. PED 587 Philosophy of Physical Education
   c. PED 588 Administrative Problems in Physical Education
   d. PED 589 Advanced Physical Testing
   e. PED 592 Research Techniques

2. PROFESSIONAL CLASSES (electives in H.P.E.R.) ..................... 10-14 hours

3. COGNATE CLASSES (electives outside H.P.E.R.) .................... 6-10 hours

Specialist’s Degree
An advanced terminal degree of 32 additional hours beyond the Master’s in an individual’s selected area of concentration

Graduate Adviser in H.P.E.R.
For further information concerning graduate work in H.P.E.R. contact:
Dr. John E. Sheard
Department of H.P.E.R.

I. General Courses
PED 500-504 are designed for nonmajors and should enhance the knowledge of students from other departments.
PED 501 Problems in Community Health. 2 sem hr  (Formerly PED 590)
Community health problems and the forces operative in their solution; the role of the educator dealing with the health problems of his environment.

PED 502 Elementary School Health. 2 sem hr  (Formerly PED 557)
Elementary school personnel and the total school health program.

II. Tool Courses

PED 505 Basic Statistics. 2 sem hr  (Formerly PED 521)
Statistical procedures; distribution, measures of central tendency, measures of dispersion, and correlation.

PED 506 Test Construction. 2 sem hr  (Formerly PED 531)
Types of written tests and examinations; construction, selection, and interpretation of results.

III. Athletic Courses

PED 510 Administration of Athletics. 2 sem hr
Problems related to interscholastic and intercollegiate athletic programs; for administrators, supervisors, coaches, and others having a part in the control of athletics.

PED 619 Problems in Training for Athletics. 2 sem hr  (Formerly PED 689)
Problems in the physical preparation of athletes for competition; treatment and rehabilitation following injuries.

IV. Recreation Courses

PED 520 Trends in Community Recreation. 2 sem hr  (Formerly PED 510)
Recreation and the cultural aspects of communities.

PED 522 Social Recreation. 2 sem hr  (Formerly PED 684)
Planning and directing activities for family groups, church groups, senior citizens, and school and community functions.

V. Health Courses

PED 540 School Health Trends. 2 sem hr  (Formerly PED 530)
Review of recent literature and research in the areas of health service and health instruction; national trends in school health.

PED 650 Administration of the School Health Program. 2 sem hr
For principals, supervisors, coordinators, athletic directors, and other personnel involved with the administration and leadership in school health programs. Current administrative theory in the implementation and improvement of school programs.

VI. Physical Education Courses

PED 548 Physical Education Travel Study Tour.  4-6 sem hr
A tour of several foreign countries to study curricula, methods of teaching, training techniques, facilities, and points of cultural interest related to health, physical education, recreation, and athletics.

PED 561 Supervision in Physical Education. 2 sem hr
Problems, relationships, and procedures in the supervision of physical education programs.
PED 562 Facility Planning and Development. 2 sem hr
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. 2 sem hr  (Formerly PED 685)
Organization and administration of intramural and extramural sports in junior and senior high schools; practical aspects of programming for groups and individuals.

PED 570 Critical Analysis of Physical Education. 2 sem hr  (Formerly PED 589)
The expanding role of physical education and the physical educator; an analysis of research in the foundation sciences and in philosophy.

PED 585 Physical Education in Elementary Schools. 2 sem hr  (Formerly PED 555)
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. 2 sem hr  (Formerly PED 556)
Developing a physical education curriculum for secondary schools; problems involved in supervision.

PED 587 Philosophy of Physical Education. 2 sem hr  (Formerly PED 687)
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. 2 sem hr
The case study approach to the understanding of problems in physical education and athletics; planning, organizing, developing, staffing, coordinating, and budgeting programs.
Prereq: Major/Minor.

PED 589 Advanced Physical Testing. 2 sem hr  (Formerly PED 686)
The application and interpretation of advanced physical tests in the areas of health, physical education, recreation, and athletics.
Prereq: Major/Minor.

PED 660 Motor Learning and Development. 2 sem hr
A study of the development of motor skills in children as related to their age and growth patterns with an investigation of major theories and research in learning as applied to motor skills.

PED 670 Current Problems in Physical Education. 2 sem hr
Identification, discussion and analysis of current problems and issues which confront the physical educator.

PED 678 Comparative Physical Education. 2 sem hr  (Formerly PED 688)
The historical heritage of physical education from early Greek civilizations to the present. Comparative studies of aims, objectives, and programs of ancient and modern cultures.

VII. Research Courses

PED 592 Research Techniques. 2 sem hr  (Formerly PED 594)
Research in a variety of settings; reviewing published research, participating in research, presenting a plan for a research problem.
PED 595 Health Education Workshop. 2 sem hr
Developing concepts of health education and total health programs.

PED 595 Workshop in Sex Education. 2 sem hr
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 595 Workshop in Total Activity. 2 sem hr
Physiological aspects of man related to his involvement in everyday activities in the modern accelerated pace of life.

PED 595 Workshop in Movement Education. 2 sem hr
A period of concentrated study, observation, and actual participation in methods and content areas in movement education for both elementary and secondary schools; of value to all elementary and secondary generalists or specialists interested in motor development.

PED 595 Workshop in Gymnastics. 2 sem hr
The development and improvement of gymnastics as a major area of physical education in the schools; the continuity and progression of gymnastic skills from grades one through twelve and current trends in theory and practice. Lectures, demonstrations, and discussions.

PED 596 Seminar in Current Literature Analysis. 2 sem hr
A critical analysis of recent literature and research in physical education and athletics. Emphasis is placed on the interpretation of practical data which are likely to have the greatest influence on programs, procedures, and practices.

PED 596 Seminar in International Physical Education. 2 sem hr
A continuation of PED 678, studying additional selected countries. A comparative analysis of physical education, recreation, and sports of each country in depth, using the seminar approach. 
Prereq: PED 678.

PED 596 Seminar in Modern Dance. 2 sem hr
A concentrated study of the teaching of modern dance in the secondary school, including technique and composition.

PED 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem under the direction of a University faculty member. 
Prereq: PED 592 or equivalent.

PED 695 Workshop: Trends in Physical Education. 2 sem hr
Basic issues and current trends in physical education and its related areas; local and national programs. 
Prereq: Graduate major.

PED 695 Workshop in Physical Fitness. 2 sem hr
Current theories and practices in the development of physical fitness in our society; evaluation of school programs.  
Prereq: Graduate major.

PED 696 Seminar in Physical Fitness. 2 sem hr
A study of the literature and materials pertinent to the teaching of fitness. Particular attention is given to the implementation of programs of fitness within the school and community.
PED 696 Seminar in Motor Skills. 2 sem hr
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 696 Seminar in Athletics I. 2 sem hr
A lecture-demonstration course in the problems and techniques of advanced coaching theories; emphasis on football and track.

PED 696 Seminar in Athletics II. 2 sem hr
A lecture-demonstration course in the problems and techniques of advanced coaching theories; emphasis on basketball and baseball.

PED 697, 698, 699 Independent Study. 1, 2, and 3 sem hr
A research study organized and developed by the Specialist’s degree candidate under the supervision of an approved faculty member. The research project may continue for a second semester, with the end product a single treatise.

Prereq: Permission of graduate adviser.
SPECIAL EDUCATION AND OCCUPATIONAL THERAPY

The Graduate School at Eastern Michigan University offers a program in Special Education leading to a Master’s degree and a Specialist’s degree. The degree program is pursued through a number of avenues in addition to regular course work. There are opportunities for field studies, workshops, independent studies, internships and research projects.

The primary emphasis of the Master’s degree program is in developing proficiency in classroom teaching and a better understanding of the individualized programs necessary for successful educational experiences for the exceptional child.

Master’s degree students wishing to qualify for teaching in an area of special education (i.e., mentally retarded, orthopedically handicapped, deaf and hard of hearing, emotionally disturbed, visually handicapped, occupational therapy or speech correction) may pursue a certification program on the graduate level. Those who have obtained certification on the undergraduate level are encouraged to further their understanding of a particular field of specialization or to obtain additional knowledge in one or more areas of exceptionality.

The minimum degree requirement does not guarantee certification, and the meeting of certification standards is not to be construed as the completion of the University special education equivalents. Graduate programs are planned on an individual basis, and students should seek the advice of department counselors when necessary.

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, supervision and curriculum development, and classroom teaching. Curricular requirements include a general core of theoretical and specialized courses, seminars, independent studies, and an internship in the field of interest and specialty.

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 regular classroom teachers and other nonmajors. These courses are designed to provide a student with 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, 483-6100, Ext. 2141.

A. General Courses

SGN 506 Education of Exceptional Children. 2 sem hr
Problems and methods involved in the adjustment and training of exceptional children in the school, e.g., the mentally retarded, the gifted, the deaf, the blind, the emotionally unstable, and the delinquent. Not open to students who have credit in 251 Education of Exceptional Children.

SGN 513 The Slow-Learner in the Classroom. 2 sem hr
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 SGN 558 and SGN 559.
SGN 514 Measurement and Diagnosis in Special Education. 2 sem hr
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.

SGN 515 Social Psychology of the Handicapped. 2 sem hr
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.

SGN 519 Administration and Supervision of Special Education. 2 sem hr
Organizing or improving a program for exceptional children; philosophical, legal, and practical aspects.
Prereq: SGN 506 and 6 hours of credit in special education.

SGN 520 Family-School Relationships in Special Education. 2 sem hr
Discovering and analyzing the home problems which have educational implications for the child.

SGN 561 Education of Gifted Children. 2 sem hr
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. 2 sem hr
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.

SGN 595 Education of the Disadvantaged Child. 2 sem hr
Problems and techniques related to the education of disadvantaged children. An overview of the sociological, medical, and psychological problems as they relate to the deprived child in both metropolitan and rural areas.

SGN 597, 598, 599 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

SGN 605 Rehabilitation Counseling in Special Education. 2 sem hr
Designed to integrate the theories and practices of social psychology, physical reconstruction, special education, and vocational guidance as they relate to life planning for the physically handicapped.
Prereq: Major/Minor.

SGN 694 Internships.

SGN 696 Seminar in Special Education. 2 sem hr
An intensive study of selected problems in special education. Open only to majors in special education.

SGN 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.
B. MENTALLY HANDICAPPED

SMH 507 Contemporary Problems in Mental Retardation. 2 sem hr
Contemporary issues and problems relating to the mentally retarded; institutionalization, sterilization, euthanasia, the parent movement, federal legislation, demonstration project, and current research.

SMH 557 Mental Deficiency. 2 sem hr
The nature and causes of mental deficiency; characteristics and social control of mental defectives. Opportunities are provided for observation and clinical studies. Not open to students who have credit in 350 Mental Deficiency.

SMH 558 Education of the Mentally Handicapped I. 2 sem hr
Selection and preparation of curriculum materials for mentally handicapped children; the methods and devices used in presenting this material. Opportunities provided for functional experiences.
Prereq: SGN 506.

SMH 559 Education of the Mentally Handicapped II. 2 sem hr
Educating the mentally handicapped in the intermediate program, and the techniques and methods in preparing and utilizing a curriculum adapted to the child's needs and abilities.
Prereq: SMH 558 or taken concurrently.

SMH 565 Habilitation of the Trainable Mentally Retarded Child. 4 sem hr
Habilitation and education of the trainable retarded child; philosophy and objectives, classroom management and procedures, program coordination and evaluation, parent counseling, professional personnel, legislation, housing, transportation, sheltered workshops, and other ancillary services.

SMH 568 Secondary Education of the Mentally Handicapped. 2 sem hr
A program of functional education for mentally handicapped children in the junior-senior high school age group; vocational, occupational, and terminal education.
Prereq: SGN 506.

SMH 596 Seminar in Mental Retardation. 2 sem hr
Focuses on the various problems related to mental retardation and the sociological and psychological theory as applied to the field. Students are expected to propose, analyze and conduct research from reviews of the literature and applied field study problems.

