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EASTERN MICHIGAN UNIVERSITY BULLETIN



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EASTERN MICHIGAN UNIVERSITY BULLETIN

The Undergraduate Catalog

117th Annual Edition

ACCREDITED BY

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EASTERN MICHIGAN UNIVERSITY

Ypsilanti, Michigan 48197

GOVERNMENT OF THE UNIVERSITY

The 1963 Constitution of the State of Michigan places Eastern Michigan University under a board of control 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 money paid by the people of Michigan and receipt of student tuition and fees.

THE BOARD OF REGENTS

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Chairman and Presiding Officer	
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Veda Anderson	Ann Arbor
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INFORMATION REQUESTS

PLEASE ADDRESS SPECIFIC INQUIRIES TO THE FOLLOWING OFFICES:

Dean of Admissions and Financial Aids:

Concerning admission of undergraduate students to the University; program information; catalogs; campus visits of individuals or groups; loans; scholarships and grants-in-aid.

Dean of the Graduate School:

Concerning graduate admission application, announcements and catalogs for the graduate division.

Dean of Records and Teacher Certification:

For information concerning degree and certification requirements, transcripts and application of transfer credit.

Counseling Center:

Concerning campus life; the general welfare and academic progress of individual students.

Dean of Summer and Evening Sessions:

For all information concerning the summer or evening sessions.

Student Accounting Office:

Concerning University fees and financial aids.

Director of Academic Advising:

Concerning courses of study, curricular requirements and scheduling.

Director of Field Services:

Concerning in-service and correspondence courses, speakers for special occasions, adult education and consultation services to schools.

Director of On-Campus Housing:

Coordinator of Off-Campus Housing:

Concerning student living accommodations.

Director of Placement:

Concerning the announcement of teaching vacancies, the registration of applicants for teaching, business and industrial positions and opportunities for earning a portion of University expenses.

Director of Special Education:

Concerning work offered in the field of assisting handicapped children and occupational therapy.

Director of Alumni Relations:

Concerning alumni affairs.

ADMINISTRATIVE OFFICES

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 Vice-President for Business and Finance **Lewis E. Profit**
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 Vice-President for University Relations **Gary D. Hawks**

INSTRUCTION

College of Arts and Sciences:

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 Biology Head, **Bert M. Johnson**
 Chemistry Head, **Clark G. Spike**
 Economics Head, **Young-iob Chung**
 English Language and Literature Head, **Milton P. Foster**
 Foreign Languages and Literature Head, **J. Henry Owens**
 Geography and Geology Head, **Ross Pearson**
 History and Social Studies Head, **R. Neil McLarty**
 Mathematics Head, **Robert S. Pate**
 Music Head, **James B. Hause**
 Physics and Astronomy Head, **James M. Barnes**
 Political Science Head, **James S. Magee**
 Psychology Head, **Samuel Karson**
 Sociology Head, **Edward Green**
 Speech and Dramatic Arts Head, **Thomas J. Murray**

College of Business:

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 General Business Head, **Roger E. Hawkins**
 Management Head, **Claude I. Shell, Jr.**
 Marketing Head, **Robert J. Williams**

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Assistant Dean **Francis M. Daly, Jr.**

Coordinator of Student Teaching **Kenneth Stanley**

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 Educational Psychology Head, **Wilbur A. Williams**
 Guidance and Counseling Head, **John G. Pappas**
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 Special Education and Occupational Therapy
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 Principal, **Harvey H. Gregerson**
 Center for Community Education
 Director, **Jack D. Minzey**

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 Industrial Education Head, **Raymond LaBounty**
 Military Science Head, **Col. Kenneth T. Macek**

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Associate Dean **Clyde LeTarte**

Assistant Dean **Neal F. Hoover**

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Academic Budget Officer **Dale A. Davis**

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Institutional Research Office

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Instructional Computing Services

Edmond W. Goings, Director

Minority Affairs **Mildred J. Tate, Coordinator**

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University Instructional Broadcasting

LaVerne W. Weber, Coordinator

Administrative Assistant to the Vice-

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Athletics:

Director **F. L. Ferzacca**

International Studies:

Dean **R. Stanley Gex**

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Director **Albert P. Marshall**

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Cashier **Natalie D. Motto**

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Manager of University Bookstore **E. Wayne Morgan**

Manager of Food Services
 William H. Smart

Controller **Richard W. Hall**

Fiscal Analysis and Internal Audit Director

Gerald E. Fulford

Plant Operations and University Development

Rene E. Hauser

Purchasing Director **William D. Swihart**

STUDENT AFFAIRS

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Associate Deans **Robert L. Garfield**

Lee C. Fawcett

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Carlos Falcon

James Olsen

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Rosita Dorsey **James Shaw**

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 Assistant Dean John E. Hechlik
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 Howard Fillmore
 Ruth A. Friedman
 James T. McGraw
 Ann Thompson
 John Vandenburg

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 Associate Deans Kenneth Moon
 Bette C. White
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 Assistant Director Michael Watts
 Director of Religious Affairs Charles E. Minneman
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Health Services:

Director John S. Wyman
 Administrative Assistant Robert Reynolds

Housing:

Director of University Housing Dorian Sprandel
 Associate Directors Floyd R. Lamiman
 Charles Wyse
 Administrative Assistant Vincent A. Neton

Placement:

Director Richard Nisbet
 Assistant Directors Donald C. Boyd
 Theophilus Hamilton
 Assistant Director (Student Employment) Ruth F. Burson

Records and Teacher Certification:

Dean Everett L. Marshall
 Associate Deans George W. Linn
 Paul L. Zabawa
 Assistant Deans Stanley A. Ward
 Nancy L. Dahl

Residence Halls:

Best Hall Wesley Godfrey
 Brown Hall Kathleen Beauvais
 Buell Hall Harrison Baker
 Downing Hall Jill Smith
 Goddard Hall Barbara Jackson
 Goodison Hall Rosemarie Shaw
 Hill Hall Kathy Poutinen
 Hoyt Hall Claudia Justy
 Jones Hall Barbara Jackson
 King Hall Rosemarie Shaw
 Munson Hall Kathleen Beauvais
 Phelps Hall Robert Luther
 Pittman Hall John Thomas
 Putnam Hall Susan McCauley
 Sellers Hall Robert Luther
 Walton Hall Susan McCauley
 Wise Hall Valerie Lenk

ADMINISTRATIVE AFFAIRS

Alumni Relations:

Director Lonny Head
 Assistant Director Vince A. Vehar, Jr.

Field Services:

Director Earl K. Studt
 Associate Director Ralph A. Gesler

University Conferences:

Coordinator Frederick J. Peters

Information Services:

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 News Editor Ralph Chapman
 News Writer Jeanne B. Jordan
 News Writer Richard J. McCullen
 Publications Editor Neil C. Bertram
 Associate Publications Editor Kathleen M. Dickson
 Art Director M. James Allison
 Assistant Art Director Donald L. Hubacher
 Sports Information Director John C. Fountain
 Assistant Sports Information Director Terry Engdahl

Personnel Services

Director Wayne Douglas
 Personnel Officer Robert Shipman



1972-1973 UNIVERSITY CALENDAR

FALL SEMESTER, 1972

August 26, 27, Saturday and SundayMove in Days
 August 28, MondayClasses Begin
 September 4, MondayLabor Day
 November 22, 23, 24, 25 (Wed. 12:00) .Thanksgiving Recess
 December 10, SundayMid-Year Commencement
 December 16, Saturday Fall Semester Closes

SPRING SESSION, 1973

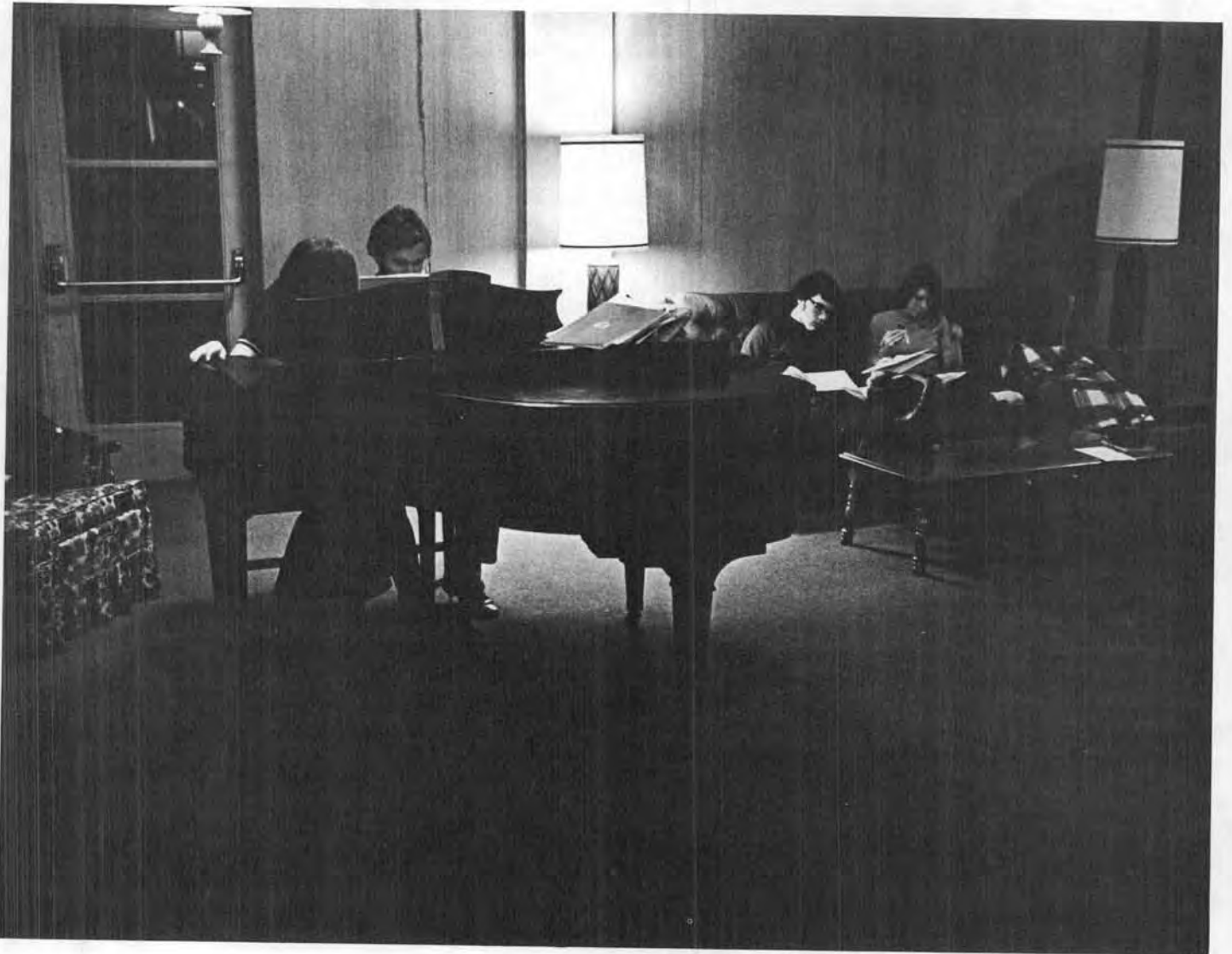
April 30, MondayClasses Begin
 May 28, MondayMemorial Day
 June 20, Wednesday Spring Session Closes

WINTER SEMESTER, 1973

January 3, Wednesday Classes Begin
 March 1, 2, 3Winter Recess
 April 4, Wednesday Honors Convocation
 April 15, SundayCommencement
 April 19, ThursdayWinter Semester Closes

SUMMER SESSION, 1973

June 25, Monday Classes Begin
 July 4, WednesdayIndependence Day
 August 3, Friday Six Weeks Session Closes
 August 15, WednesdaySummer Session Closes



GENERAL INFORMATION

LOCATION

Eastern Michigan University is located in Ypsilanti, a community of about 60,000 people, 30 miles west of Detroit and seven miles east of Ann Arbor. Ypsilanti is exceptionally convenient to widely diversified cultural, commercial and industrial activities and to all types of transportation.