C. LEARNING DISABILITIES

SLD 567 Education of Children With Learning Disabilities. 2 sem hr
(Formerly LE 567 Education of the Brain-Injured Child)
Planning and effecting educational programs for brain-injured children who have disturbances in perception, thinking and emotional behavior. Pathology of the central nervous system; teaching techniques, classroom management, case studies, research and teacher-child and parent relationships.
Prereq: SGN 506.

D. EMOTIONALLY DISTURBED

SED 519 Emotionally Disturbed Children. 4 sem hr
Dynamics of individual behavior; theories of emotional behavior in children illustrated by case materials and excerpts from psychotherapy.
Prereq: Abnormal Psychology.
SED 563 The Emotionally Disturbed Child in the Regular Classroom. 2 sem hr
For regular classroom teachers who do not have training in dealing with the emotionally handicapped child. The behavior of disturbed children, techniques for dealing effectively with symptomatic behavior; a case study analysis of children being taught by individuals electing the course. This course does not apply toward certification to teach emotionally handicapped children in special educational programs.

SED 583 Preclinical Experiences.
Provides 120 clock hours of contact with emotionally disturbed, but those who have worked with disturbed children may have this requirement waived by presenting a statement from a supervisor. Arrangements for this requirement are made through Mr. Caputo's office.

SED 596 Seminar in Emotionally Disturbed Child. 2 sem hr
All recipients of fellowships, as well as other graduate majors in the program for teachers of the emotionally disturbed, are now required to elect this seminar during their graduate work. Course consists of a review and discussion of some contemporary issues in the education of the disturbed, following which students elect areas for more intensive exploration through library study or actual data gathering. Students present their results and conclusions to the group in a discussion setting.

SED 603 Therapeutic Management of Emotionally Disturbed Children. 2 sem hr
Techniques in dealing with emotionally disturbed children; surface manipulation of behavior and life space interview.
Prereq: SED 519 and presently working with children.

SED 611 Methods and Curriculum for Emotionally Disturbed. 2 sem hr
Curriculum materials, methods, and techniques for educating the emotionally disturbed child.
Prereq: SED 519.

SED 612 Organization of Programs For the Emotionally Disturbed. 2 sem hr
Program variations and their adaptations for the education of emotionally disturbed children; the theoretical and philosophical foundations of programs; behavior management techniques, teacher role, and professional relationships.
Prereq: SED 519.

SED 696 Psychological and Educational Techniques for Emotionally Disturbed. 2 sem hr
Advanced course for graduate students in the area of emotionally disturbed. Variations in educational programming for the disturbed and socially maladjusted are discussed. Each student is required to work individually with a disturbed or maladjusted child to make an analytical, educational evaluation of the child's learning needs, and to implement this analysis in a tutorial relationship with the child.
Prereq: SED 611 and SED 612.

E. PHYSICALLY HANDICAPPED

SPH 510 Education and Treatment of Cerebral Palsied Children. 2 sem hr
An interpretation of the cerebral palsied child; types of cerebral palsy. The problems of education and treatment; opportunity is provided to observe children in the classroom and treatment room.
Prereq: SGN 506.

SPH 536 Methods of Teaching Physically Handicapped Children. 2 sem hr
Education and psychological needs of crippled children; teaching techniques to meet these needs, and problems that arise in group adjustment. Observation and laboratory are required.
SPH 537 Pathology of the Physically Handicapped. 2 sem hr
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.

SPH 538 Therapeutic Care of the Physically Handicapped Child. 2 sem hr
Medical and surgical aspects of the orthopedic and other handicapped conditions of children; therapies and services used in their rehabilitation. Opportunity for observation of children is available.
Prereq: SGN 506.

F. SPEECH CORRECTION

SPA 500 Introduction to Speech Correction. 2 sem hr
The more important problems of speech, their causes, and the remedial procedures which the classroom teacher may employ. Disorders of articulation. Not open to students who have credit in 241 Introduction to Speech Correction.

SPA 502 Introduction to Audiology. 2 sem hr
Structure and functions of the auditory mechanisms. Included is a study of sound as the auditory stimulus; anatomy and physiology of the hearing mechanisms; diseases of the ear and treatment; and pure tone audiometry.

SPA 504 Anatomy of the Speech and Hearing Mechanisms. 2 sem hr
The anatomy and physiology of normal speech production and auditory reception; the physical processes of speaking and listening as dynamic, interdependent processes.

SPA 506 Applied Phonetics. 2 sem hr
The International Phonetic Alphabet; physiology of sound production, ear training, and broad transcription of normal and deviant speech.

SPA 515 Speech Pathology. 2 sem hr
Prereq: SPA 500, SPA 504, SPA 506.

SPA 515 Speech Pathology Lab. 2 sem hr
Supervised clinical experience in diagnosing speech problems. Directed observation and practice in obtaining a case history; testing articulation; diagnosing retarded speech stuttering and voice; testing for cleft palate, cerebral palsy, and aphasia.
Prereq: Concurrent enrollment in SPA 515.

SPA 518 Directed Observation. 2 sem hr
Observation and evaluation of the methods and materials used in treating speech and hearing disorders. Opportunity for supervised clinical practice.
Prereq: SPA 515 and concurrent enrollment in SPA 520.

SPA 520 Speech Correction Clinical Methods I. 2 sem hr
Diagnosis and treatment of functional articulatory problems, stuttering, language impairment and functional voice disorders.
Prereq: SPA 515.

SPA 521 Speech Correction Clinical Methods II. 2 sem hr
Treatment of speech disorders associated with cerebral palsy, cleft palate, hearing losses, and mental handicaps.
Prereq: SPA 520.
SPA 522 Speech Correction Clinical Practice I. 2 sem hr
Supervised clinical experience with children and adults in an individual and group setting. Functional articulation and voice disorders and rhythm problems.
Prereq: Concurrent enrollment in SPA 521.

SPA 523 Speech Correction Clinical Practice II. 2 sem hr
Clinical experience with speech disorders associated with organic impairment; problems of children with cerebral palsy, cleft palate, hearing losses, and mental handicaps.
Prereq: SPA 522.

SPA 532 Psychology of Speech and Hearing. 2 sem hr
Speech, language, and hearing as a part of child development; social and emotional implications of communication disorders.

SPA 536 Audiometric Testing. 2 sem hr
Advanced techniques of testing the auditory function. Consideration is given to interpretation of audiograms, hearing aid evaluations, and use of differential hearing assessment techniques for children and adults with hearing disorders.
Prereq: SPA 502.

SPA 550 Articulation. 2 sem hr
A critical examination of the assumptions underlying the etiological, symptomatological, and therapeutic rationales currently used in articulation therapy and research.
Prereq: Undergraduate major in speech correction.

SPA 552 Voice. 2 sem hr
A study of the etiology, diagnosis, and treatment of functional and organic voice disorders. Defects of loudness, pitch and quality will be considered.
Prereq: Undergraduate major in speech correction.

SPA 554 Stuttering. 2 sem hr
Causation, symptomatology, and remedial procedures of stuttering; specific therapy procedures in the clinic, the school, and the home.
Prereq: Undergraduate major in speech correction.

SPA 556 Anatomy of the Head, Neck and Trunk. 2 sem hr
Detailed study of the skeletal, neurological, physiological, and muscular system of the head, neck and trunk with special emphasis on the speech mechanism. Laboratory dissection will be a part of the course.
Prereq: SPA 504 or equivalent. Undergraduate major in speech correction.

SPA 558 Language Therapy. 2 sem hr
Incorporating newly acquired or recently modified speech patterns into communicative behavior. Patterns and codes of language; the development of therapeutic activities for individuals with speech, hearing or language impairments.
Prereq: Undergraduate major in speech correction.

SPA 594 Public School Internship in Speech Correction. 4 sem hr
Supervised clinical practice with speech handicapped persons. The first internship is completed in a public school setting.
Prereq: Undergraduate major in speech correction and concurrent enrollment in SPA 596.

SPA 596 Seminar in Public School Speech Correction. 2 sem hr
Emphasizes professional ethics, organization and administration of speech correction programs in all settings. Includes state laws governing special education, professional growth and development, and employment practices and procedures.
Prereq: Concurrent enrollment in SPA 594.
SPA 610 Cleft Palate. 2 sem hr
Nature and etiology of palatal and facial deformities; surgical procedures and related therapy. Observation of dental, medical, and social service agencies.
Prereq: Undergraduate major in speech correction.

SPA 612 Cerebral Palsy. 2 sem hr
Examines the nature, etiology, and treatment of speech disorders resulting from cerebral palsy. Related intellectual, perceptual, social and emotional problems will be considered as well as the neuromuscular symptoms. Current speech therapy approaches will be emphasized within a total therapeutic program.
Prereq: Undergraduate major in speech correction.

SPA 614 Aphasia. 2 sem hr
Designed to provide a theoretical framework for understanding the symbolic language problems of aphasia as well as current therapeutic approaches to the problem. Discussion is concerned primarily with aphasia resulting from cerebral insult after language has been established. Consideration is given to related physical and behavioral disturbances.
Prereq: Undergraduate major in speech correction.

SPA 618 Language and Learning Theories. 2 sem hr
An examination of the nature and function of language and communication via linguistics, semantics, and phonetics, with special emphasis placed on learning theories and their relationship to language, speech, and communication behavior.
Prereq: Undergraduate major in speech correction.

SPA 620 Diagnostic Methods in Speech Pathology. 2 sem hr
The course will cover the diagnostic procedures and routines used in evaluation and diagnosis of speech and language disorders. Emphasis will be placed on the clinical approach to diagnosis as opposed to the public school approach. Consideration will be given to case interview, parental counseling, report writing and case referral.
Prereq: Undergraduate major in speech correction.

SPA 622 Diagnostic Methods in Hearing. 2 sem hr
Evaluation of auditory dysfunctions with special emphasis on the multiple-handicapped child. Demonstrations and case studies will be an integral part of the course.
Prereq: Undergraduate major in speech correction.

SPA 694 Clinical Internship in Speech Correction. 2 sem hr
Opportunity for experience to practice speech correction in a clinical setting. Experience with children and adults with multiple handicaps will be provided, as well as an opportunity to work as a part of a professional team in rehabilitation procedures.
Prereq: Undergraduate major in speech correction.

SPA 696 Seminar in Speech Pathology. 2 sem hr
An examination of current research dealing with theoretical and therapeutic implications in the various pathologies of speech. Opportunity for individual investigation and study provided.
Prereq: Undergraduate major in speech correction.

SPA 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.

G. DEAF AND HARD OF HEARING

SDH 510 Education and Guidance of the Deaf. 2 sem hr
A survey course covering the history of the education of the deaf; current educational programming; counseling, guidance and vocational habilitation.
SDH 514 Speech for the Deaf I. 2 sem hr
Analysis of the particular problems of speech for the deaf; methods of analyzing and transcribing speech; techniques for the development of speech for the young deaf child.

SDH 518 Speech for the Deaf II. 2 sem hr
Speech development and improvement for the older deaf child. Includes supervised speech tutoring.
Prereq: SDH 514.

SDH 522 Language for the Deaf I. 2 sem hr
(1) The effects of a hearing loss on language development; (2) the development of language in the young deaf child; (3) the structure of the English language and principles of grammar; (4) a survey of the varying language methods currently in use in schools for the deaf. Activities include: field trips to the off-campus schools for the deaf used as student teaching centers; preparation of lesson plans and teaching materials.

SDH 526 Language for the Deaf II. 2 sem hr
(1) The teaching of language to older deaf children; (2) a detailed study of the Fitzgerald Straight Language System with emphasis on practical use at elementary, intermediate, and secondary levels; (3) experience with a variety of approaches to the stimulation, improvement and correction of written composition. Activities as above.

SDH 530 School Subjects for the Deaf. 2 sem hr
Principles and methods of teaching reading and school subjects to the deaf and the adaptation of regular curricula and materials to meet the needs of the deaf.

SDH 554 Auditory Training and Speech Reading for the Deaf and Hard of Hearing. 2 sem hr
(1) Study of the avenues of receptive communication available to the acoustically handicapped; (2) methods of developing speech reading skills; (3) methods of training children with residual hearing; (4) the care and use of group and individual amplification equipment.

SDH 593 Pre-Practicum with the Deaf. 2 sem hr
Sixty clock hours of directed observation and practical work in the classroom with deaf children.

SDH 596 Deaf Education Seminar. 2 sem hr
A comparative study of the varying curricula of deaf education programs in Michigan. Includes educational programming; school organization; use of community resources; and parent counseling.
Prereq: Concurrent enrollment in student teaching.

SDH 596 Advanced Seminar in Education of Child with Impaired Hearing. 2 sem hr
For teachers of deaf or hard of hearing, speech correctionists, counselors and teachers; an auditory approach to diagnosis, therapy, and educational management of the child with impaired hearing from infancy through high school. Effects of hearing impairments and rehabilitation procedures for speech reading, language and speech. Practicum with children of different ages. Summer session only.
Prereq: Undergraduate major in deaf and hard of hearing.

SDH 685 Guidance and Counseling for the Deaf and Hard of Hearing. 2 sem hr
Intellectual, academic, social, vocational and emotional problems of the deaf; philosophy and principles of guidance; review of community resources available to assist with present and future problems of adjustment.
Prereq: Undergraduate major in deaf and hard of hearing.
Special Education and Occupational Therapy

SDH 686 Advanced School Subjects for the Deaf. 2 sem hr
Principles and methods of teaching upper elementary and secondary school subjects to the deaf; the improvement of reading skills; techniques of adapting the regular school curriculum to meet the needs of the deaf.
Prereq: Undergraduate major in deaf and hard of hearing.

SDH 687 Advanced Language for the Deaf. 2 sem hr
A study of language problems at the upper elementary and secondary levels. Emphasizes techniques of correcting language errors, methods of improving composition, and methods of achieving acceptable use and understanding of English.
Prereq: Undergraduate major in deaf and hard of hearing.

SDH 688 Advanced Speech for the Deaf and Hard of Hearing. 2 sem hr
Review of classical approaches, a study of recent research, and practical application of findings to the development and improvement of speech for the deaf and hard of hearing. Includes supervised diagnostic and therapeutic practicum.
Prereq: Undergraduate major in deaf and hard of hearing.

H. OCCUPATIONAL THERAPY

SOT 528 Adaptive Equipment and Appliances. 2 sem hr
Techniques of creating braces and splints for the upper extremities through the use of such materials as aluminum, royalite, plastic, elastic, plaster of paris, wood, and leather. The neuromuscular theory of hand splinting with emphasis on necessary precautions. How to make, repair, fit, and purchase adaptive equipment and appliances.

WORKSHOPS

SGN 595 Parent-Child Counseling in Special Education. 2 sem hr
SGN 595 Sensory Training for Perceptually Handicapped Children. 2 sem hr
SGN 595 Unit Teaching for Exceptional Child. 2 sem hr
SGN 595 Supervising Teaching in Special Education. 2 sem hr
SGN 595 The Application of New Materials in Teaching Special Education. 2 sem hr
SGN 595 Workshop for Training of Supervising Teachers: Special Education. 2 sem hr
SLD 595 Language Problems of Neurologically Impaired Child. 2 sem hr
SLD 595 Sensory Training for Perceptually Handicapped Children. 2 sem hr
SLD 595 Workshop in Diagnostic Procedures in Learning Disabilities. 2 sem hr
SMH 595 Pre-School Culturally Deprived Mentally Handicapped Child. 2 sem hr
SMH 595 Physical Education and Recreation for the Mentally Handicapped. 2 sem hr
SVH 595 Workshop in Mathematics for the Visually Handicapped. 2 sem hr
The graduate program in Home Economics has been developed to fulfill a variety of needs for home economists in Michigan and surrounding states. Some participants enroll primarily to earn required certification credits, but the majority complete the degree.

The specific needs which are identified as basic to advanced study are:

(a) a general strengthening of all areas of home economics for secondary teachers who plan to continue their work in homemaking instruction

(b) an opportunity to select one or more areas for specialization in order that the student may prepare herself for teaching at the college and university level

(c) a concentrated study in one or more areas of specialization in preparation for certain types of work in business, research, mass communications, or extension services

(d) continued study and experiences for the purposes of training specialists in teacher education in home economics

A Master's degree may be earned either in General Home Economics or in one of the following areas of specialization:

(a) clothing, textiles and related arts

(b) family life and child development

(c) foods, nutrition and family health

(d) home management, equipment and housing

(e) home economics education

Since area of specialization requirements vary, the candidate has the option of selecting a graduate program leading to the degree of Master of Arts or Master of Science in Home Economics. All degree programs require a minimum of 30 hours. Of these, at least 24 semester hours are in the field of home economics (of which a minimum of 16 hours may be in a chosen area with the opportunity to select at least eight semester hours in other areas of home economics) with at least six semester hours selected from related courses outside the department of Home Economics.

All programs of study include a two-hour course in research methods (HEC 592). Students have the option of a two- or four-hour Independent Study or of courses selected from their major emphasis.

For further information about the program contact Dr. Betty L. Bornemeier, Graduate Adviser of the Department of Home Economics, 101 Welch Hall.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>HEC 500</td>
<td>The Disadvantaged Family</td>
<td>2 sem hr</td>
<td>Problems facing individuals in families that are socially, culturally, and economically disadvantaged. Resources for effective local and federal programs of assistance in social service, education and legislation; resource speakers and field trips.</td>
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<tr>
<td>HEC 501</td>
<td>Women in the Modern World</td>
<td>2 sem hr</td>
<td>The dynamics of the past half century with implications for the American woman. Opportunities and conflicts represented by the emerging multiple roles for women; opportunities through counseling, continuing education, and mass media.</td>
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<tr>
<td>HEC 502</td>
<td>Family in Crisis</td>
<td>2 sem hr</td>
<td>Social and psychological aspects of crisis situations in the family; educational preparation to face difficult situations in constructive ways. School, community, and legal assistance available for families in trouble.</td>
</tr>
<tr>
<td>HEC 503</td>
<td>Problems in Family Finance</td>
<td>2 sem hr</td>
<td>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.</td>
</tr>
<tr>
<td>HEC 504</td>
<td>Parent Education</td>
<td>2 sem hr</td>
<td>Discovering and analyzing situations and influences in the home which have educational implications for the child; methods and techniques for providing parent education.</td>
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<tr>
<td>HEC 505</td>
<td>Social and Economic Problems in Housing</td>
<td>2 sem hr</td>
<td>Personal and public concerns for adequate family housing with an evaluation on economics, art and social aspects. Local, state, and federal legislation on housing and trends in social action.</td>
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<tr>
<td>HEC 506</td>
<td>Foods in the Cultures of the World</td>
<td>2 sem hr</td>
<td>An interdisciplinary approach to cultures of the world; special social and ethnic groups in America and their food habits, agriculture and climate, religion and economics.</td>
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<tr>
<td>HEC 507</td>
<td>Leisure and the Family</td>
<td>2 sem hr</td>
<td>Impact of various aspects of modern life on availability and perception of leisure time; survey of variations in family time 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.</td>
</tr>
<tr>
<td>HEC 508</td>
<td>Food and Nutrition Problems of the Low-Income Family</td>
<td>2 sem hr</td>
<td>Social and economic factors relative to the dietary patterns of the underprivileged family and its members; dietary conditions, and supplementary community food programs.</td>
</tr>
<tr>
<td>HEC 509</td>
<td>Family Clothing Management</td>
<td>2 sem hr</td>
<td>Clothing and textile problems for each individual in the family; the relationship of garment design, garment construction, fiber content, fabric construction, and finish to the acceptability of the garment.</td>
</tr>
<tr>
<td>HEC 510</td>
<td>Demonstration Techniques</td>
<td>2 sem hr</td>
<td>Development of effective techniques and standards for use of demonstration methods for home economists in teaching, business and television. Critical evaluation of individual and team demonstrations in laboratory experience.</td>
</tr>
<tr>
<td>HEC 511</td>
<td>Curriculum Development in Homemaking Education</td>
<td>2 sem hr</td>
<td>Contributions of home economics at elementary and secondary levels; techniques employed in curriculum planning and reconstruction.</td>
</tr>
</tbody>
</table>
HEC 512 Methods and Materials in Family Life Education. 2 sem hr  
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: HEC 208 or equivalent; Education 305.

HEC 514 Home and Family Life Education in the Junior High School. 2 sem hr  
Developmental needs of preadolescents; changes in family and society as a basis for developing junior high school programs in homemaking and family life education. Survey of methods and materials unique for effective personal and family-centered teaching at this level.  
Prereq: HEC 371 or equivalent.

HEC 515 Space, Equipment and Furnishings for Homemaking Departments. 2 sem hr  
Problems in remodeling old and planning new departments, equipping and furnishing them. Trends in space use in departments with correlated application of experiences in classroom.  
Prereq: HEC 305; 371 or equivalent.

HEC 516 Federal Legislation for Wage Earner Programs in Home Economics. 2 sem hr  
Current legislation providing vocational training in home economics, related positions for youth, and adults. Processes of area studies, implementing programs, and roles of personnel involved.  
Prereq: Consent of department head.

HEC 518 Special Problems in Homemaking Education. 2 sem hr  
Course developed to assist the in-service teacher with specific problems in homemaking programs. Major concerns are the slow learner, the returning school dropout, the disabled or homebound child. Assistance and resources available for teachers who face such difficulties in their teaching responsibilities.  
Prereq: HEC 371 or equivalent.

HEC 530 Family Economics and Home Management. 2 sem hr  
Management problems and consumer needs of American families: analysis of consumer aids and buying-selling practices.  
Prereq: HEC 204

HEC 531 Recent Developments in Home Equipment. 2 sem hr  
Current models of household appliances; mechanical principles involved in construction, use and methods of testing. Cost-quality factors and consumer information.  
Prereq: HEC 305 or equivalent.

HEC 540 Family Development. 2 sem hr  
Family growth patterns through predictable stages of development; processes of interaction and cooperation.  
Prereq: HEC 104 or 206 or equivalent.

HEC 541 Child Guidance in the Family. 2 sem hr  
Family relationships with responsibilities to children at various developmental stages. Analysis, evaluation, practical application of various philosophies of child development and child rearing as they relate to family living.  
Prereq: HEC 206.

HEC 544 Preparation for the Later Years. 2 sem hr  
Individual, family and community planning for the years ahead; developing potentialities; maintaining health; providing reasonable security; building interpersonal relationships. Lectures, field trips and demonstrations.
HEC 545  Laws Affecting the Family.  2 sem hr
Laws related to the family; their historical development and application to various stages of the family life cycle. Family law from the viewpoints of family members and professional persons who work with families; legal assistance available to families.

HEC 560  Tailoring.  2 sem hr
Fundamental construction processes and special techniques applied to the construction of tailored garments; alterations and adaptations.
Prereq: 6 hours of credit in clothing and/or textiles.

HEC 561  Consumer Problems in Clothing and Textiles.  2 sem hr
Investigation of the sociological, psychological, legal and technical facts involved in the selection and use of textiles and clothing.
Prereq: HEC 302; 113 or equivalent.

HEC 562  History of Costume.  2 sem hr
The costume (through ages) from ancient times to present day; major characteristics; social, economic and aesthetic influences; recurring styles; and influence on present fashion.
Prereq: HIS 101 or 102 or equivalent and HEC 208 or equivalent.

HEC 563  History of Furnishings and Decorations.  2 sem hr
Interior decoration through past centuries; furniture, decorative objects, and fabrics representative of various periods of history in relation to original and present use. Authenticity, quality, and appropriate adaptations.
Prereq: HEC 204; 309 or equivalent.

HEC 564  Fashion Design.  2 sem hr
Structural designs, techniques, and presentation; designing and illustrating present-day apparel.
Prereq: One course in costume.

HEC 565  Clothing Design and Construction.  2 sem hr
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: 6 hours of credit in clothing/textiles.