Detroit Metropolitan Airport is 15 miles away. I-94, the major east-west expressway in lower Michigan, borders Ypsilanti on the south. A north-south expressway passes between Ypsilanti and Ann Arbor, connecting with the Ohio turnpike to the south and with other interstate highways to the north.

In addition to the extensive cultural opportunities at Eastern, the resources of the University of Michigan are 15 minutes away, and downtown Detroit is a 45-minute drive. Approximately four million people—more than half the population of the state of Michigan—live within 50 miles of the Eastern Michigan University Campus.

RESOURCES

Eastern Michigan University includes all the resources of a rapidly-growing, multi-purpose university. Faculty, staff, physical plant and related facilities are available for enrollment of more than 20,000 students.

The College of Education is Eastern's oldest college, and includes the departments of education, educational leadership, educational psychology, guidance and counseling, curriculum and instruction, special education and occupational therapy and health, physical education and recreation.

The College of Arts and Sciences includes departments of art, biology, chemistry, economics, English language and literature, foreign languages and literature, geography and geology, history and social sciences, which includes philosophy, mathematics, music, physics and astronomy, political science, psychology, sociology, and speech and dramatic arts.

The College of Business includes the departments of accounting and finance, business education, general business, management, marketing and the bureau of business services and research.

Eastern offers specialized non-degree courses in pre-dentistry, pre-engineering, pre-forestry, pre-law, pre-medicine and osteopathy, pre-mortuary science, pre-pharmacy and pre-social work. Professional curriculums include applied science, medical technology and occupational therapy.

Specialties in undergraduate education programs include early and later elementary teaching, secondary teaching and teaching of art, business education, home economics, industrial education, library science, music, physical education, recreation and special education.

The applied science departments of the University include home economics, industrial education and military science.

The main campus is located on approximately 275 acres on the north side of Ypsilanti near the Huron river. An additional 182 acres west of the central campus houses athletic facilities and the Westview apartments for married students.

On-campus housing for more than 6,000 persons is provided in residence halls and married student apartments. Much of this space can be made available for conference guests, students taking short-term courses and others during summer months.

Eastern operates a summer session offering regular credit courses in both graduate and undergraduate fields. In addition to regular courses, special sessions and concentrated workshops are held in areas of particular interest. Enrollment in the University's summer sessions in 1971 exceeded 8,000.

The University's Division of Field Services offers regular and special courses in communities throughout Michigan, and especially in the southeastern section of the state. The division also provides consultative services, adult education activities, conferences and workshops and a variety of other specialized services designed to carry the resources of the University into communities throughout the state.

MAJOR BUILDINGS

- Richard G. Boone Building houses the College of Education and a post office substation.
- John D. Pierce Hall houses major administrative offices.
- Frederic H. Pease Auditorium seats 1,700 and is the location of the Frederick Alexander Memorial Organ, a stage, practice rooms, classrooms and faculty studios.
- Frederick Alexander Music Hall is adjacent to Pease Auditorium and houses faculty and practice studios, classrooms, a recital hall and large rehearsal halls.
- Julia Ann King Hall was renovated in 1971 to house the Music Department, the head of the department, music practice rooms and faculty; also additional offices for the Special Education Department.
- Welch Hall houses the Departments of Home Economics and Military Science and several administrative offices.
- Sherzer Hall houses academic offices and the University observatory and astronomy laboratory.
- Strong Physical Science Building houses the Department of Physics and Astronomy and the Department of Geography and Geology.
- Daniel L. Quirk Jr. Dramatic Arts Building contains an instructional theater seating 381, radio facilities, an outdoor amphitheater, classrooms and offices housing dramatic and speech activities and the University radio stations.
- Walter O. Briggs Building houses administrative offices.
- Joseph E. Warner Physical Education Building is adjacent to Bowen Field House and contains gymnasiums, classrooms, offices, special purpose rooms and a swimming pool.
- Wilbur P. Bowen Field House is one of the largest and most functional in the state. It houses a complete field house with an eight-lap-to-a-mile track, a basketball court and tennis, volleyball and badminton courts. The seating capacity is 5,500.
- Glenadine C. Snow Health Center provides the clinical services of the University Health Service and the Counseling Center.
- Charles McKenny Union offers dining and recreational facilities for students, faculty, staff and guests. It provides meeting and conference rooms, food catering facilities, the book store and a ballroom.
- Mary Ann Starkweather Hall is the center of campus religious activities.
- Bertha M. Goodison Hall was renovated in 1971 to house the Counseling Center, Dean of Students, Student Government and Student Publications.
- J.M.B. Sill Building houses classrooms and offices for the

Departments of Fine Arts and Industrial Education, as well as University Printing, the University Bookstore Annex, art galleries and two large lecture halls.

- University Library opened in its present quarters at the beginning of the spring semester, 1967. It has seating space for 1,800 and houses approximately a half-million books, periodicals, documents and microfilms. Books are generally available from open stacks.
- Pray-Harrod Classroom Building houses the Departments of English Language and Literature, History and Social Sciences, Mathematics, Sociology and the College of Business.
- R. Clyde Ford Hall provides office and classroom space for the educational television and foreign languages and literature departments.
- Mark Jefferson Science Building, a new classroom and laboratory facility opened in 1970, contains the biology, chemistry and psychology departments.

STATEMENT OF PURPOSE

Eastern Michigan University is a multi-purpose state university. Its primary specialty, historically, has been teacher education. Its primary service area has been the southeastern section of Michigan. The University has expanded in recent years to include increased emphasis in all areas of liberal arts, in graduate study, in science and in business. An increasing number of students from outside the traditional service area attend Eastern. A substantial portion of the enrollment now comes from throughout the state, from other states and from abroad.

The basic philosophy of the University, as stated by the Board of Regents, includes these points:

- to provide the quality of intellectual experience that will add meaning, scope, richness and interest to all undergraduates no matter where they make their careers.
- to provide for undergraduates an education which will equip them to make important cultural, social and economic contributions to their community.
- to provide for undergraduates education of a quality and scope that will qualify them to enter graduate and professional schools.
- to provide specific education and training to qualify students for careers in business, education and some technological or specialized fields where the basis for such training traditionally exists or grows naturally from a strong program in the liberal arts and sciences and where there is a need for such training.
- to provide graduate work at the fifth-year level (master's degree) and the sixth year level (specialist's degree), and further graduate work as the demand arises.
- to cooperate with other institutions of higher learning in meeting needs of adult and continuing education.
- to extend and diversify present programs, including more support for research, as circumstances require and as financial support becomes available, provided that the expansion enriches the instructional program.

CIVIL RIGHTS POLICY

"Eastern Michigan University shall not discriminate against

any person because of race, color, religion, creed, sex, national origin or ancestry. Further, the University shall work for the elimination of improper discrimination in the areas listed above (1) in organizations recognized by the University, and (2) from non-University sources where students and employees of the University are involved."

CONTROL AND GOVERNING BODY

From its creation in 1849 until January 1, 1964, the institution was governed by the State Board of Education. With the adoption of the new state Constitution, EMU became constitutionally independent and is now governed by the eight-member Board of Regents. The Regents are appointed to eight-year terms by the governor, subject to the approval of the State Senate.

Members of the Board of Regents are Edward J. McCormick of Monroe, chairman, Miss Virginia R. Allan of Dearborn, Mrs. Veda S. Anderson of Ann Arbor, Dr. Charles L. Anspach of Mt. Pleasant, Lawrence R. Husse of Ypsilanti, Dr. Richard Robb of Ypsilanti, Dr. Mildred Beatty Smith of Flint and George E. Stripp of Ypsilanti.

HISTORY

Eastern Michigan University was founded by the State Legislature in 1849 to educate teachers for the public schools. Teacher preparation was the primary purpose of the institution for its first 100 years, but this purpose was always broadly interpreted and included instruction in liberal arts, science and other areas vital to the background of a well-qualified teacher. The University's capabilities in these various areas developed steadily, and were formally recognized in recent years by the designation of Eastern as a multi-purpose university with accredited and respected degrees in many areas of the liberal arts, social and natural sciences, business and pre-professional programs. Graduate study is offered in art, biology, chemistry, English language and literature, foreign languages and literature, geography and geology, history and social sciences, mathematics, music, physics and astronomy, psychology, speech and dramatic arts, accounting and finance, business education, general business, management, marketing as well as in various areas of general and special education, health, physical education, recreation, home economics and industrial education.

In the 1960's, Eastern experienced a period of sustained growth. Enrollment nearly quadrupled during the decade, and the number and variety of courses expanded to meet the needs of students and society. Present enrollment is approximately 18,500 and is not expected to change dramatically in the near future.

In its early years, Eastern, as one of the first education colleges in the nation, had a primary role in defining America's educational philosophy. At the time of the institution's founding, only five normal schools existed in the United States, none more than 14 years old. Eastern was the first west of Albany, New York. The Detroit Public School system was only 10 years old and had no high school. "Union graded schools"—multi-room schools formed by consolidating ungraded one-room school districts—were just beginning in some of the state's larger communities and only a few had high school departments.

With education in this primitive state and with Eastern presenting a pioneering role, a significant debate over the institution's curriculum evolved.

The Michigan State Normal School faculty began developing academic courses far more advanced than those offered in the public schools. This caused resentment among some, particularly when many normal graduates did not enter the teaching profession after graduation.

The institution insisted, however, that a liberal arts education is essential in the development of the professional teacher. This concept is one of the school's most important legacies to the teaching profession.

In 1956, recognizing the development of regional teachers' colleges in the state, Michigan State Normal College became Eastern Michigan College. On June 1, 1959, the college became Eastern Michigan University, comprising three colleges—Arts and Sciences, Education and the Graduate School. The College of Business was created in 1964.

EASTERN MICHIGAN UNIVERSITY TODAY

Eastern will enroll approximately 20,500 students in the fall of 1972. Approximately 85 percent of these students come from nine counties in southeastern Michigan—nearly half of them from Wayne County. All areas of Michigan are represented in Eastern's student body, as are 37 other states, Washington, D.C., the Philippines and Puerto Rico. Nearly 40 countries are represented in Eastern's study body.

Although Eastern is 123 years old, its most rapid growth has been recent. Eastern enrolled just over 1,000 students in 1899, and had grown to 2,520 in 1924. The 1924 enrollment was not exceeded until after World War II. In 1955, Eastern enrolled 3,400 students and in 1960, 5,100. Enrollment jumped to 5,900 in 1962, 7,200 in 1963, 8,400 in 1964, 10,200 in 1965, 12,884 in 1966, 14,769 in 1967 and 19,627 this past fall.

Summer session enrollment has risen rapidly. More than 8,000 students enrolled for the 1971 summer sessions on Eastern's campus.

Approximately \$50,000,000 in major construction has been completed since 1960, providing many new facilities as well as expanding and remodeling existing buildings.

The athletic plant includes a new 15,500-seat football stadium, a 2,500-seat baseball stadium and track and field facilities on the west campus.

In its development as a multi-purpose university, Eastern has not neglected its traditional role as one of the nation's leading teacher education institutions. In its 123-year history, 22,290 provisional certificates, 21,130 life certificates and 5,093 other certificates have been awarded, for a total of 48,513. More of the state's teachers today are graduates of EMU than of any other institution, and University officials have said repeatedly that "Teacher education will continue to be a major concern."

However, in the 13 years in which Eastern Michigan has been a university, the development of other programs has been rapid. Approximately 42 percent of EMU's students are in non-teaching curriculums. This is reflected in new degrees being granted, the most recent of which is a bachelor's degree in fine arts, the seventh bachelor's degree offered.

Other bachelor's degrees are in arts, science, art education, business education, business administration and music educa-

tion. Master of arts, master of science, master of business administration, master of business education and specialist degrees are also offered.

The Department of Foreign Languages and Literature was among the first in the country to establish a language laboratory.

The state's first program in industrial education began at EMU in 1901.

A formal physical education program was begun at EMU in 1862 with the construction of one of the first gymnasiums in the state.

Through its Division of Field Services, EMU offers classes at 17 centers in 14 counties in southeastern Michigan, an extension program which began in 1921.

One of the first Departments of Geography in the country was established at EMU in 1900. In student enrollment the department ranks among the top five in the United States.

Music studies were established at EMU in 1854.

The Department of Special Education and Occupational Therapy, established shortly after World War I, was the first of its kind in Michigan. The Rackham School of Special Education, built in 1937 with a grant from the Horace Rackham Foundation, has served as a model and prototype for the rest of the nation. It is equipped with closed circuit television and the most modern therapeutic and instructional equipment.

Eastern had the first student union of any teacher's college in the nation.

Eastern now boasts one of the finest fine arts programs in the nation.

The new College of Business is one of the fastest-growing segments of the University, both in size and in stature.

Virtually every department in every college can claim at least one major contribution to the advancement of higher learning.

THE FUTURE

Eastern Michigan University's growth in the past decade has amazed alumni and friends who remember the quiet little teacher's college in Ypsilanti. The estimated enrollment in 1972 is 20,500 students. The University's development plan is based on an anticipated enrollment of 26,000 by 1980.

Profound changes are occurring simultaneously at EMU—both the more obvious physical growth and the less obvious conversion from a teacher's college to a university with all the enlargement in scope that this implies.

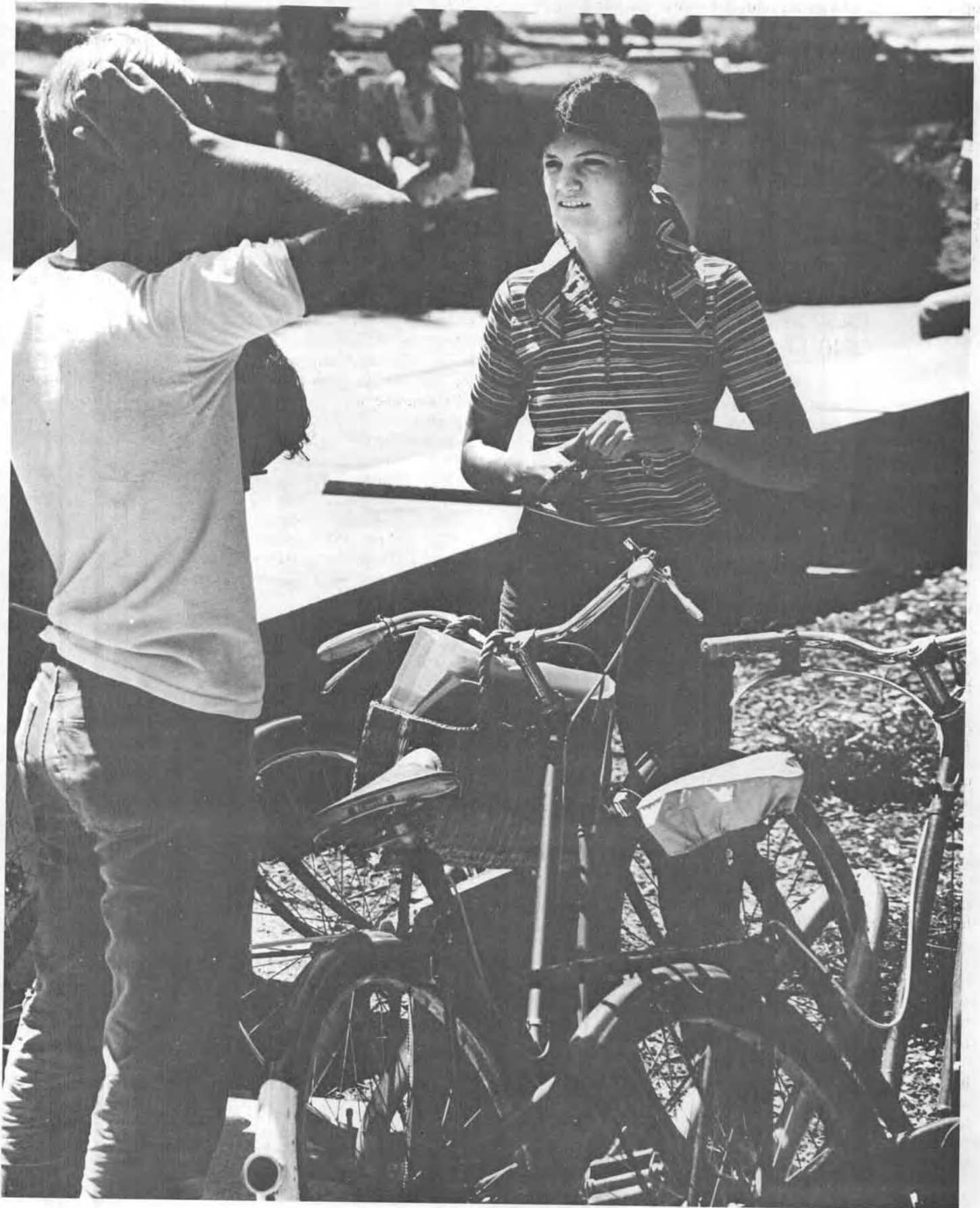
Under the dynamic leadership of Dr. Harold E. Sponberg, president of Eastern since July, 1965, Eastern has moved into a new era of excellence, in which the stated policy of the University is to make "E" stand at once for Eastern and for Excellence.

ACCREDITATION

Eastern Michigan University is an accredited member of the North Central Association of Colleges and Secondary Schools and it 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 Degree is the highest degree approved. The Univer-

sity is a member of the Assembly of the American Association of Collegiate Schools of Business, is accredited by the National Association of Schools of Music and is approved by the American Association of University Women. The chemistry

department is accredited by the American Chemical Society and the occupational therapy program by the American Medical Association in collaboration with the American Occupational Therapy Association.



ADMISSION

CRITERIA

Health, character, scholarship, special aptitude and general intelligence are considered in determining an applicant's qualifications for admission.

Permission to enroll at Eastern Michigan University is a privilege and carries with it certain responsibilities. The University reserves to itself, and the student concedes to it, the right to cancel enrollment and to require withdrawal whenever it becomes evident that the student is not conforming to the standards of scholarship and conduct established by the University.

INFORMATION TO STUDENTS, PRINCIPALS AND COUNSELORS

To derive the greatest benefits from college, the high school student should take a liberal program of studies and should achieve an adequate level of scholarship in them. If he is planning a program of study in college which requires specific high school subjects as prerequisites, he should include these subjects in his preparation for college. He may be admitted to college without them, but he may not be fully admitted to his chosen curriculum. For example, if he is planning on an engineering program, he should take the prescribed high school mathematics to prepare him for that curriculum in college. In the event that a student has not taken these prerequisites in high school, he must take them in college before he can proceed in his chosen college curriculum. This is costly in time and money because it may extend his stay at the University by a semester or longer.

In order to plan effectively, the student should study the curriculum of his choice, as listed in the University catalog, to determine the specific prerequisite courses he must take to be admitted to that curriculum. In addition, he should consult his principal or counselor about his program of study in relation to his curriculum in college and to his choice of vocation. By achieving an adequate level of scholarship in high school, he will be better prepared for university work. Good planning in high school will smooth the road to his ultimate goal.

It is not necessarily true that graduation from high school will assure university admission. Students may be admitted in any of the following ways:

- 1. Admission by Certificate:** A graduate of an accredited high school, academy, or equivalent may be admitted upon the presentation of an acceptable written record. Applicants will be considered in terms of their probability of success; their total school record, results of standardized tests, and other information from the school will be used to estimate their qualifications for beginning studies at Eastern Michigan University.
- 2. Admission after Examination:** Applicants who do not qualify for admission on their academic records are required to submit the results of their College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Test (ACT) as a part of the admissions process.
- 3. Admission under the Michigan Association of Schools and Colleges Agreement:** A graduate qualified under this agreement may be admitted without regard to any specific pattern

of high school courses. The graduate will be held to the prevailing academic and/or testing requirements.