HEC 566  Consumer Problems in Home Furnishings.  2 sem hr
Characteristics, cost, construction, and range in quality of furniture, china, silver, glassware, wall coverings, rugs and carpets, flooring, woods and fabrics. Field trips. Purchasing problems are analyzed.
Prereq: HEC 204; 309 or equivalent.

HEC 568  The Fashion Field.  2 sem hr
The nature of the fashion cycle, the psychology of fashion, general definitions and background, fashion movements, the relation of art to fashion, the fashion world, the fashion centers, fashion trends, and the major fashion designers.

HEC 569  Problems in Interior Decoration.  2 sem hr
Practical experience in the integration of a complete decorative plan with regard to social and economic considerations, family living patterns, style and choice, client-decorator relationships and consultative practices. Field trips.
Prereq: HEC 305; 309 or consent of department head.

HEC 570  Methods and Materials in Teaching Clothing and Textiles.  2 sem hr
For the specialist in teaching clothing and textiles at secondary and advanced levels. Classroom procedures, organization of resources and methods of evaluation.
Prereq: HEC 302.
HEC 580  Recent Developments in Foods.  2 sem hr
The latest findings in research and technology in foods production, processing and distribution. Lectures, field trips, and demonstrations.
Prereq: HEC 211 or equivalent.

HEC 581  Special Problems in Meal Management.  2 sem hr
Management problems dealing with cost in time, money and energy for family meals; special occasions, simple catering, and special marketing problems.
Prereq: HEC 211; 204 or equivalent.

HEC 582  Experimental Foods.  2 sem hr
Experimental methods and scientific approaches to food problems. Laboratory and lecture.
Prereq: 6 hours of credit in foods; inorganic and organic chemistry.

HEC 584  Advanced Nutrition.  2 sem hr
The latest research in nutrition and emphasis on it as a world-wide problem. Problems related to nutritional deficiencies and special diet needs.
Prereq: HEC 201 or equivalent.

HEC 592  Research Methods for Home Economics.  2 sem hr
Basic course for students planning to elect an independent study. Types of research and techniques for interpretation.
To precede HEC 597, 598, 599.

HEC 597, 598, 599  Independent Studies in Home Economics.  1, 2, and 3 sem hr
An intensive study of a selected professional problem under the direction of a staff adviser.

HEC 611  Evaluation in Homemaking Education.  2 sem hr
Experience in measuring progress toward important goals in homemaking education; critical consideration of available tests and evaluation materials. Evaluation instruments and statistical techniques.
Prereq: HEC 371.

HEC 613  Supervision in Homemaking Education.  2 sem hr
Responsibilities, services and professional techniques for supervisors of homemaking teachers at local, state and national levels; in-service and preservice programs.
Prereq: A provisional certificate in vocational homemaking education.

HEC 633  Management of Homes for Physically Handicapped.  2 sem hr
The principles of home management for the disabled homemaker or for the homemaker who has the care of a handicapped person in the home. For home economists who deal in adult education, social service, equipment and mass media.
Prereq: HEC 204 or equivalent.

HEC 660  Recent Developments in Textiles.  2 sem hr
The nature of textile fibers; economic, chemical, and physical problems related to their manufacture and use; technological advances to overcome these problems.
Prereq: HEC 113 or equivalent and organic chemistry.

HEC 661  Textile Analysis.  2 sem hr
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.

HEC 696  Seminar in Advanced Home Management.  2 sem hr
Critical investigation of recent literature. Current trends in family practices at several social levels; changes in values, goals, and problems throughout the family life cycle.
Prereq: Two courses in home management.
HEC 696 Seminar in Family Health. 2 sem hr
Recent developments in nutrition, preventive medicine, and home care of the sick. Community, state, national, and world health organizations and improved family health. For persons in family service, public health, and home economics.

HEC 696 Seminar in Family Life and Child Development. 2 sem hr
Survey of social science research in the study of family and children; recent research and current issues. For teachers and other professional persons. Prereq: Consent of department head.
INDUSTRIAL EDUCATION

Objectives of a Program Leading to a Master's Degree

A program in Industrial Education is designed to:
1. provide advanced preparation in professional, technical, and cognate areas
2. increase the competency of a teacher, supervisor, or administrator of industrial education in the foundation areas of industry and technology, history and philosophy, curriculum and instruction, research, and psychology
3. provide some measure of flexibility in the selection of courses to meet the needs of each student
4. enable a student to acquire a broad knowledge of the literature in industrial education
5. provide a strong foundation for professional advancement and further graduate study

Requirements for Admission to a Program Leading to a Master's Degree

An applicant for admission must:
1. be admitted to the Graduate School of the University
2. have completed a minimum of 20 hours in industrial education
3. maintain a 5.0 (B) average for the first six hours of graduate study in industrial education courses at Eastern Michigan University
4. receive the recommendation of the Graduate Committee in the Department of Industrial Education.

Objectives of a Program Leading to a Specialist's Degree

A program in Industrial Education is designed to:
1. provide a high degree of individualization enabling a student to select courses consistent with his career objectives
2. permit optimum flexibility in selecting related courses in cognate areas outside the departments of Industrial Education and Education
3. enable a student to acquire an intensive knowledge of the literature of his chosen field of study
4. enable a student to demonstrate his abilities in problem solving by formulating and completing an independent research study consistent with his area of concentration
5. provide the stimulation and encouragement to lead a qualified student toward a doctoral degree

Requirements for Admission to a Program Leading to a Specialist's Degree

An applicant for admission must:
1. be admitted to the Graduate School of the University
2. hold baccalaureate and master's degrees from accredited institutions
3. have, normally, a minimum of two years of successful teaching in the general field of industrial education
4. have a concentration in the field of industrial education which will warrant advanced work—ordinarily 45 semester hours with at least 10 at the graduate level
5. have a 6.0 (B+) average in graduate courses in industrial education
6. complete a personal data form (601 IE)
7. develop a tentative plan of work in cooperation with a department adviser
I. Courses for Nonmajors

IED 500 Crafts I. 2 sem hr
The selection and use of industrial materials, devices, and machines in the home, the school, and in business and industry. Opportunities are provided for laboratory experience. *Not open to majors in industrial education.*

IED 501 Crafts II. 2 sem hr
The selection and use of industrial materials, devices, and machines in the home, the school, and in business and industry. Opportunities are provided for laboratory experience. *Not open to majors in industrial education.*

IED 502 Industrial Arts in Elementary Education. 2 sem hr
The theory and implementation of industrial arts content and method in the integration of elementary school subjects. *Open to majors in industrial education with permission of the department.*

IED 503 Teaching Aids in Secondary School Studies. 2 sem hr
Selection, design and construction of 3-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. 2 sem hr
Illustrations of ideas, plans, and proposals presented graphically. Production of examples of graphs, charts, and similar representations used by teachers and administrators. *Not open to majors in industrial education.*

IED 505 Graphic Arts. 2 sem hr
General graphic arts including: letterpress, planographic, gravure, and silk-screen printing; linoleum-block carving, and rubber-stamp making. *Not open to students who have credit in 104 or 205 Graphic Arts or equivalent.*

II. Communication

IED 510 Electricity-Electronics. 2 sem hr
An investigation of direct and alternating current theories combined with laboratory experiences and practical applications of test equipment. *Prereq: Algebra or trigonometry.*

IED 513 Drafting Technology. 2 sem hr
Drafting methods and materials; theory and application of pictorial and orthographic projection, primary and secondary auxiliary views, perspective shades and shadows, and topographical drawing.

IED 515 Product Design. 2 sem hr
Elements and principles of product design; theory and application of design principles in planning and processing industrial products.

IED 516 Architectural Drafting and Design. 2 sem hr
Contemporary architectural drafting and design; methods of presentation, site planning, perspective, rendering, and recent developments in drafting media. *Prereq: 4 hours in drawing.*

IED 517 Visual Communication. 2 sem hr
Theory and application of design, composition, photomechanics, image transfer, and finishing operations.
IED 610  Electronics Circuitry.  2 sem hr
Electronic theories related to vacuum tube principles, basic circuits, and the application of solid state equipment.
Prereq: 200, 214, or 510.

III.  Transportation

IED 520  Power Systems.  2 sem hr
The technology involved in harnessing and controlling power, including its sources, generation, transmission and utilization; the machines and devices used to convert power in industrial applications.

IV.  Materials Processing

IED 530  Forest Products Industry.  2 sem hr
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.  2 sem hr
Sources and properties of plastics materials; testing, chemical production, molding and forming processes, the fabricating and finishing industry.

IED 536  Metals Technology.  2 sem hr
A study of the metals industry; sources, characteristics and refining of metals, testing procedures, machining and processing applications, production methods.

V.  Industry and Technology

IED 540  Contemporary American Industry.  2 sem hr
The structure of the industrial institution in American society: formal organization, production, financial structure, research and development, union organization, legal structure, industrial relations, and informal relations in industry.

IED 541  Materials of Industry.  2 sem hr
Selected industrial materials; sources, properties, characteristics, analysis and testing. Implications for designing learning experiences in industrial education.

IED 640  Recent Technological Developments.  2 sem hr
Innovations in materials and processes and their implications for programs of industrial education; industrial visitation.

VI.  History and Philosophy

IED 550  Development of Industrial Education.  2 sem hr
Contributing factors in the historical development of industrial education programs; the influence of industry, institutions, movements, and leaders in the field.

IED 551  Philosophy of Industrial Education.  2 sem hr
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.  2 sem hr
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.  2 sem hr
The philosophy, history, and development of programs for teachers of industrial education; current trends in selected institutions.

IED 652  Technical Programs in Community Colleges.  2 sem hr
Nature, scope and functions of vocational and technical programs in community colleges; recent developments.

VII. Curriculum and Instruction

IED 560  Content and Method of Industrial Education.  2 sem hr
Methods of teaching, the identification of student and teacher behavior, principles of learning and teaching, analysis of the strategy or tactics for methods, developing criteria for making value judgments regarding methods of teaching in industrial education.

IED 660  Curriculum Planning in Industrial Education.  2 sem hr
Development and current status of curriculum in industrial education; principles of curriculum development, criteria for content selection, contemporary curriculum patterns, factors involved in curriculum change.

IED 661  Evaluation in Industrial Education.  2 sem hr
Principles and methods of evaluation in industrial education; experience in development and construction of effective devices for evaluation.

IED 662  Cooperative Programs in Industrial Education.  2 sem hr
Cooperative vocational programs in the secondary school; organization and procedures for apprenticeship training, trades and industries, distributive education, and diversified occupations.

IED 663  Instructional Technology in Industrial Education.  2 sem hr
Recent developments in instructional technology; the relationship of media to the psychology of learning. Implications for programs of industrial education.

VIII. Organization and Management

IED 670  Laboratory Planning.  2 sem hr
Space and equipment in school laboratories, drawing rooms, and related facilities for industrial education; safety, efficiency, design, location, selection, installation, care, standards, specifications.

IX. Administration and Supervision

IED 680  Supervision of Industrial Education.  2 sem hr
Principles and problems involved in the methods of improving instruction in industrial education. *Open to majors in industrial education and to majors in administration.*

X. Research

IED 592  Research in Industrial Education.  2 sem hr
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 595  Workshops in Selected Areas.  2 sem hr

IED 597, 598, 599  Independent Studies  1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.
IED 696 Seminar in Industrial Education. 2 sem hr
An intensive study of selected problems in industrial education. *Open only to majors in industrial education.*

IED 697, 698, 699 Independent Studies. 1, 2, and 3 sem hr
An intensive study of a problem or group of problems under the direction of a University faculty member.
GRADUATE COUNCIL

Dr. Kenneth L. Grinstead, Professor Raymond A. LaBounty, Dr. Ray B. Loeschner, Dr. Everett L. Marshall, Dr. Allen Myers, Dr. Thomas J. Murray, Dr. Julius M. Robinson, Dr. John W. Sattler, Professor Earl K. Studt, Dr. Elizabeth Warren, Dr. Wilbur A. Williams, Dr. James H. Glasgow, Chairman.