4. Admission by Advanced Standing: A student transferring from an accredited university, college or community college may be admitted upon presentation of an official transcript of credits showing honorable dismissal. A graduate of a Michigan county normal school, having completed the four-year high school course, may also be admitted upon presentation of an official transcript of credits showing honorable dismissal.

Except under unusual circumstances, a transfer applicant must present a transcript of credits showing at least a "C" average in his previous college work.

5. Admission as a Special Student: If a person 18 years of age or older wishes to study at this University as a special undergraduate student but is unable to furnish other credentials upon which his admission might be based, he may be admitted by the Admissions Office with the approval of the president. Before any special student can receive a degree or certificate from this University, he must have met the requirements for admission prescribed under one of the other admission procedures numbered 1-4 above.

6. Admission as a Guest: One who is regularly matriculated and is in good standing in another college or university may be admitted as guest student. The student assumes full responsibility for determining whether or not the courses he takes at this University will apply in his program of study. A guest matriculant is urged to have the courses to be taken approved in advance by the registrar of the college or university to which the credits are to be transferred.

7. Admission as an Auditor: (See Auditing of Courses, page 18.)

TESTING REQUIREMENTS

The Scholastic Aptitude Test (SAT) of the College Entrance Examination Board or the American College Test (ACT) is required of all new students prior to registration.

All new students except transfer students who have successfully completed 25 or more academic hours of college level work are required to submit the results of their College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Test (ACT) prior to registration.

Freshmen and transfers who have not completed the SAT or ACT may obtain application blanks from their local high schools. The University recommends that the SAT or ACT be completed in the senior year of high school and not later than December for winter applicants or January for fall applicants.

Additional information may be obtained by writing to the College Entrance Examination Board, the American College Testing Program or the Dean of Admissions and Financial Aids.

STUDENTS WHOSE NATIVE LANGUAGE IS NOT ENGLISH

Students whose native language is not English may apply for admission for the fall semester only. Students are advised to contact the Admissions Office prior to May 15 for complete admission requirements.

FRESHMEN

Each applicant who has never attended a university, college, community college or any institution of higher education, should follow the procedures outlined below to make application for admission. The applicant should:

1. Secure an application from the Admissions Office or high school principal.
2. Complete the section of the application which is to be filled out by the applicant.
3. Give the application to the principal of the high school from which he graduated and request him to complete the application blank and forward it to the Admissions Office of Eastern Michigan University with a transcript of his high school record.
4. Provide the University with the results of his College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Test (ACT).

If additional information is necessary, the applicant will be notified by the Admissions Office.

This application may be made any time after the completion of the sixth semester in high school, but at least one month before the academic year begins. See section on Admission Deposit, page 14.

ADVANCED PLACEMENT

Eastern Michigan University participates in the Advanced Placement Program conducted by the College Entrance Examination Board. It awards college credit and advanced placement to a maximum of twelve semester hours for work in college level courses taken in high school and supplemented by satisfactory scores on national examinations of the program. Complete information is available on request to the Admissions Office.

TRANSFER STUDENTS

Any individual who has attended a university, college, community college or an institution of higher education other than Eastern Michigan University should follow the procedures outlined below. The applicant should:

1. Secure an application from the Admissions Office of Eastern Michigan University.
2. Complete the section of the application which is to be filled out by the applicant.

3. Give the application to the institution last attended and request that the application be completed and returned with an official transcript of former work to the Admissions Office of Eastern Michigan University.

4. Provide the University with the results of his College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Test (ACT) if the applicant has earned less than 25 semester hours.

If the applicant has attended a non-accredited college or institution of higher education, he will need to provide the Admissions Office with an official transcript of his high school record.

If the applicant has earned less than 25 semester hours in previous attendance at an accredited institution, he will need to provide the Admissions Office with an official transcript of his high school record.

To avoid possible loss of credit toward graduation requirements, an Eastern Michigan University student who wishes to take courses at another college or university should secure approval of the department concerned or dean of records and teacher certification.

FORMER STUDENTS OF EASTERN MICHIGAN UNIVERSITY

Former students not in attendance at Eastern Michigan University in the immediate preceding semester (summer excepted) are required to make application for readmission in the Dean of Records and Teacher Certification Office at least two months prior to enrollment. The applicant should:

1. Secure an application for re-enrollment from the Dean of Records and Teacher Certification Office.
2. Complete the application and return it to the Dean of Records and Teacher Certification Office.

If he has attended any institution of higher education since enrolled at Eastern Michigan University, secure a transcript of work done elsewhere and submit it to the Dean of Records and Teacher Certification Office with an application for readmission.

If his absence from Eastern Michigan University was by request of the University, initiate any application for re-enrollment with the Academic Advising Office.

If he wishes to advance register for a session, the application for re-enrollment should be filed no later than the following dates:

For Fall Semester	March 15
For Winter Semester	Nov. 1
For Spring Session	March 1
For Summer Session	Between April 10 and June 8

TUITION AND FEES

FEES SUBJECT TO REVISION

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

APPLICATION FEE

An application fee of \$10.00 must accompany each undergraduate application for admission to Eastern Michigan University. The fee is not refundable and does not apply to any tuition or fees.

ADMISSION DEPOSIT

(Advance Tuition Payment)

Each newly admitted undergraduate student is required to make an advance tuition payment in the amount of \$50.00 to validate his enrollment. This tuition payment is applied toward the student's tuition and fees for the semester for which he has been admitted.

Refund of the advance tuition payment or transfer to another semester will be made if requested by the dates shown below. Failure to enroll in classes for the specified semester or to request a refund or transfer by the deadline date will result in forfeiture of the payment.

All deposits received or accepted after the stated deadline date for refund are non-refundable deposits.

Session or Semester	Refund or Transfer Deadline
Summer, 1972	May 1, 1972 or first work day after
Fall, 1972	June 1, 1972 or first work day after
Winter, 1973	December 1, 1972 or first work day after
Spring, 1973	April 1, 1973 or first work day after

The date that a request for refund or transfer is received by the Admissions Office, or postmarked, will determine the eligibility for refund.

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 at the time of graduation or at the close of a semester. His credits or other statements of record will be withheld and he will be ineligible for further registration at E.M.U. until all obligations have been fulfilled.

OFFICIAL REGISTRATION DAY

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

REGISTRATION FEE

A registration fee of \$20.00 is charged to each student each semester.

This fee is assessed and collected with the student's tuition and is non-refundable and non-creditable after the student registers for the semester.

TUITION SCHEDULE— UNDERGRADUATE

(See Graduate Catalog for Graduate Tuition Schedule)

MICHIGAN RESIDENT

Credit Hours	Tuition	Registration Fee	Total
1	\$ 17.50	\$20.00	\$ 37.50
2	35.00	20.00	55.00
3	52.50	20.00	72.50
4	70.00	20.00	90.00
5	87.50	20.00	107.50
6	105.00	20.00	125.00
7	122.50	20.00	142.50
8	140.00	20.00	160.00
9	157.50	20.00	177.50
10	175.00	20.00	195.00
11	192.50	20.00	212.50
12	210.00	20.00	230.00
13	227.50	20.00	247.50
14	245.00	20.00	265.00
15	262.50	20.00	282.50
16	280.00	20.00	300.00
17	297.50	20.00	317.50
18	315.00	20.00	335.00

NON-RESIDENT

Credit Hours	Tuition	Registration Fee	Total
1	\$ 43.75	\$ 20.00	\$63.75
2	87.50	20.00	107.50
3	131.25	20.00	151.25
4	175.00	20.00	195.00
5	218.75	20.00	238.75
6	262.50	20.00	282.50
7	306.25	20.00	326.25
8	350.00	20.00	370.00
9	393.75	20.00	413.75
10	437.50	20.00	457.50
11	481.25	20.00	501.25
12	525.00	20.00	545.00
13	568.75	20.00	588.75
14	612.50	20.00	632.50
15	656.25	20.00	676.25
16	700.00	20.00	720.00
17	743.75	20.00	763.75
18	787.50	20.00	807.50

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

In determining tuition assessments, both activity and academic hours are counted.

AUDITING FEES

Tuition and registration rates for auditing courses are the same as for credit. See page 18 for regulations governing auditing of courses.

WORKSHOP SESSIONS

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

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

PAYMENT OF TUITION

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

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

An Installment Payment Service Fee of \$3.00 is collected with each installment payment.

STUDENT ACCOUNTS

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

A Late Payment Fee of \$6.00 will be assessed to each initial payment and installment payment not received by the due date.

If a student accrues two past-due installments in a current semester, his enrollment, room and board, and other University services will be suspended until his account is brought into a current status. Payment of assessments for a current semester does not relieve the student of the obligation for payment of any balance from a prior semester.

ACCOUNT ADJUSTMENTS

Adjustment to assessments are computed electronically and entered into student accounts following the close of the program adjustment period each semester.

Adjustments are not made for the registration fee.

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

Withdrawal from the University:

1. A credit adjustment of 100% of the tuition assessment for the semester will be made to those students who cancel their registration and withdraw from the University prior to the first day of classes. (Actual dates are printed in the class schedule for each semester and session.)
2. A credit adjustment of 60% of the tuition assessment for the semester will be made to those students who withdraw from the University on the first day of classes or within 20 days (seven days for the spring and summer sessions)

thereafter. (Actual dates are printed in the class schedule for each semester and session.)

Decrease in Academic Load:

1. A credit adjustment of 100% of the difference in tuition assessment for the semester will be made to those students who decrease their academic load before the first day of (Actual dates are printed in the class schedule for each semester and session.)
2. A credit adjustment of 60% of the difference in tuition assessment will be made to those students who decrease their academic load on the first day of classes or within 20 calendar days (seven days for the spring and summer sessions) thereafter. (Actual dates are printed in the class schedule for each semester and session.)

CANCELLATION OF REGISTRATION

After a student has registered, if he should decide before classes begin to not return to Eastern, he must sign a cancellation of registration form in the Registration Office before the first day of classes. If the student has applied for University housing, he must also cancel his contract in the Housing Office. This is necessary for cancellation of tuition and room and board assessments and adjustments to the student's account. In an emergency only, a letter to the Registration Office postmarked on or before the last official registration day will be acceptable. Telephone calls cannot be accepted.

WITHDRAWAL FROM THE UNIVERSITY

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

QUALIFICATIONS FOR MICHIGAN RESIDENCE

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

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

A student shall have his residency status determined at the time of his initial enrollment and will be reviewed at each subsequent registration. It shall be the responsibility of any

student adjudged as a non-resident, to apply for Michigan Residency if he believes he meets the requirements for such.

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

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

LATE REGISTRATION FEE

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

PROGRAM ADJUSTMENT FEE

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

APPLIED MUSIC FEE

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

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

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

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

OTHER COURSE FEES

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

Fine Arts Department	Graphics, Ceramics, Jewelry, Sculpture, 3-D Design.
HPER	Bowling
Business Education	Business Laboratory Fee.
Industrial Education	Flight Training Fees.

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 within the provisions of the Traffic, Parking and Pedestrian Ordinance of the University.

Motor vehicles driven to or on the campus must be registered with the University, and the appropriate effective fee paid at the University Police Dept. during the first week of the semester.

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



BOARD AND ROOM FEES

FEES SUBJECT TO REVISION

See below or the Residence Hall Program brochure.

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

SCHEDULE OF ESTIMATED EXPENSES PER SEMESTER

Fall Semester, 1972	Amount	Due
Advance Tuition Payment (New students only)	\$ 50.00	When admitted to E.M.U.
Registration Fee—All Students	\$ 20.00	With tuition
Music Fee—Music Majors	\$ 60.00	With tuition
Other Students	\$ 30.00	With tuition
*Residence Hall Damage Deposit	\$ 35.00	With first room application
Balance of Tuition (Resident Student, 15 hours) (Less advance payment for new Students)	\$262.50	At registration or in accordance with the installment payment plan.
Room & Board (\$560.00 for 15 meals-per-week option)	\$575.00	According to residence contract
Books, Supplies and Miscellaneous Expense	\$125.00	After registration

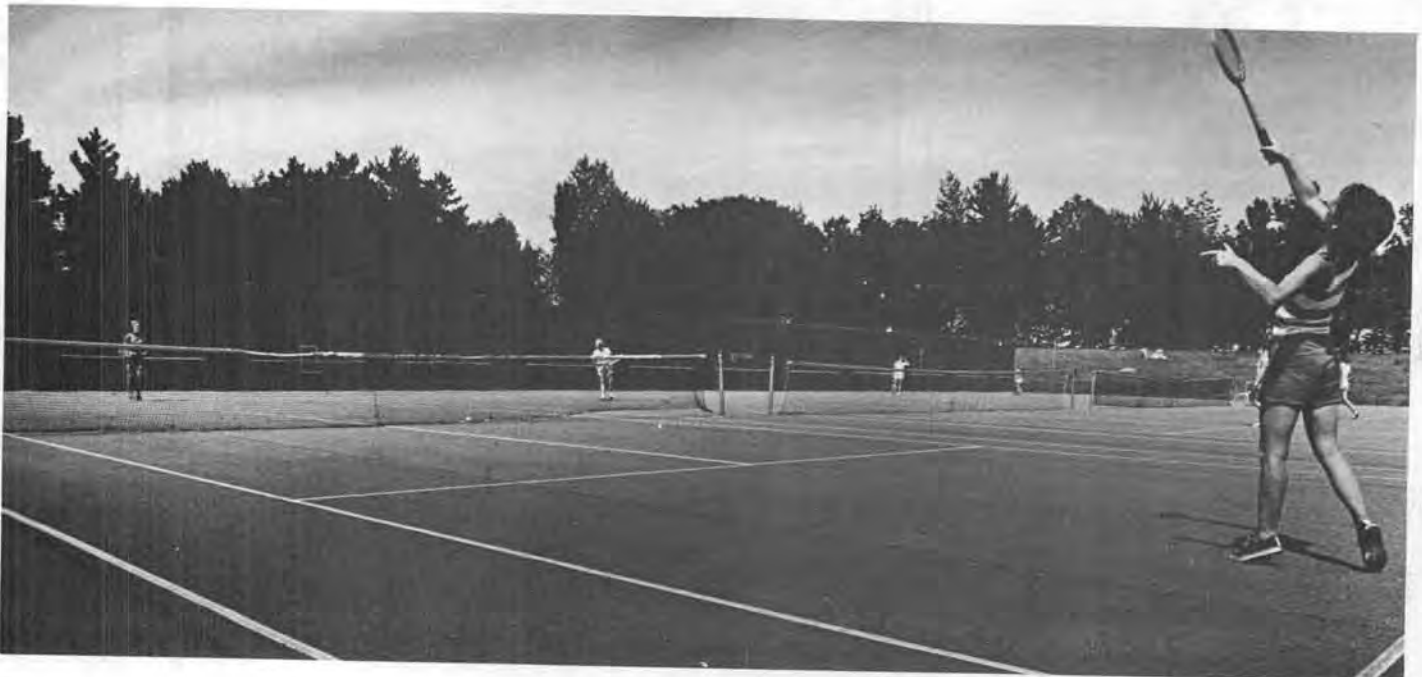
Total Estimated Annual Minimum Costs:

Resident of Michigan \$2,165.00 per year
 Out-of-state student \$2,952.50 per year
 Vehicle registration fee—Applicable to all students who bring vehicles on campus.

*The \$35.00 residence hall deposit is payable only with the

first room application. For succeeding applications, only the charges against this deposit are necessary. See page 23 for an explanation of this deposit.

This estimate of expenses includes \$200 for personal expenses.



STUDENT RESPONSIBILITIES AND INFORMATION

THE ACADEMIC YEAR

The academic year is divided into two semesters of fifteen weeks each, a spring session of seven and one-half weeks, a summer session which offers six and seven and one-half week courses as well as workshops of one to three weeks duration. Those students whose native language is not English may apply for the fall semester only. All other students may enroll at the beginning of any semester or session. The calendar is printed at the beginning of this catalog.

ATTENDANCE

The student is at the University primarily for his intellectual growth and development. He is personally responsible for the satisfactory completion of course work prescribed by his instructors. Regular attendance and active participation in classes are essential elements in the learning process, and they provide a basis for an evaluation of the student's progress. The student, therefore, is expected to attend classes regularly. Students shall report justification for absences (prior to absence when possible) directly to the instructor.

Individual instructors will determine when a student's absence has become excessive and will report excessive absences.

It is the student's responsibility to meet the requirements of the course, whether or not there is formal faculty action on his absences.

CREDITS

The unit of work or credit is the "semester hour." A semester hour is the credit granted in a course meeting once a week for one semester. Credits earned at Eastern on the "term hour" basis prior to September, 1939, are converted into semester hours by multiplying by 5/8.

STANDARD COURSE LOAD

The standard student load in each of the fall and winter semesters is sixteen semester hours. No student may enroll for more hours without approval of the director of academic advising, and no credit will be given for work in courses not officially enrolled in and not so approved.

During the seven and one-half week spring and summer sessions the standard student load is six to nine semester hours, and a student may not take more than nine hours without permission. The standard student load in the six-week summer session is five to six semester hours, and a student must have special permission of the director of academic advising to elect more than six hours.

INCREASED COURSE LOAD

The policies governing increased course loads are:

1. No student adjudged physically unfit will be permitted to carry an increased load.
2. No student who has earned less than fifteen semester hours of credit in residence at this institution is eligible to carry more than sixteen semester hours.
3. No entering freshman is permitted to carry more than sixteen semester hours.
4. No student whose cumulative scholarship index is less than 2.5 will be eligible to carry more than sixteen semester hours. The index for the semester immediately preceding must be at least 3.0.

CREDIT BY EXAMINATION

Requests for credit by proficiency examination should be initiated in the Office of the Vice-President for Instruction. Only currently enrolled students may apply.

AUDITING OF COURSES

Regular students may audit courses subject to the approval of their adviser and the dean of the college offering the course. The student's intention to audit a course rather than to take it for credit must be established at the time of registration. Shifting from credit to "audit" status is not permitted after the last day that classes may be adjusted. Obligation for attendance, preparation, recitation, and examination will be determined in advance by the instructor. No credit is awarded.

Others may be admitted as auditors under these additional restrictions:

1. By making application to the Admissions Office.
2. By paying tuition for auditors (See Tuition, page 14.)
3. By having an official admission ticket approved by the dean of the college offering the course.
4. By having a medical examination at the University Health Service.

PASS-FAIL OPTION

A pass-fail option, open to full-time juniors and seniors in good standing, was initiated in the fall semester, 1969. The pass-fail option is designed to encourage students to enroll in courses of interest to them but for which their background is weak. One course per semester may be elected with a maximum of four courses applying toward graduation. Courses are restricted to free elective courses (those courses not on major, minor, curriculum or basic studies requirements for the particular student).

The student shall elect to take a course either for pass-fail

or normal credit at the time of registration and this decision is binding by the end of the time of program adjustment.

The grade of *pass, designated as Cr on grade report*, shall be issued to students earning grades of A, B, C or D in the course and this grade shall count as credit toward graduation. A *fail* shall be issued to students earning a grade E. Neither a pass nor a fail shall be used in any way toward the calculation of grade point average.

WITHDRAWALS FROM CLASS

First three weeks—Any change in the student's program occurring during the first three weeks is accomplished through the office of the director of registration as a part of the registration adjustment process.

Fourth through fifth week (eighth week for freshmen)

During this period the student may withdraw for whatever reasons he deems important. However, his instructor and adviser are involved to insure that the student is made cognizant of all factors associated with this step. The procedure for withdrawal is as follows:

The student obtains a withdrawal form from the Office of Academic Advising or from any departmental office on campus.

He discusses the situation with his instructor and obtains his signature.

The student then reviews his prospective program change with his adviser, who signs the withdrawal slip.

The student returns the form in person to the Office of Academic Advising by the appropriate deadline. The student must not assume he is withdrawn until he has his stamped copy of the form with the approved "W." Until he has his copy which has been approved by Academic Advising, he is responsible for attending class.

After the fifth week (eighth week for freshmen)

During this period, provisions exist for review and evaluation of unexpected and extenuating circumstances beyond the control of the student which prevent his completing a course. These circumstances are assumed to be specific and must be verifiable.

The student obtains a "request for withdrawal from class" form and supplementary form from departmental offices or from Academic Advising.

The student obtains the instructor's signature on the withdrawal form and on the supplementary form. On the supplementary form the instructor may provide the Academic Advising Office with any additional information or comments he has regarding the withdrawal.

The student then confers with his academic adviser and obtains his signature, indicating that the conference has taken place to consider the implications of the withdrawal for the student's subsequent program of classes.

The student then delivers the forms and all supporting evidence in person to the Office of Academic Advising no later than one week from the date the instructor signed the forms. In any case, the forms must be presented prior to the first day of final examinations.

The request for withdrawal and the supporting evidence will be evaluated by the director of academic advising or his designee, and a decision rendered. An interview will be

required so that the student will know at that point the decision made. If the decision is to record a "W," the student will be given his stamped copy of the approved withdrawal, or he will be informed that the withdrawal has been denied. The instructor also is then informed of the decision made. The student should not stop attending class until he has had his withdrawal form checked and stamped at the Office of Academic Advising.