ACCOUNTING AND FINANCE

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

Erb, Emerson C., Jr. (1967) Professor, Accounting and Finance
B.S., M.B.A., Indiana University; C.P.A., State of Indiana

Department Head, Accounting and Finance

Gilson, Fred T. (1964) Assistant Professor, Accounting and Finance
B.S., University of Illinois; M.B.A., University of Michigan

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

Keros, John W. (1965) Associate Professor, Accounting and Finance

Nourallah, Fayez S. (1968) Associate Professor, Accounting and Finance
B.A., Eastern Michigan University; M.A., Wayne State University; C.P.A., State of Michigan

ADMINISTRATION AND SUPERVISION

Brower, George (1954) Professor, Education
Chairman, Administration and Supervision Division
B.S., Western Michigan University; A.M., University of Michigan; Ph.D., Cornell University

Daly, Francis M., Jr. (1964) Associate Professor, Education
B.S., M.A., Ed.D., Wayne State University

Assistant to the Dean

Duvall, Elven E. (1968) Professor, Education
B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., Columbia University

Fox, Donald R. (1966) Assistant Professor, Education
B.S., M.A., Central Michigan University

Grinstead, Kenneth L. (1964) Professor, Education
B.A., Iowa Wesleyan College; M.A., Ph.D., University of Iowa

Hudson, Cale C. (1966) Associate Professor, Education
B.S., M.S., Ed.D., Indiana University
Jones, Hebert M. (1964) ..................................... Associate Professor, Education
                                Assistant Dean, Graduate School
                                        B.S., M.A., Ball State University; Ed.D., Indiana University

Minzey, Jack D. (1968) .................................. Assistant Professor, Education
                                B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D.,
                                Michigan State University

Schwarz, Allan R. (1965) ................................... Professor, Education
                                 A.B., Nebraska State Teacher's College; A.M., University of Nebraska; Ed.D.,
                                New York University

Studt, Earl K. (1936) .......................................... Assistant Professor, Education
                                      Director, Field Services
                                            A.B., Eastern Michigan University; M.S., University of Michigan

ART

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

Beginin, Igor (1968) ........................................ Instructor, Art
                                B.A., M.A., Wayne State University

Calkins, Kingsley M. (1950) ..................................... Professor, Art
                                      Department Head, Art
                                      B.S., Eastern Michigan University; A.M., University of Michigan

Fairfield, Richard T. (1963) ................................ Associate Professor, Art
                                B.F.A., Bradley University; M.F.A., University of Illinois

Fensch, Charles (1966) ........................................ Assistant Professor, Art
                                B.A., Kent State University; M.A., Wayne State University

Field, Jan M. (1965) ........................................ Assistant Professor, Art
                                B.F.A., M.F.A., School of the Art Institute of Chicago

Godfrey, Elaine C. (1962) ........................................ Associate Professor, Art
                                B.S., Central Michigan University; M.A., University of Michigan

Hunter, Fredrick (1967) ....................................... Instructor, Art
                                B.S., Wisconsin State University; M.F.A., University of Wisconsin

Lamming, Dorothy (1947) ........................................ Professor, Art
                                 A.B., North Dakota State Teachers College; M.F.A., University of Washing-
                                ton

Loree, John (1962) ............................................ Associate Professor, Art
                                B.S., Fordham University; M.F.A., Alfred University

Mayer, Roger (1967) ............................................ Instructor, Art
                                B.F.S., Rhode Island School of Design; M.F.A., Syracuse University

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

Sharp, David W. (1962) ........................................ Associate Professor, Art
                                B.A., Arizona State University; M.F.A., State University of Iowa

Smith, Doris A. (1958) ........................................ Associate Professor, Art
                                B.D., M.S. and D., University of Michigan

Tammany, David D. (1966) ...................................... Assistant Professor, Art
                                B.F.A., University of Wichita; M.F.A., Tulane University
VanHaren, John E. (1960) ................................................ Professor, Art
B.S., M.A., University of Wisconsin

**BIOLOGY**

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

Belcher, Robert O. (1946) ................................................ Professor, Biology
B.A., Berea College; M.S., Ph.D., University of Michigan

Booth, Howard D. (1967) ........................................ Instructor, Biology
B.S., M.S., Eastern Michigan University

Brown, Donald F. M. (1956) ................................................ Professor, Biology
A.B., M.S., Ph.D., University of Michigan

Cali, C. Theresa (1965) ................................................ Associate Professor, Biology
B.A., M.S., Fordham University; Ph.D., Cornell University

Caswell, Herbert H., Jr. (1955) ................................................ Professor, Biology
B.S., Harvard University; M.A., University of California at Los Angeles;
Ph.D., Cornell University

DiMattia, Pearl E. (1965) ................................................ Assistant Professor, Biology
A.B., M.S., University of Michigan

FitzPatrick, Lawrence M. (1965) ........................................ Instructor, Biology
B.S., M.S., Eastern Michigan University

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

Giles, Richard A. (1947) ................................................ Professor, Biology
Department Head, Biology
B.S., Massachusetts State College; M.S., Ph.D., Michigan State University

Johnson, Bert M. (1951) ................................................ Professor, Biology
B.S., A.M., Ph.D., University of Michigan

Jackson, Dennis C. (1967) ................................................ Assistant Professor, Biology
B.S., Arizona State University; M.S., Michigan State University

Liu, Stephen C. (1965) ................................................ Associate Professor, Biology
B.S., M.S., National Taiwan University; Ph.D., University of Minnesota

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

Minick, Merlyn (1966) ................................................ Assistant Professor, Biology
B.S., Eastern Michigan University; M.S., University of Michigan

Richards, Lawrence P. (1965) ................................................ Associate Professor, Biology
A.B., University of California at Berkeley; Ph.D., University of Illinois

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

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

Waffle, Elizabeth L. (1968) ................................................ Assistant Professor, Biology
B.A., Cornell College; M.S., State University of Iowa; Ph.D., Iowa State University

Wall, Robert C. (1968) ................................................ Assistant Professor, Biology
B.S., Eastern Michigan University; M.S., Ph.D., University of Michigan
Yu, Shih-An (1967) .................................................... Assistant Professor, Biology
  B.A., National Taiwan University; M.A., Ph.D., University of New Hampshire

BUSINESS EDUCATION

DeLoach, Rosemary (1967) .................. Associate Professor, Business Education
  B.A., Northern Michigan University; M.A., Ph.D., University of Michigan
Duncan, Charles H. (1965) .................. Professor, Business Education
  Department Head, Business Education
  B.S., Indiana State College; M.Ed., Ed. D., University of Pittsburgh
Fews, Rosetta C. (1968) .................. Assistant Professor, Business Education
  B.S., Morgan State College; M.A., New York University; Ph.D., Michigan State University
Graziano, Louis R. (1966) .................. Assistant Professor, Business Education
  B.A., Fairmont State College; M.Ed., Wayne State University
Ogden, Russell L. (1956) .................. Associate Professor, Business Education
  B.S., Eastern Illinois University; M.A., Ed.D., Colorado State College
Robek, Mary F. (1958) .................. Professor, Business Education
  B.Ed., Wisconsin State College, Whitewater; M.A., Northwestern University;
  M.B.A., Ph.D., University of Michigan

CHEMISTRY

Collins, Ronald W. (1965) .................. Associate Professor, Chemistry
  B.S., University of Dayton; Ph.D., Indiana University
Compere, Edward L., Jr. (1964) ............ Professor, Chemistry
  B.S., Beloit College; M.S., University of Chicago; Ph.D., University of Maryland
Giles, Elizabeth V. (1956) .................. Assistant Professor, Chemistry
  B.S., Central State University; M.S., Michigan State University
Graves, Bruce B. (1968) .................. Assistant Professor, Chemistry
  B.A., Swarthmore College; M.S., Ph.D., University of Louisville
Powell, Ralph R. (1966) .................. Assistant Professor, Chemistry
  B.S., Marian College; Ph.D., Purdue University
Robbins, Omer, Jr. (1961) ............... Associate Professor, Chemistry
  B.S., M.S., Ph. D., University of Michigan
Scott, Ronald M. (1959) .................. Associate Professor, Chemistry
  B.S., Wayne State University; Ph.D., University of Illinois
Spike, Clark G. (1958) .................. Professor, Chemistry
  Department Head, Chemistry
  B.S., Eastern Michigan University; M.S., Ph.D., University of Michigan
Sullivan, John M. (1958) ............... Professor, Chemistry
  A.B., Dartmouth College; M.S., Ph.D., University of Michigan
Williamson, Jerry R. (1967) ............... Assistant Professor, Chemistry
  B.A., University of Illinois; M.S., Ph.D., University of Iowa
Work, Stewart D. (1964) ............... Assistant Professor, Chemistry
  A.B., Oberlin College; Ph.D., Duke University
Yamauchi, Masanobu (1965) ............... Assistant Professor, Chemistry
  B.A., University of Hawaii; M.S., Ph.D., University of Michigan
CURRICULUM AND INSTRUCTION

Bajwa, Ranjit S. (1963) ............................................ Professor, Education
B.A., B.T., Paujale University; Ed.D., Wayne State University

Blume, Robert A. (1960) ........................................... Associate Professor, Education
B.S., Ohio State University; M.A., Ph.D., University of Michigan

Borusch, Barbara J. (1950) ........................................ Professor, Education
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Brumbaugh, Russell (1956) ........................................ Associate Professor, Education
A.B., M.A., University of Michigan

Fielder, Gordon W. (1954) ........................................ Professor, Education
B.S., University of Kansas; M.S., M.Ed., University of Illinois

Fisher, Robert J. (1955) ........................................... Professor, Education
B.A., M.A., Ed.D., Stanford University

Gesler, Ralph A. (1952) ............................................ Assistant Professor, Education
Associate Director, Field Services
B.S., Western Michigan University; M.A., University of Michigan

Goldsmith, William E. (1962) ................................. Assistant Professor, Education
B.A., M.A., Michigan State University

Greene, Bert I. (1963) ............................................ Professor, Education
B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan

Hester, Kathleen B. (1945) ...................................... Professor, Education
B.S., Mellon University; M.A., Ph.D., University of Pittsburgh

Irwin, Martha E. (1964) ........................................ Associate Professor, Education
B.A., M.Ed., Bowling Green State University; Ed. D., Western Reserve University

Kramer, Karl R. (1963) .......................................... Associate Professor, Education
B.S., M.A., New York University; Ed. D., Michigan State University

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

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

Miller, LaMarr (1965) ........................................... Associate Professor, Education
B.A., Eastern Michigan University; M.A., Ed.D., University of Michigan

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

Porretta, Louis P. (1959) ...................................... Professor, Education
(On leave, Somalia Project)
B.A., Eastern Michigan University; Ed.D., Wayne State University

Russell, Wilma I. (1958) ........................................ Professor, Education
B.S., Southwest Missouri State College; A.M., New York University; Ph.D., University of Michigan

Smith, Horace (1964) ........................................... Assistant Professor, Education
Chairman, Curriculum and Instruction Division
B.S., M. Ed., Wayne State University; Ph.D., Michigan State University
Wass, Hannelore (1964)........................Associate Professor, Education
B.A., Heidelberg Teachers College; M.A., Ph.D., University of Michigan

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

Ylisto, Ingrid P. (1964)......................... Associate Professor, Education
B.A., Northern Michigan University; M.A., State University of Iowa; Ph.D., University of Michigan

Zambito, Stephen (1963)........................ Associate Professor, Education
B.A., Cooper Union; B.S., M.A., Eastern Michigan University

ECONOMICS

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

Gibbons, James R. (1967)....................... Associate Professor, Economics
B.S., M.S., University of Illinois; Ph.D., Iowa State University

Helpie, Charles E. (1965)...................... Professor, Economics
B.S., Eastern Michigan University; Ph.D., Ohio State University

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

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

Simpson, John W. (1948)....................... Professor, Economics
A.B., A.M., Ph.D., Ohio State University

Snyder, Carl Dean (1957)...................... Professor, Economics
B.S., Heidelberg College; M.A., Miami University; D.S.S., Syracuse University