The grade of "W" will be assigned only when an official withdrawal has been processed. If a student discontinues attending a class without officially withdrawing from the class and does not take the final examination, University policy requires that the instructor assign a grade of "E" for the course.

When withdrawal from a class brings the student's academic load below the minimum number of hours necessary to qualify as a full-time student for University housing, scholarship aid, student loans or any other benefit he enjoys for which academic enrollment was a prerequisite, the University may at its option take any or all of the following steps:

- (a) deny permission to withdraw
- (b) cancel the benefits as of that date
- (c) declare the student ineligible for present and/or future benefits of a similar nature
- (d) deny permission to re-enroll in subsequent semesters.

WITHDRAWALS FROM THE UNIVERSITY

A student who finds it necessary to withdraw from the University, initiates the procedure in the Counseling Center. The forms completed in this office are forwarded to the appropriate offices for processing the withdrawal.

The current *Withdrawal from the University* policy is stated below:

1. During the first five weeks of instruction (eight weeks for freshmen) in each semester, the student will be assigned the grade of "W" in each of his courses if he, officially withdraws from the University.
2. During the second half of the semester for freshmen, and beginning with the sixth week for upperclassmen, the assignment of grades will be based on the circumstances surrounding the necessity for withdrawal from the University. If the student had demonstrated failing work in the course, the grade of "E" denoting failure, will be assigned unless there are extenuating circumstances. If the student has demonstrated passing work at the time of withdrawal from the University, the grade of "W" will be assigned. On all withdrawals from the University during the second half of the semester, the Office of Academic Advising will obtain from each instructor a report of the student's progress in each course.

A person who has withdrawn from the University and desires to re-enroll in a subsequent semester shall follow the admission procedure for former students, as described on page 13.

FINAL EXAMINATIONS

The responsibility for the evaluation of a student's achievement in a course rests with the instructor of the course.

Whether or not that evaluation shall include a final examination shall be determined by the instructor in line with departmental and University policy.

If a final examination is not given, the scheduled examination period shall be used for other class activity.

If the instructor requires a final examination, the following regulations apply:

1. A student who does not take the final examination in the course may not receive credit.
2. The student will take the examination with his own class and at the hour indicated on the examination schedule.
3. Should illness or other valid reasons during the examination period prevent the student from taking an examination, he shall follow the procedure outlined below:
 - a. He shall report to the instructor or to the dean of the college in which the course is offered the reason for his inability to take the examination. If the reason appears to be a valid one, the instructor shall assign the grade of "X," indicating no final examination, and will report it so on the final grade recording form.
 - b. If the student desires to remove the grade 'X' acquired, he will apply in writing to the dean of the college offering the course, requesting a special examination and stating fully the reason why this request is necessary.
 - c. If the request is approved by the dean, he will arrange with the instructor for a special examination to be given the student during the first month of the next semester that the student is enrolled in this University.
 - d. If the grade of "X" is not removed in this manner, it will automatically become an "E," denoting failure, at the close of the first month of the next semester that the student is enrolled in the University.
 - e. Any student who does not take the final examination and who does not proceed in the manner outlined above will be assigned the grade of "E," denoting failure. Emergency situations beyond the control of the student will be handled as circumstances require.

GRADES

The grades used by the University with their corresponding values in points are as follows:

Grade	Significance	Honor Points per semester hour
A	Exceptionally high order	4
B	Distinctly above the average	3
C	Average	2
D	Below average	1
E	Unsatisfactory (denoting failure)	0
Cr	Passing grade on Pass-Fail Option	0
F	Failing grade on Pass-Fail Option	0
I	Incomplete	
W	Withdrawal	

Credits earned by student teaching, correspondence or pass-fail option are not accorded honor points.

An "I" is awarded only when the student's work has been of acceptable quality, but the required amount has not been completed because of illness, necessary absence or other

satisfactory reasons. It is never applied to poor work or to non-attendance of class by the student. It implies that the student has informed the instructor of the reason for the requested incomplete. An "I" must be removed by completing the required work before the end of the first month of the next semester the student is enrolled in this University; otherwise, the course will be recorded with a grade of "E." In exceptional cases (e.g. when the next period of enrollment is two or more semesters after the receipt of the "I," or the reasons for lack of completion of the work originally were such that the instructor recommends the course be repeated) the student may apply at the Office of the Vice-President for Instruction to re-enroll in the course under this provision. Upon successful completion of the course, a "W" will be recorded as the previous grade.

The grade of "W" will be assigned only when an official withdrawal has been completed except as indicated in the preceding sentence. If a student discontinues attending a class without officially withdrawing from the class, the grade of "E" will be assigned for the course.

Credit for a course in which the grades of "E" or "F" have been received can be earned only by repeating the course.

This system of grades went into effect at the beginning of the fall term, 1925. Each hour of credit earned prior to that date is evaluated as credit for those purposes for which a "C" average is required and does not enter into the computation of the scholarship index.

The work of a student teacher is not evaluated according to the above system of grades but according to one of the following statements:

- Credit for certification
- Credit, but not for certification
- No credit

SCHOLARSHIP INDEX

The total number of honor points acquired, divided by the total number of semester hours taken which carry honor points, gives the scholarship index. *When a course is repeated, each attempt and grade is counted.*

ACADEMIC DISTINCTION

The term *summa cum laude* (3.90-4.00); *magna cum laude* (3.70-3.74); or *cum laude* (3.25-3.49) will appear on the diploma of an individual whose academic record warrants such a level of distinction.

ACADEMIC PROBATION

An undergraduate student is placed on academic probation when his cumulative grade point average at EMU, or from all college sources, is less than 2.00 (a "C" average). Placement on academic probation is automatic, and applies whether or not a student states that he has received official notification of such probation from the University.

A student's probationary status results from his academic record for the semester he has just completed, viewed in relation to his total academic record. (Note that "plus" honor points from institutions other than EMU cannot be used to reduce an honor-point deficit incurred at EMU.)

The University's action of placing a student on academic probation should make him aware that he is not making satisfactory progress toward completing his degree requirements. He should also realize that he must take steps, such as

seeking additional help and advice, to ensure he can improve the quality of his academic performance so that he can continue his college career.

While on academic probation, a student must earn a grade point average of at least 2.00 (a "C" average) in each succeeding period of his enrollment (including the spring and the summer session) until probation is removed. This requirement applies regardless of where the academic work is taken.

Academic probation will be removed when a student's cumulative grade point average at EMU and from all college sources is at least 2.00 (a "C" average).

Within the first thirty days of a semester—and preferably within the first week of a semester—the student on academic probation is required to have a conference with *his assigned academic adviser* to review the student's program of classes and his plans for the semester. Further conferences may be required, or the student's academic course load may be restricted, or the student may be informed of special conditions stipulated by the Academic Advising Office, acting for the University Academic Standards Committee, to help ensure satisfactory progress toward graduation.

While on academic probation, no student may register for, remain in, or receive credit for a Group IV Professional Education course offered by the following departments or divisions within the College of Education: Curriculum and Instruction, Social Foundations, Student Teaching, Educational Psychology, Guidance and Counseling, and Special Education (but not Occupational Therapy). This includes all strictly Group IV methods classes listed by cross-reference in these departments, even though the courses are also listed by and taught in other departments. It does not include the following introductory courses: 100 Introduction to Education, 241 Introduction to Speech Correction and 251 Education of Exceptional Children.

No credit may be earned in any graduate level course (500 and above) on-campus or off-campus, while an undergraduate student is on academic probation.

ACADEMIC DISMISSAL

An undergraduate student is academically dismissed from the University when his cumulative honor-point deficit is excessive, or when he fails to meet the conditions of academic probation described above. The University Academic Standards Committee may take many factors into account in making a decision in a particular student's case, but ultimately a decision is based on a student's record of academic achievement.

A student on academic probation who fails to meet the required grade point average of 2.00 (C average) in each period of his enrollment while on probation will be academically dismissed.

A student not on academic probation whose cumulative grade point deficit at the end of any enrollment period is 13 or more will be academically dismissed. Thus, even though a student has not previously been on academic probation, it is possible for him to be dismissed because of the effect of one extremely bad semester.

Exceptions to the above policies may be made under the following conditions:

- a. A student on academic probation who earns less than the required grade point average of 2.00 (C average) in any semester or session for which he is enrolled, may be retained on academic probation provided this is the

recommended judgement of the Academic Standards Committee.

- b. A freshman may, with the approval of the Academic Standards Committee, be permitted two full semesters of enrollment even though the grade point deficit is greater than 13 during the first semester.
- c. A student on academic probation, whose grades for the current enrollment period include an "X" and/or "I", will be retained only at the discretion of the Academic Standards Committee.

READMISSION

A student is academically dismissed for two successive enrollment periods (one of which must be a full semester), unless unusual or extenuating circumstances exist. Readmission and re-enrollment cannot take place until this time period has elapsed. Readmission is not automatic; normally each student must have a readmission interview.

During this period a student may well gain the needed maturity for pursuing a degree, through work experience, travel or course work at other accredited collegiate institutions. The student will be required to support his eligibility for readmission through:

1. Documentation of his activities during the dismissal period which relate to the reasons for dismissal and which support his readiness to resume his academic career at Eastern Michigan University.
2. Earning a minimum grade point average of 2.00 (C average) if courses are taken at other accredited collegiate institutions.
3. Taking the SAT for re-evaluation in conjunction with Items 1 and 2, if considered necessary by the Academic Advising Office.

A student who is readmitted and is dismissed a second time will normally not be readmitted again.

To apply for readmission a student must: Obtain a petition for readmission form in the Academic Advising Office. Complete the form and return it to the Office of Academic Advising well in advance of the beginning of the semester for which readmission is desired, but in any case no later than 14 calendar days prior to the first day of classes of a semester or session.

If any courses have been completed at other collegiate institutions since leaving Eastern, transcripts of such work must be included with the petition for readmission. If a student is enrolled in such courses at the time the petition for readmission is submitted, the transcripts must be received in the Academic Advising Office no later than the first day of classes of a semester or session. The grade-point average for all such work must be at least a 2.00 (C Average).

A student who has been discharged from active military duty must include a copy of his separation record (DD Form 214) with the petition for readmission. If the student applies for readmission prior to his discharge, he may be readmitted conditionally pending receipt of his separation record.

CLASSIFICATION

For purposes of figuring class levels, the following hour classifications are used.

Class	Semester Hours
Freshman	0-24
Sophomore	25-54
Junior	55-84
Senior	85 or over

HONORS COURSES

Honors courses are offered in several departments to qualified seniors specializing in those departments. These courses are geared to encourage creative interest, to promote subject investigation in depth and to permit overviews of subject matter fields.

To be eligible a student must have completed twenty semester hours of work on his major.

An eligible student should consult with the head of the department, who will cooperate with the student in the preparation of a systematic proposal which must include a statement of the problem, the resources or references to be used, the method by which the problem is to be solved, the amount of time required and the credit to be given. This statement must be filed with and approved by the dean of the college in which the course is taken. *The honors course election is limited to two semester hours in any one semester.*

The Department of English Language and Literature offers a special Honors Program for English majors. The regulations governing that program may be found on page 57.

PLACEMENT

Through its Placement Center the University offers, to its graduates and alumni, active aid in securing positions after graduation and in obtaining professional advancement. Complete records are kept of graduates and are added to as professional experience is gained and as additional advanced academic preparation is taken. The Placement Center desires to serve both the graduates and the hiring officials by bringing to each job offered the best qualified person and by 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. It is recommended that each graduate register at the Placement Center and develop a placement folder.

STUDENT AND SUMMER EMPLOYMENT

Eastern Michigan University offers a centralized placement service for students interested in employment opportunities. This service is available through the Student Employment Office at the Placement Center.

Thousands of students each year obtain part-time positions through Student Employment while attending the University. While the majority of these positions are on campus, a large number are in the surrounding community. They range from odd jobs and babysitting to extended part-time, highly skilled positions. The Student Employment Office of the Placement Center attempts to fit the positions to the student's interests, skills, class schedule, etc., as much as possible.

Summer employment opportunities have traditionally been with campus and resorts; but more and more businesses and industries, governmental agencies, etc., are using college students during their summer vacation periods. Summer employment opportunities start to be listed about Christmas time. Many employers visit the campus to interview students for summer positions.

All students must make application with Student Employment in order to be placed in part-time positions

with the University. Students who are eligible for the College Work-Study Program first gain approval in the Office of Financial Aids, 212 Pierce Hall.

HEALTH SERVICES

Health Services are available to enrolled students for both out-patient and in-patient care at the Snow Health Center, and include: physician and nursing services, pharmaceuticals, laboratory services, immunizations, tuberculin testing, allergy injections, minor surgical procedures, medical specialty clinics in dermatology, gynecology, internal medicine and orthopedics, as well as infirmary care and referral services to area physicians and hospitals.

The Health Center is open daily from 8 a.m. to 9 p.m. weekdays. Twenty-four hour nursing services are provided. There is physician coverage from 8 a.m. to 5 p.m. and 7 p.m. to 9 p.m. weekdays, and on Saturdays from 8 a.m. to noon and 3:30-5:30 p.m., and Sundays from 10 a.m. to noon and 3:30 to 5:30 p.m. This schedule is in effect when the University is in full academic session, excepting vacation periods.

Office visits with staff physicians during scheduled clinic hours and 24-hour daily nursing services are provided without charge. However, the student is responsible for payment of prescriptions, laboratory services, immunizations, tuberculin testing, allergy injections, surgical procedures, office visits with medical specialty clinic physicians, referrals to area physicians and hospitals and transportation for off-campus medical care.

Insurance coverage individually held, or through parents' plans, will be utilized for in-patient and out-patient care when applicable. A voluntary Student Health Insurance plan designed to help defray medical expenses in case of accident or illness is available to students who are not covered by other insurance plans. Information can be obtained in the Snow Health Center insurance office.

The Health Center staff physicians work closely with the University Counseling Center in referring students with emotional or psychiatric problems for counseling and treatment. Arrangements for psychiatric consultation are made through the Counseling Center.

LOANS, SCHOLARSHIPS AND GRANTS

Eastern Michigan University attempts to assist, to the limit of available funds, every capable student who desires an education.

Eastern Michigan University is a participant in the National Defense Student Loan Program, the College Work Study Program, the State of Michigan Guaranteed Loan Program, the Educational Opportunity Grant Program and the Law Enforcement Education Program. For information concerning loans, scholarships and grants-in-aid, students should consult with the dean of admissions and financial aids.

STUDENT HOUSING

Eastern Michigan University is a residence college, and all undergraduate students are required to live in residence halls to the extent that space permits. By authority of the Board of Regents, the president may make exceptions for a given academic year or semester.

For the 1972-73 academic year, all junior and senior students shall be exempted, and freshman and sophomore

students who are of 21 years of age or older prior to the beginning of the fall semester, commuting from the home of their parents, or who have completed two years of active military duty, will be exempted on application. All other single freshman and sophomore students are required to live in the residence halls.

Although any student may apply for University housing, admission to the University does not guarantee the availability of University housing. To qualify for admission and continued enrollment, each student, at the freshman and sophomore level, must submit either an application for residence halls, or submit an application for exemption and receive approval for off-campus housing. Students are encouraged to make early application.

Residence Halls for Men and Women

The University provides a variety of physical environments and living styles from which to choose. Each choice may bring more than a simple room and board arrangement to the student. In addition there may be such significant student development resources as professional and peer advisers and counselors, opportunities for participation in educational, recreational and social activities, part-time employment, convenient access to campus facilities and services and the general advantages of being a full-time member of the University community.

All new students and former students who do not have a residence hall deposit on account with the University from the previous semester, must submit their application to the University Cashier's Office with a \$35.00 residence hall deposit. This deposit is not applied toward the initial residence hall payment and is refunded upon contract fulfillment at the conclusion of the student's period of occupancy, or if a cancellation is received by the Housing Office 21 days prior to the first day of classes.

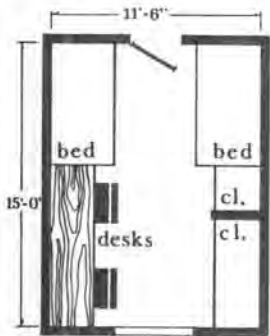
Cancellation requests must be communicated in writing. The postmark will be used as the determining factor when the request is sent in by mail.

Residence hall fees average approximately \$1150 for an academic year. Specific rates vary from year to year. Students are informed of the exact amount and payment plan options after they have completed residence hall application. The University reserves the right to revise the rates and services as need may dictate. The University reserves the rights regarding the assignment and re-assignment of rooms or the termination of occupancy in accordance with University policies and procedures.

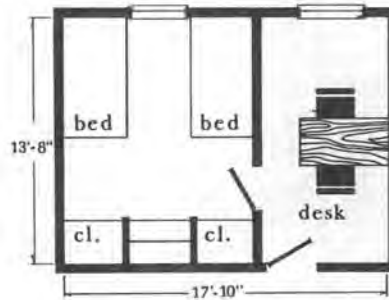
Students assigned to halls are required to sign a contract agreeing to live in a hall for the entire academic year, or from the time of assignment to the end of the winter semester. *This contract is binding.* Residents may not change to another form of student housing during the period their hall contract is in effect.

TYPICAL RESIDENCE HALL ROOM FLOOR PLANS

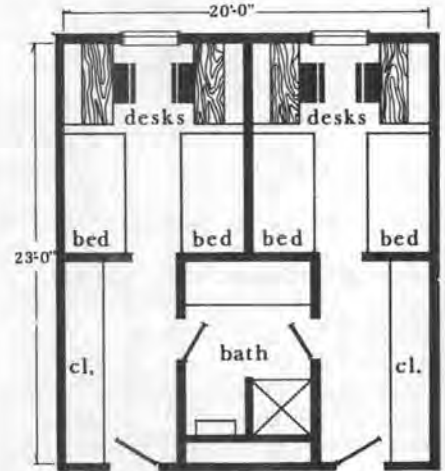
Wise Hall



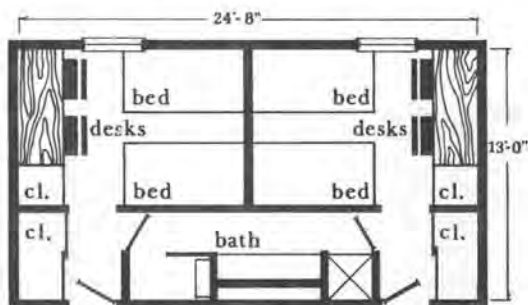
Brown, Munson and Jones Halls



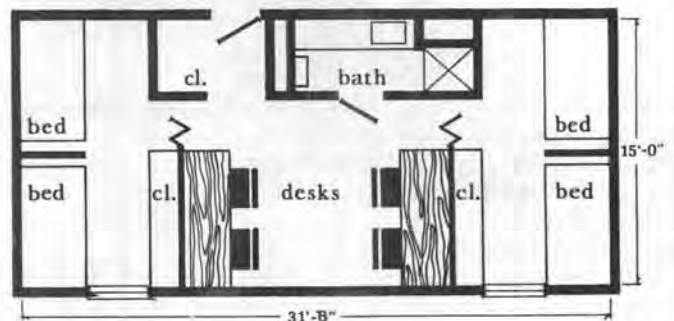
Residence Hall Towers Hill, Hoyt, and Pittman Halls



Best, Phelps-Sellers and Walton-Putnam Halls



Downing, Buell, and Goddard Halls



University Apartments

The University owns and operates 449 furnished one and two bedroom apartments for married students. Either husband or wife must be a full-time student or accepted for a full academic program to apply for a University apartment.

Apartments are assigned with priority given to applicants who have been on the waiting list for the longest period of time for the particular assignment date involved. Married students who wish to apply for a University apartment should obtain an application from the Housing Office. The University cannot guarantee apartment availability. It is recommended that applications and apartment deposits be filed six to eight months in advance of the desired date of assignment.

Off-Campus Housing

A variety of living arrangements are available for students who desire to live in the off-campus community. Students who meet the eligibility requirements and who plan to live off-campus are responsible for making their own arrangements for securing housing.

The Housing Office maintains an off-campus housing bulletin board which contains listings of firms and individuals who have contacted the Housing Office and offer rooms, apartments or houses in the Ypsilanti area.

Students are responsible for abiding by local, state and federal laws affecting all citizens of the community. The University Student Conduct Code is applicable to students residing off-campus as well as on-campus.

The University Housing Office, located in the lower level of Dining Commons #1, is available to assist students who desire advice concerning off-campus problems.



DEGREES, CERTIFICATES AND REQUIREMENTS FOR GRADUATION

DEGREES

The Board of Regents of Eastern Michigan University, on recommendation of the president and the faculty, confers the following degrees:

Specialist in Arts and Specialist in Science

Information concerning these degrees may be obtained by writing to the Graduate School.

Master of Arts, Master of Science, Master of Business Administration and Master of Business Education

Information concerning the requirements for the various fields in which the master's degree is offered appears in the Graduate Catalog of Eastern Michigan University.