EDUCATIONAL MEDIA

Carpenter, Arthur L. (1964).................. Assistant Professor, Education
B.S., Eastern Michigan University; M.S., Michigan State University

Cook, Frances (1960).......................... Assistant Professor, Education
A.B., M.A.L.S., University of Michigan

Peterson, Ralph G. (1946)..................... Associate Professor, Education
B.S., Northern Michigan University; M.A., University of Michigan

Risto, Thomas L. (1968)....................... Instructor, Education
B.A., M.A., Eastern Michigan University

Weber, LaVerne W. (1961).................... Assistant Professor
B.A., M.A., University of Michigan

Coordinator, Instructional Broadcasting

EDUCATIONAL PSYCHOLOGY

Birleson, Clifford (1951)...................... Associate Professor, Education
A.B., Western Michigan University; M.A., University of Michigan

Brenner, Anton (1968)......................... Professor, Education
B.S., University of Munich; Ph.D., University of Tuebingen

Gates, Mary Frances (1942)................... Professor, Education
B.A., Lawrence University; M.S., University of Chicago; Ph.D., University of Wisconsin
Hadden, Eugene E. (1965) ............................ Associate Professor, Education  
B.A., M.A., Ed.D., North Texas State College

LaBenne, Wallace D. (1967) ............................ Associate Professor, Education  
B.A., Temple University; A.M., Ph.D., University of Michigan

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

Metler, John W. (1964) ............................. Assistant Professor, Education  
B.A., University of Western Ontario; B.D., Emmanuel College, Victoria University; M.A., Union Theological Seminary; Ed.D., Teachers College, Columbia University

Mood, Darlene W. (1965) ............................. Assistant Professor, Education  
B.M.Ed., Roosevelt University; M.A., Wayne University

Skore, Marvin L. (1968) ............................. Assistant Professor, Education  
B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D., Wayne State University

Tothill, Herbert O. (1960) ............................ Associate Professor, Education  
B.A., University of Rochester; M.A., University of Hawaii; Ph.D., Syracuse University

Waidley, John W. (1968) ............................. Instructor, Education  
A.B., University of Michigan; M.Ed., Wayne State University

Wahi, Kishor (1968) ............................. Assistant Professor, Education  
B.A., Punjab University; M.A., University of Michigan

Williams, Wilbur A. (1948) ............................ Professor, Education  
Chairman, Psychological Foundations Division, Department of Education  
B.S., M.A., Ph.D., University of Michigan

Woronoff, Israel (1956) ............................ Professor, Education  
A.B., A.M., Ph.D., University of Michigan

ENGLISH LANGUAGE AND LITERATURE

Bensen, Alice R. (1947) ............................ Professor, English Language and Literature  
A.B., M.A., Washington University; Ph.D., University of Chicago

Brylowski, Walter M. (1955) ............................ Associate Professor, English Language and Literature  
A.B., Kalamazoo College; A.M., University of Connecticut; Ph.D., Michigan State University

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

Foster, Milton P. (1947) ............................ Professor, English Language and Literature  
Department Head, English Language and Literature  
B.A., Waynesburg College; M.A., University of Pittsburgh; Ph.D., University of Michigan

Gohn, Ernest S. (1958) ............................ Professor, English Language and Literature  
B.A., Ph.D., Johns Hopkins University
Haun, Frederick E. (1966).............Associate Professor, English Language and Literature
B.A., Hendrix College; M.A., Vanderbilt University; Ph.D., University of Pennsylvania

Hebert, Catherine A. (1947)...........Professor, English Language and Literature
A.B., Eastern Michigan University; A.M., Ph.D., University of Michigan

Jordan, Hoover H. (1939)..............Professor, English Language and Literature
B.A., Yale University; M.A., Ph.D., Cornell University

Kornbluth, Martin (1966)...............Associate Professor, English Language and Literature
B.A., M.A., University of Missouri; Ph.D., Pennsylvania State University

Maddox, Notley S. (1947)..............Professor, English Language and Literature
B.S., M.A., Ph.D., Ohio State University

McGlynn, Paul D. (1964)..............Assistant Professor, English Language and Literature
Ph.B., M.A., University of Detroit; Ph.D., Rice University

Miller, Marjorie M. (1946)...........Associate Professor, English Language and Literature
A.B., Nebraska State Teachers College; A.M., University of Michigan

Perkins, George B. (1967).............Associate Professor, English Language and Literature
A.B., Tufts College; M.A., Duke University; Ph.D., Cornell University

Pillsbury, Paul W. (1960)..............Professor, English Language and Literature
A.B., Dartmouth College; M.A., Ph.D., University of Michigan

Potter, Edward E. (1950)..............Professor, English Language and Literature
A.B., St. Ambrose College; A.M., University of Notre Dame; Ph.D., University of Michigan

Schreiber, O. Ivan (1950).............Associate Professor, English Language and Literature
A.B., Wittenberg College; A.M., Ohio State University

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

FOREIGN LANGUAGES AND LITERATURE

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

Bidwell, Jean S. (1964)...............Assistant Professor, Foreign Languages and Literature
A.B., Pembroke College, Brown University; M.A., Eastern Michigan University

Gibson, Eugene M. (1956)..............Professor, Foreign Languages and Literature
A.B., M.A., University of Oklahoma; Ph.D., University of California (on Sabaticalleave)

Gorin, Carol A. (1968)...............Assistant Professor, Foreign Languages and Literature
B.A., Brandeis University; M.A., University of Rochester
Faculty

Muller, Brigitte D. (1967) ........................... Assistant Professor, Foreign Languages and Literature
A.B., Eastern Michigan University; M.A., University of Michigan

Owens, J. Henry (1940) ........................... Professor, Foreign Languages and Literature
Department Head, Foreign Languages and Literature
A.B., Franklin College; A.M., Ph.D., University of Minnesota

Villegas, Francisco (1950) ........................... Professor, Foreign Languages and Literature
A.B., University of Costa Rica; M.A., Ph.D., University of Michigan

GENERAL BUSINESS

Brown, Leland (1964) ........................... Associate Professor, General Business
B.A., M.A., Indiana State University

Collins, W. Oscar (1957) ........................... Professor, General Business
Department Head, General Business
B.S., Southwest Missouri State College; M.A., University of Missouri; Ed.D., Indiana University

Robinson, Julius M. (1947) ........................... Professor, General Business
Dean, Summer and Evening Sessions
B.S., Southwest Missouri State College; M.A., Northwestern University; Ed. D., New York University

GEOGRAPHY AND GEOLOGY

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

Glasgow, James H. (1939) ........................... Professor, Geography and Geology
Dean, Graduate School
B.Ed., Illinois State University; A.M., Clark University; Ph.D., University of Chicago

Grossman, David (1967) ........................... Assistant Professor, Geography and Geology
B.S., New York University; M.A., Ph.D., Columbia University

Hall, E. Lorene (1960) ........................... Lecturer, Geography and Geology
B.S., M.A., Eastern Michigan University

Hecock, Richard M. (1965) ........................... Associate Professor, Geography and Geology
A.B., Albion College; M.A., Wayne State University; Ph.D., Clark University

Lounsbury, John F. (1961) ........................... Professor, Geography and Geology
Department Head, Geography and Geology
B.S., M.S., University of Illinois; Ph.D., Northwestern University

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

Ogden, Lawrence (1963) ........................... Professor, Geography and Geology
B.S.Ed., Northwest Missouri State College; B.S., University of Tulsa, M.S., University of Wisconsin; D.Sc., Colorado School of Mines
Raphael, C. Nicholas (1967) Assistant Professor, Geography and Geology
  B.A., Wayne State University; M.A., Eastern Michigan University; Ph.D., Louisiana State University

Sinclair, Joseph T. (1957) Professor, Geography and Geology
  B.A., University of Michigan; M.A., Columbia University; Ph.D., University of Michigan

Turner, Daniel S. (1965) Professor, Geography and Geology
  Ph.B., Ph.M., Ph.D., University of Wisconsin

Wagstaff, H. Reid (1963) Assistant Professor, Geography and Geology
  A.B., A.M., Ph.D., University of Michigan

Wallace, Sue (1966) Assistant Professor, Geography and Geology
  B.S., M.A., Indiana University

GUIDANCE AND COUNSELING

Gaston, Hugh P. (1967) Assistant Professor, Education
  B.A., M.A., University of Michigan

Gex, R. Stanley (1954) Professor, Education
  Dean, Center for International Studies
  B.S., Northwest Missouri State College; M.A., Ed.D., University of Missouri

Kloosterman, Winton A. (1962) Associate Professor, Education
  B.A., Beloit College; M.A., Teachers College, Columbia University; Ed. D., Wayne State University

Nau, Paul A. (1967) Assistant Professor, Education
  B.S., M.Ed., Ph.D., Kent State University

Pappas, John George (1966) Associate Professor, Education
  Assistant to the Dean of Education
  B.A., University of Akron; M.A., Ohio State University; Ph.D., Kent State University

Stanley, Kenneth W. (1961) Associate Professor, Education
  Coordinator of Student Teaching
  B.A., Northern Michigan University; A.M., Michigan State University

VanRiper, Benjamin W. (1968) Assistant Professor, Education
  B.S., Adrian College; A.M., Ph.D., University of Michigan

Weeks, James S. (1957) Professor, Education
  B.S., University of New Hampshire; M.S., Ed.D., Syracuse University

HEALTH, PHYSICAL EDUCATION AND RECREATION

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

Bell, Mary I (1949) Associate Professor, Health, Physical Education and Recreation
  B.S., Eastern Michigan University; M.A., University of Michigan

Cavanaugh, Patrick L. (1968) Professor, Health, Physical Education and Recreation
  Department Head, Health, Physical Education and Recreation
  B.A., Oberlin College; M.S., Ph.D., University of Michigan
Ferzacca, F. L. (1966) ...................... Professor, Health, Physical Education and Recreation  
Director, Athletics  
B.S., Lake Forest; M.S., University of Wisconsin  
Harris, Augusta M. (1929) ................ Professor, Health, Physical Education and Recreation; Chairman, Women's Division, Health, Physical Education and Recreation  
B.S., Eastern Michigan University; M.A., University of Michigan  
Menzi, Elizabeth A. (1964) .................. Professor, Health, Physical Education and Recreation  
B.A., Oberlin College; M.A., Bowling Green State University; Ph.D., University of Michigan  
Pedersen, Erik J. (1968) .................. Assistant Professor, Health, Physical Education and Recreation  
B.S., M.S., Eastern Illinois University  
Sheard, John E. (1963) .................. Professor, Health, Physical Education and Recreation  
Chairman, Graduate Division, Health, Physical Education and Recreation  
B.S., M.S.Ed., Miami University; P.E.D., Indiana University  
Steig, Peggy A. (1956) .................. Professor, Health, Physical Education, and Recreation  
B.S., Miami University; M.A., Ph.D., Ohio State University  
Willoughby, Robert J. (1956) .............. Associate Professor, Health, Physical Education and Recreation  
Chairman, Men's Division, Health, Physical Education and Recreation  
B.S., M.A., University of Michigan  

HISTORY AND SOCIAL SCIENCES  
Abbott, Richard H. (1966) .................. Associate Professor, History and Social Sciences  
B.A., Grinnell College; M.A., University of Missouri; Ph.D., University of Wisconsin  
Berry, Mary F. (1968) .................. Assistant Professor, History and Social Sciences  
B.A., M.A., Howard University; Ph.D., University of Michigan  
Bilsky, Manuel (1960) .................. Professor, History and Social Sciences  
B.A., M.A., Wayne State University; M.A., Ph.D., University of Michigan  
Briggs, William D. (1965) ............. Assistant Professor, History and Social Sciences  
A.B., University of California; A.M., Sacramento State College  
Bufford, Samuel L. (1968) ............. Assistant Professor, History and Social Sciences  
B.A., Wheaton College  
Cassar, George H. (1968) ............. Assistant Professor, History and Social Sciences  
B.A., M.A., University of New Brunswick; Ph.D., McGill University
Creighton, David L. (1968). Assistant Professor, History and Social Sciences
B.A., Union College

Disbrow, Donald W. (1956). Professor, History and Social Sciences
A.B., Haverford College; Ph.D., University of Rochester

Drummond, Donald F. (1958). Professor, History and Social Sciences
Dean, College of Arts and Sciences
A.B., Western Michigan University; A.M., Ph.D., University of Michigan

Earl, David M. (1965). Professor, History and Social Sciences
A.B., Oberlin College; M.A., Wayne State University; Ph.D., Columbia University

Elveton, Roy O. (1966). Assistant Professor, History and Social Sciences
A.B., St. Olaf College; A.M., Northwestern University; Ph.D., Northwestern University

Flusche, Della M. (1968). Assistant Professor, History and Social Sciences
B.A., North Texas State University; M.A., Marquette University; Ph.D., Loyola University

Franks, Thomas H. (1967). Assistant Professor, History and Social Sciences
B.A., Franklin and Marshall College; M.A., University of Michigan

Gimelli, Louis B. (1966). Associate Professor, History and Social Sciences
B.A., State University of New York; A.M., Ph.D., New York University

Goff, Richard D. (1964). Associate Professor, History and Social Sciences
A.B., Ph.D., Duke University; M.A., Cornell University

Green, James E. (1947). Associate Professor, History and Social Sciences
A.B., M.A.L.S., M.A., University of Michigan

Haywood, Richard M. (1965). Associate Professor, History and Social Sciences
A.B., New York University; M.A., Oxford University; Ph.D., Columbia University

Hourani, Benjamin T. (1968). Assistant Professor, History and Social Sciences
B.A., M.A., American University, Beirut; Ph.D., Michigan State University

King, H. Roger (1967). Assistant Professor, History and Social Sciences
B.A., Bates College; M.A., University of Connecticut, Ph.D., Vanderbilt University

Koo, Youngnok (1962). Assistant Professor, History and Social Sciences
A.B., Kentucky Wesleyan College; A.M., Vanderbilt University; Ph.D., University of Michigan
Lindenberg, Karen E. (1968) .................. Assistant Professor, History and Social Sciences
B.S., University of Oregon

May, George S. (1965) .................. Associate Professor, History and Social Sciences
A.B., A.M., Ph.D., University of Michigan

McLarty, R. Neil (1958) .................. Professor, History and Social Sciences
Department Head, History and Social Sciences
A.B., Eastern Michigan University; A.M., Ph.D., University of Michigan

Racz, Barnabas A. (1968) .................. Assistant Professor, History and Social Sciences
J.D., University of Budapest; M.A., Ph.D., University of Michigan

Solomon, Samuel R. (1960) .................. Professor, History and Social Sciences
A.B., M.A., Ph.D., Syracuse University

Terry, Janice J. (1968) .................. Assistant Professor, History and Social Sciences
B.A., College of Wooster; M.A., American University, Beirut; Ph.D., University of London

Waltz, James C. (1968) .................. Assistant Professor, History and Social Sciences
B.A., M.A., Ph.D., Michigan State University; B.D., Evangelical Theological Seminary

Warren, Elizabeth (1938) .................. Professor, History and Social Sciences
B.A., Carleton College; M.A., Ph.D., Northwestern University

Wheatley, Ira M. (1966) .................. Assistant Professor, History and Social Sciences
A.B., University of the Pacific; B.D., Drew Theological Seminary; Ph.D., University of Iowa

Witke, Reinhard (1956) .................. Professor, History and Social Sciences
B.A., M.A., Ph.D., University of Michigan

Zickgraf, P. Louis (1948) .................. Professor, History and Social Sciences
A.B., A.M., Indiana University; Ph.D., University of Illinois

HOME ECONOMICS

Barber, Betty L. (1967) .................. Assistant Professor, Home Economics
B.S., Michigan State University; M.A., Eastern Michigan University

Binder, Mildred M. (1965) .................. Assistant Professor, Home Economics
B.S., Michigan State University

Bornemeier, Betty L. (1965) .................. Associate Professor, Home Economics
B.S., M.A., Ph.D., Texas Woman's University

Fielder, Anita L. (1963) .................. Professor, Home Economics
Department Head, Home Economics
B.Ed., Eastern Illinois University; M.S., University of Illinois

Lloyd, Madeleine M. (1963) .................. Associate Professor, Home Economics
B.A., Monclair State College; M.A., Ed.D., Columbia University

McMullen, Elsa A. (1965) .................. Assistant Professor, Home Economics
B.S., M.S., Syracuse University

Meis, Ruby L. (1964) .................. Associate Professor, Home Economics
B.S., Central Michigan University; A.M., University of Michigan; Ed.D., Pennsylvania State University
Moore, Sarah E. (1964)..........................Assistant Professor, Home Economics
B.S., A.M., Ball State University

INDUSTRIAL EDUCATION

Baird, Ronald J. (1966)......................... Associate Professor, Industrial Education
B.S., Bowling Green State University; M.Ed., University of Missouri; Ed.D., Michigan State University

Delventhal, Norman L. (1964)............ Assistant Professor, Industrial Education
A.B., M.A., Colorado State College

Griess, Jerald A. (1967)...................... Associate Professor, Industrial Education
A.B., Wesleyan University, Nebraska; M.S., Oklahoma State University; Ed.D., Pennsylvania State University

Jennings, Gerald L. (1965).................... Associate Professor, Industrial Education
B.S., M.A., Ball State University; Ph.D., Michigan State University

Kicklighter, Clois E. (1966)................ Assistant Professor, Industrial Education
B.S.E., University of Florida; M.S., Indiana State University; Ed.D., University of Maryland

LaBounty, Raymond A. (1945)................ Professor, Industrial Education
Department Head, Industrial Education
B.S., Eastern Michigan University; A.M., Ed.S., University of Michigan

Larsen, Delmar L. (1964)...................... Associate Professor, Industrial Education
B.A., State College of Iowa; M.A., Ball State University; Ph.D., Ohio State University

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

Osborn, Carroll A. (1955).................... Associate Professor, Industrial Education
B.A., Ohio Wesleyan; B.S., M.A., Ohio State University

Risk, Norman W. (1949)........................ Professor, Industrial Education
B.S., Eastern Michigan University; M.A., University of Michigan

Rokusek, Henry J. (1964).................... Professor, Industrial Education
B.S., M.S., Stout State University; Ph.D., University of Maryland

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

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

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

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

MANAGEMENT

Anderson, Samuel J. (1966).................... Associate Professor, Management
Director, College of Business M.B.A. Program and Evening Students
B.B.A., M.B.A., University of Michigan

Beltsos, Nicholas J. (1962).................. Assistant Professor, Management
B.S., Marquette University; A.M., Michigan State University

Deihl, Lincoln W. (1967)..................... Associate Professor, Management
B.S., Bowling Green State University; M.S., Indiana University; Ph.D., Ohio State University
Klatt, Lawrence A. (1969) .......................... Associate Professor, Management  
B.S., M.B.A., University of Detroit; Ph.D., University of Missouri

Shell, Claude I., Jr. (1967) .......................... Professor, Management  
Department Head, Management  
B.A., Maryville College; M.S., University of Tennessee; Ph.D., Southern Illinois University

**MARKETING**

Parsons, Melvin G. (1967) .......................... Associate Professor, Marketing  
B.S., M.S., University of Missouri

Roberts, Mary L. (1969) .......................... Assistant Professor, Marketing  
B.S., Texas Women's University; M.B.A., North Texas State University

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

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

**MATHEMATICS**

Anderson, Sabra S. (1966) .......................... Assistant Professor, Mathematics  
B.A., M.A., Ed.D., University of Michigan

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

Barbee, W. Louise (1965) .......................... Assistant Professor, Mathematics  
B.A., Eastern Michigan University; B.A., M.A., San Jose State College; Ph.D., University of Michigan

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

Dempster, Andrew C. (1966) .......................... Assistant Professor, Mathematics  
B.S., M.S., Ph.D., University of Michigan

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

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

Goosey, Bob L. (1959) .......................... Assistant Professor, Mathematics  
B.S., Montana State University; M.A., Pennsylvania State University; Ph.D., University of Michigan

Gotts, M. Margaret (1938) .......................... Assistant Professor, Mathematics  
B.A., Eastern Michigan University; M.A., University of Michigan

Groening, William A. (1968) .......................... Assistant Professor, Mathematics  
B.S., Notre Dame; Ph.D., University of Michigan

Heezen, Alan (1967) .......................... Assistant Professor, Mathematics  
B.A., Notre Dame; M.A., University of Michigan

Koo, Delia Z. F. (1965) .......................... Associate Professor, Mathematics  
B.A., St. John's University, China; M.A., Ph.D., Radcliffe College; M.A., Michigan State University
Lauckner, Kurt F. (1965) ........................................ Assistant Professor, Mathematics  
B.S.E., M.S., Ph.D., University of Michigan  
Lewis, Judith A. (1966) ........................................ Assistant Professor, Mathematics  
B.S., Queens College; M.S., Ph.D., University of Michigan  
Marshall, Richard W. (1968) .................................. Assistant Professor, Mathematics  
B.S., University of Pittsburgh; M.A., Ph.D., University of Michigan  
Mills, Robert A. (1964) .......................................... Assistant Professor, Mathematics  
B.S.Ch.E., M.S.Ch.E., University of Michigan  
Northey, James H. (1957) ...................................... Associate Professor, Mathematics  
B.S., Northern Michigan University; M.S., Ph.D., University of Michigan  
Pate, Robert S. (1946) ........................................... Professor, Mathematics  
Department Head, Mathematics  
A.B., Peru State College; M.A., University of Nebraska; Ph.D., University of Illinois  
Remmers, John H. (1968) ...................................... Lecturer, Mathematics  
B.A., Harvard University; M.A., University of Michigan  
Suryanarayana, Manda B. (1969) .......................... Lecturer, Mathematics  
B.S., P.R.Government College, India; M.S., University of Poona, India; M.S.,  
University of Michigan  
Tse, Enoch C.W. (1967) ........................................ Assistant Professor, Mathematics  
B.S., Hong Kong Baptist College; M.A., Wayne State University; Ph.D.,  
University of Michigan  
Vamanamurthy, Mavina K. (1969) ............................ Assistant Professor, Mathematics  
B.S., M.S., Bangalore, India; M.S., Ph.D., University of Michigan  

MUSIC  
Ballard, Blaine (1960) ........................................ Associate Professor, Music  
B.S., M.Ed., State Teachers College, Mansfield, Pa.; M.Mus., Indiana University  
Borroff, Edith (1966) .......................................... Professor, Music  
B.M., M.M., American Conservatory of Music; Ph.D., University of Michigan  
Dittemore, Edgar E. (1968) .................................. Assistant Professor, Music  
B.Mus.Ed., B.M., M.Mus.Ed., University of Kansas; Ph.D., University of Iowa  
Eller, Daniel (1966) ............................................ Associate Professor, Music  
B.Mus., M.Mus., University of Illinois  
Fitch, William D. (1944) ...................................... Professor, Music  
B.S., Kansas State College; M.M., Ph.D., University of Michigan  
Gurt, Joseph (1967) ............................................ Assistant Professor, Music  
B.S., M.S., Juilliard School of Music  
Henry, Oscar M. (1968) ........................................ Professor, Music  
B.A. Fisk University; M.A. Harvard University; Ph.D., Ohio State University  
Laney, Maurice (1968) ........................................ Professor, Music  
B.A., Albion College; M.M., Eastman School of Music; Ph.D., Indiana University  
Mason, Thom D. (1968) ........................................ Assistant Professor, Music  
B.S., Mus.Ed., University of Wisconsin, M.M., De Paul University; Ph.D.,  
Northwestern University
Osadchuk, Mitchell M. (1956) Associate Professor, Music
B.A., Lake Forest College; M.Mus., Northwestern University

Page, Cleveland L. (1967) Associate Professor, Music
B.A., Talladega College; M.A., Ph.D., University of Michigan

Rarig, Howard R. (1965) Professor, Music
B.M., M.M., Ithaca College; Ph.D., University of Michigan

Riley, Maurice W. (1947) Professor, Music
A.B., M.A., Colorado State College; M.M., Ph.D., University of Michigan

Roe, Charles (1968) Assistant Professor, Music
B.M., Baldwin-Wallace College; M.M., University of Illinois

Szabo, Edward J. (1968) Associate Professor, Music
B.M., Cincinnati Conservatory of Music; B.S., M.S., Juilliard School of Music;
M.A., Ed.D., Columbia University

Tyra, Thomas N. (1964) Associate Professor, Music
B.Mus.Ed., M.M., Northwestern University

PHYSICS AND ASTRONOMY

Barnes, James M. (1955) Professor, Physics and Astronomy
Department Head, Physics and Astronomy
B.S., Eastern Michigan University; M.S., Ph.D., Michigan State University

Breedlove, Charles B. (1964) Associate Professor, Physics and Astronomy
Coordinator, Science Education
B.S., McMurray College; M.S., Southern Methodist University; Ed.D., Wayne State University

Gessert, Walter L. (1961) Professor, Physics and Astronomy
B.S., Eastern Michigan University; M.S., Wayne State University; Ph.D.,
Michigan State University

Hochman, Lawrence D. (1966) Associate Professor, Physics and Astronomy
B.S., M.A., Wayne State University; Ph.D., Adelphi University

Loeber, Adolph P. (1964) Associate Professor, Physics and Astronomy
B.S., M.A., Wayne State University; Ph.D., Michigan State University

Moore, Jean R. (1968) Assistant Professor, Physics and Astronomy
B.S., M.S., Indiana University; M.A., Ph.D., University of Michigan

Parsons, Karl (1950) Associate Professor, Physics and Astronomy
A.B., Indiana Central College; M.S., State University of Iowa

Porter, James C. (1967) Assistant Professor, Physics and Astronomy
B.S., Ph.D., Purdue University

Silver, Robert (1966) Associate Professor, Physics and Astronomy
B.S., Wayne State University; Ph.D., University of California

Thomas, Clinton E. (1959) Associate Professor, Physics and Astronomy
(On leave, Somalia Project)
B.S., M.S., M.S., University of Michigan

Wooley, Jon K. (1967) Assistant Professor, Physics and Astronomy
B.S., M.S., University of Michigan; M.A., Swarthmore College
PSYCHOLOGY

Anderson, Robert L. (1957) ...................................... Professor, Psychology  
B.A., Northern Michigan University; M.A., Columbia University; Ph.D., New York University

Canter, Francis M. (1967) ...................................... Professor, Psychology  
B.A., Ph.D., Washington University

Friedman, Monroe P. (1964) ............................ Associate Professor, Psychology  
B.S., Brooklyn College; Ph.D., University of Tennessee

Gallatin, Judith E. (1968) ............................. Assistant Professor, Psychology  
B.A., M.A., Ph.D., University of Michigan

Holmes, Peter A. (1968) ................................. Assistant Professor, Psychology  
A.B., Franklin & Marshall College; M.A., Bryn Mawr College; Ph.D., University of Delaware

Jackson, Donald E. (1967) ........................................ Professor, Psychology  
B.A., M.A., Ph.D., University of Alabama

Karabenick, Stuart A. (1966) .......................... Assistant Professor, Psychology  
B.A., Ph.D., University of Michigan

Karson, Samuel (1966) ........................................ Professor, Psychology  
Department Head, Psychology  
B.S., Long Island University; M.A., University of Detroit; Ph.D., Washington University (St. Louis)

Lower, Jerold S. (1966) ............................... Assistant Professor, Psychology  
B.A., Kent State University; M.S., Ph.D., Western Reserve University

Meisels, Murray (1965) ............................... Associate Professor, Psychology  
B.A., Brooklyn University; Ph.D., State University of New York at Buffalo

O'Dell, Jerry W. (1966) ........................................ Assistant Professor, Psychology  
B.A., University of Cincinnati; Ph.D., University of Michigan

Sroges, Richard W. (1965) ............................... Associate Professor, Psychology  
B.S., M.A., Roosevelt University; Ph.D., Northwestern University

Stern, Ferdinand (1968) ............................... Associate Professor, Psychology  
L.L.D., University of Vienna, Law School; Ph.D., University of Washington

Youssef, Zakhour I. (1965) ............................... Associate Professor, Psychology  
B.A., M.A., Ph.D., Wayne State University

SOCIAL FOUNDATIONS

Gwaltney, Thomas M. (1964) ............................... Associate Professor, Education  
B.S., Southeast Missouri State College; M.S., Ph.D., Southern Illinois University

Jones, Alan H. (1968) ........................................ Assistant Professor, Education  
B.A., M.A., University of Michigan

Leatherman, Roger L. (1963) ............................... Professor, Education  
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Michael, Calvin B. (1956) ............................... Professor, Education  
B.A., Albion College; M.A., Ph.D., University of Michigan

Monahan, Thomas (1953) ............................... Professor, Education  
B.S., Willimantic State Teachers College; A.M., University of Connecticut; Ed.D., Columbia University
Muckenhirn, Erma F. (1959) ............................. Associate Professor, Education
Chairman, Social Foundations Division, Department of Education
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Robinson, Robert S. (1959) ............................. Assistant Professor, Education
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Samonte, Quirico S. (1963) ............................. Professor, Education
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Smith, Wilfred R. (1964) ............................. Associate Professor, Education
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Wells, Phillip G. (1959) ............................. Professor, Education
B.S., Hampton Institute; M.S.Ed., Ed.D., University of Pennsylvania

**SOCIOLOGY**

Ehrlich, Allen S. (1968) ............................. Assistant Professor, Sociology
B.A., University of Cincinnati; M.A., University of Minnesota

Einstadter, Werner J. (1967) ............................. Associate Professor, Sociology
B.A., M. Crim., D. Crim., University of California

Fauman, S. Joseph (1958) ............................. Professor, Sociology
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Ferman, Patricia R. (1966) ............................. Assistant Professor, Sociology
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Green, Edward (1963) ............................. Professor, Sociology
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Guptill, Carleton S. (1967) ............................. Associate Professor, Sociology
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Hutchinson, J. Glenn (1964) ............................. Assistant Professor, Sociology
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Kersten, Lawrence K. (1968) ............................. Assistant Professor, Sociology
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Segal, Mady W. (1969) ............................. Assistant Professor, Sociology
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Townsend, Patricia K. (1969) ............................. Assistant Professor, Sociology
B.A., M.A., University of Michigan

van der Velden, Henry J. (1968) ............................. Professor, Sociology
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**SPECIAL EDUCATION AND OCCUPATIONAL THERAPY**

Albritton, Thelma P. (1961) ............................. Assistant Professor, Special Education and Occupational Therapy
A.B., Greensboro College; M.Ed., University of Oregon

Angelocci, Angelo A. (1965) ............................. Associate Professor, Special Education and Occupational Therapy
B.S., Eastern Michigan University; M.A., University of Michigan; Ph.D., Wayne State University
Bennett, Normajean (1956) ...................... Assistant Professor, Special Education and Occupational Therapy
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Caputo, George E. (1965) ....................... Assistant Professor, Special Education and Occupational Therapy
B.S., Washington and Jefferson College; M.Ed., University of Pittsburgh
Chamberlain, Marjorie (1967) ................. Assistant Professor, Special Education and Occupational Therapy
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French, Sophie (1948) .......................... Assistant Professor, Special Education and Occupational Therapy
A.B., Bryn Mawr College; M.A., Columbia University
Fulton, Calvin W. (1956) ...................... Professor, Special Education and Occupational Therapy
Audiologist, Rackham School
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Garber, Carl E. (1967) .......................... Assistant Professor, Special Education and Occupational Therapy
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Geffen, Lawrence (1968) ....................... Assistant Professor, Special Education and Occupational Therapy
B.Ed., Fredonia State Teachers College; M.A., New York University
Gottwald, Henry L. (1964) ...................... Professor, Special Education and Occupational Therapy
B.S., Eastern Michigan University; M.A., University of Michigan; Ed.D., Wayne State University
Gregerson, Harvey H. (1959) ................ Assistant Professor, Special Education and Occupational Therapy
Assistant Director, Rackham School of Special Education
B.S., Eastern Michigan University; M.A.Ed., University of Michigan
Herrick, Frances E. (1950) ..................... Associate Professor, Special Education and Occupational Therapy
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Heuchert, Charles (1967) ...................... Assistant Professor, Special Education and Occupational Therapy
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Kokaska, Charles (1967) ...................... Assistant Professor, Special Education and Occupational Therapy
B.A., Valparaiso University; M.A., Northwestern University; Ed.D., Boston University
Lake, Marylynn (1967) ......................... Assistant Professor, Special Education and Occupational Therapy
B.S., M.A., Eastern Michigan University
Martin, Nora (1967) .......................... Assistant Professor, Special Education and Occupational Therapy
B.S., M.A., Eastern Michigan University
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<th>Name</th>
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<td>Moersch, Martha</td>
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<td>Special Education and Occupational Therapy</td>
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<td>Motto, Joseph</td>
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<td>Myers, Allen</td>
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<td>Palasek, James</td>
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<td>Special Education and Occupational Therapy</td>
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<td>Special Education and Occupational Therapy</td>
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<td>Rice, Dale L.</td>
<td>Assistant Professor</td>
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<td>Rogers, Agnes L.</td>
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<td>Swack, Myron J.</td>
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<td>Treado, Bernard M.</td>
<td>Assistant Professor</td>
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<td>A.B., Northern Michigan University; M.A., University of Michigan</td>
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<td>Wallace, Merry Maude</td>
<td>Assistant Professor</td>
<td>Special Education and Occupational Therapy</td>
<td>B.S., University of Wisconsin; M.A., University of Michigan</td>
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<td>Wawrzaszek, Frank</td>
<td>Associate Professor</td>
<td>Special Education and Occupational Therapy</td>
<td>B.S., State University of New York, Ed.M., Boston University</td>
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<tr>
<td>Wright, Sara E.</td>
<td>Associate Professor</td>
<td>Special Education and Occupational Therapy</td>
<td>B.S., Syracuse University; M.A., New York University</td>
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**SPEECH AND DRAMATIC ARTS**

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<tr>
<th>Name</th>
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<tr>
<td>Bird, P. George</td>
<td>Associate Professor</td>
<td>Speech and Dramatic Arts</td>
<td>B.S., M.S., University of Wisconsin</td>
</tr>
<tr>
<td>Technical Director, Quirk Theatre</td>
<td></td>
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</table>
Bowen, Harry W. (1967) ................. Associate Professor, Speech and Dramatic Arts
B.A., Westminster College; M.A., Ohio State University; Ph.D., University of Pittsburgh
Buchanan, Singer A. (1964) ........ Assistant Professor, Speech and Dramatic Arts
A.B., Tennessee State College; A.M., University of Michigan
Gousseff, James W. (1963) ............... Professor, Speech and Dramatic Arts
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B.S., Iowa State College of Agriculture and Mechanic Arts; M.A., Cornell University; M.F.A., Yale University; Ph.D., Northwestern University
Kaufman, Alvin S. (1968) ............ Associate Professor, Speech and Dramatic Arts
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Kelly, Joseph P. (1940) .................. Professor, Speech and Dramatic Arts
B.A., Grinnell College; M.A., Ph.D., State University of Iowa
Koste, Virginia G. (1962) .............. Associate Professor, Speech and Dramatic Arts
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McCracken, Sally R. (1968) .......... Assistant Professor, Speech and Dramatic Arts
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McDaniel, Thelma (1961) .............. Assistant Professor, Speech and Dramatic Arts
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B.S., M.F.A., University of Wisconsin
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Sattler, John W. (1947) ............... Professor, Speech and Dramatic Arts
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B.A., Yankton College; M.A., University of Michigan; Ph.D., Northwestern University
Swisher, William V. (1965) ............ Assistant Professor, Speech and Dramatic Arts
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