Bachelor of Science

The student who fulfills the requirements of a four-year curriculum qualifies for the Bachelor of Science degree unless a special degree is designated for the curriculum. For detailed requirements see catalog section entitled "General Curricular Requirements."

Bachelor of Arts

The student who qualifies for a Bachelor of Science degree may have the option of electing the Bachelor of Arts degree by presenting:

1. One year of college credit in one foreign language.
2. At least 75 semester hours in Groups I, II and III. (See page 33).

Bachelor of Fine Arts

The requirements of the curriculum leading to the Bachelor of Fine Arts degree may be found on page 33.

Bachelor of Art Education

The requirements of the curriculum leading to the Bachelor of Art Education degree may be found on page 128.

Bachelor of Business Education

The requirements of the curriculum leading to the Bachelor of Business Education degree may be found on page 128.

Bachelor of Business Administration

The requirements of the curriculum leading to the Bachelor of Business Administration degree may be found on page 106.

Bachelor of Music Education

The requirements for the curriculum leading to the degree of Bachelor of Music Education may be found on pages 131 to 133.

TEACHING CERTIFICATES

Teaching certificates are conferred by the State Board of Education upon recommendation of Eastern Michigan University.

The University will recommend for provisional certification only those individuals who have satisfied the curricular requirements in one of the teacher education degree programs.

The Michigan State Board of Education issues six-year provisional certificates which always expire on June 30. Certificates issued in January are valid for only five and one-half years.

Following are the certificates issued:

State Elementary Provisional Certificate*

Qualifies the holder to teach in elementary grades (kindergarten-8 and major and minors in grade 9) in any public school in Michigan.

State Secondary Provisional Certificate*

Qualifies the holder to teach all subjects in grades 7 and 8 and major and minor in grades 9-12.

State Secondary Provisional Vocational Certificate in Home Economics

Qualifies the holder to teach home economics in schools offering programs which are reimbursed by federal and state funds allocated for that purpose.

State Secondary Provisional Certificate in Office and/or Distributive Education

Qualifies the holder to teach office and/or distributive subjects in schools offering programs that are reimbursed by federal and state funds allocated for that purpose.

State Secondary Provisional Certificate in Trade and Industrial Education

Qualifies the holder to teach trade and industrial subjects in schools offering programs which are reimbursed by federal and state funds allocated for that purpose.

GENERAL INFORMATION CONCERNING CERTIFICATION

1. Teaching certificates will be granted only to persons who are 18 years of age or older.
2. Permanent or continuing teaching certificates will be granted only to individuals who are citizens of the United States or who have declared their intention of becoming citizens.
3. A graduate of a Michigan county normal school may receive not more than 25 semester hours credit toward a provisional certificate.

**A holder of this certificate who has completed Eastern's curricular requirements in art, industrial arts, library science, music, physical education, recreation or special education is eligible to teach in the area of his specialty in grades K-12, providing student teaching experience includes both elementary and secondary grades.*

PROCEDURE FOR PERMANENT AND CONTINUING CERTIFICATION

The holder of an elementary provisional or a secondary provisional certificate, issued prior to July 1, 1970, who has fully met the requirements of teaching successfully for at least three years in the grades covered by the provisional certificate and who has earned at least 10 semester hours of acceptable college credit may be issued a permanent certificate until June 30, 1976. If a Provisional Certificate is issued after June 30, 1970, a Continuing Certificate requiring 18 semester hours in a planned course of study follows the Permanent Certificate. This course of study requirement can be met by admission to one of the graduate degree programs administered through the Graduate School. The 18 hour planned course of study for the Continuing Certificate must be approved in advance by the Office of Records and Teacher Certification.

The procedure to be followed is:

The candidate will:

1. obtain an application blank from Eastern Michigan University. This may be done after three years of successful teaching subsequent to the date of issue of the provisional certificate and the completion of ten or 18 semester hours of acceptable college credit.
2. fill out the application as required and return it to the University.

The University will:

1. evaluate the credits earned and contact the school district of the candidate for recommendations concerning the teaching experience to ascertain if the requirements for the permanent or continuing certificate have been met.
2. recommend the candidate to the State Board of Education for permanent or continuing certification if the candidate's qualifications are found satisfactory. The Michigan State Department of Education will mail the permanent or continuing certificate properly executed to the candidate.

OTHER PROFESSIONAL CERTIFICATES

Certificate in Medical Technology

The American Society of Clinical Pathologists awards a certificate for registration as a medical technologist upon successful completion of the medical technology curriculum and the successful completion of the national examination conducted by the Board of Registry of Medical Technologists.

Certificate in Occupational Therapy

The American Occupational Therapy Association issues a certificate in occupational therapy upon successful completion of the occupational therapy curriculum and the successful completion of the board examinations administered by the American Occupational Therapy Association. This certificate qualifies the holder for professional registration with the American Occupational Therapy Association.

REQUIREMENTS FOR GRADUATION

Each student will be responsible for the requirements or their equivalents of the Eastern Michigan University catalog in force at the time of his initial registration at a college or university or a subsequent catalog including the one in effect at the time of his graduation.

In the event the student does not complete the degree requirements within seven years of the date of his original registration at Eastern Michigan University, he may be required to have his credits re-evaluated by the dean of records and teacher certification in keeping with catalog requirements in force during the year of his graduation.

Application For Graduation

A formal application for graduation must be filed in the Records and Teacher Certification Office during the first week of his final session by the candidate for graduation and/or certification. The application should be filed after final registration is complete but as near the beginning of the final session as possible. Off-campus students who plan to finish in a summer session should notify the dean of records and teacher certification from six months to a year in advance.

Failure to meet an application deadline may necessitate the candidate's graduation being delayed until the following graduation period.

Application blanks may be obtained in the Records and Teacher Certification Office.

Financial Obligations

A student is eligible for graduation and/or re-enrollment only after all of his financial obligations to the University have been met.

Placement Services

Completion of a personnel folder for filing in the Placement Center is suggested before graduation. Candidates for graduation in all curriculums should check with the Placement Center to make certain that all placement forms have been completed.

GENERAL CURRICULAR REQUIREMENTS

Eastern Michigan University offers its undergraduate students thirty-four different curriculums. Twelve of these are teaching curriculums leading to a bachelor's degree and a teacher's certificate. Other four-year programs lead to the Bachelor of Arts degree, the Bachelor of Science degree or the Bachelor of Business Administration degree. Also available are eight pre-professional curriculums, most of which cover two years, and two two-year curriculums in business and industrial technology.

For all four-year curriculums, the following general curricular requirements pertain:

TOTAL HOUR AND GROUP REQUIREMENTS

Each curriculum leading to the bachelor's degree requires a minimum of 124 semester hours of academic credit and must include:

- Group I at least 5-8 semester hours
- Group II at least 10-12 semester hours
- Group III at least 9-12 semester hours
(Including 3 semester hours in government)
- Humanities Area (see page 28)
- Groups I, III, V at least 11 semester hours
- Group IV at least 20 semester hours
(Teacher Education curriculums only)
- Group VII at least 4 semester hours
(Physical Education or equivalent)

The above group requirements are minimal and the student should consult the curriculum of his choice to determine the complete requirements for any one group.

The subjects included in the various groups are as follows:

Group I—Language and Literature

Ancient language and literature; modern language and literature; English language and literature; and most courses as indicated in speech and library science.

Group II—Science

Agriculture; astronomy; biology; botany; chemistry; geography (certain courses as indicated); geology; mathematics; physics; physiology; hygiene; psychology; zoology.

Group III—Social Science

Geography and library science (certain courses as indicated); history; political science; philosophy; economics; sociology.

Group IV—Education

Education (includes methods courses and student teaching.)

Group V—Fine Arts

Art; music.

Group VI—Practical Arts

Business administration; business education; home economics; industrial education; military science; and courses in library science as indicated.

Group VII—Physical Education and Health Education

Physical education; health education; recreation; military science.

BACHELOR OF SCIENCE DEGREE REQUIREMENTS

The student who fulfills the requirements of a four-year curriculum qualifies for the Bachelor of Science degree unless a special degree is designated for the curriculum.

BACHELOR OF ARTS DEGREE REQUIREMENTS

The student who qualifies for a Bachelor of Science degree may have the option of electing the Bachelor of Arts degree by presenting:

1. one year of college credit in one foreign language.
2. at least 75 semester hours in Groups I, II and III.

BACHELOR OF FINE ARTS DEGREE REQUIREMENTS

See page 33.

BACHELOR OF ART EDUCATION DEGREE REQUIREMENTS

See page 128.

BACHELOR OF BUSINESS ADMINISTRATION DEGREE REQUIREMENTS

See page 106.

BACHELOR OF BUSINESS EDUCATION DEGREE REQUIREMENTS

See page 128.

BACHELOR OF MUSIC EDUCATION DEGREE REQUIREMENTS

See pages 131 to 133.

BASIC STUDIES REQUIREMENTS

The Basic Studies Program sets up minimum requirements which all students in the University must meet in four broad areas of study: language, science and mathematics, social sciences and the humanities. Although the requirements for each of the first three areas fall completely in Groups I, II and III respectively, the humanities requirements, because of the very breadth of the area, are divided among two or three subject groups.

A minimum total of forty semester hours in the basic studies areas is required. Translated into specific courses in the subject groups, the basic studies requirements are:

Language Area	5-8
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Regulations governing the selection of courses in this area are:

1. All students are required to take a course in speech (121 Fundamentals of Speech or 124 Fundamentals of Speech).
2. Students who score below 550 on the verbal part of SAT or below 25 on the English section of ACT and who also earned less than a 2.5 high school grade point average are required to take 121 English Composition.
3. Students who had scores higher than those in paragraph 2, above, may substitute, for the English language composition course, a basic language course in foreign language (121, 122, 131, 132, 133, 221 or 222 French, German or Spanish; but not conversation courses 233 or 234), according to the norms appearing on page 60.
4. Students who score 350 or below on the verbal part of SAT or 14 or below on the English section of the ACT and who also earned 2.5 or below on their high school grade point average are required to take 120 English Composition Laboratory.

Thus the course pattern for this area is:

Speech 121 or 124	2-3
English Composition 121 or Foreign Language 121, 122, 131, 132, 133, 221 or 222	3-5
English Composition Laboratory 120	<u>1</u>
	5-8
Science Area	10-12

Alternate 1:

One laboratory-science course in biology, chemistry, earth science, physics or psychology (102, 301). One mathematics course.

Electives in this area (including courses in any of the above-listed sciences, or courses in mathematics, or courses in psychology) to total the required minimum hours.

Alternate 2:

Two laboratory-science courses in biology, chemistry, earth science, physics or psychology (both of which may be taken in the same department). Electives in this area to total the required minimum hours.

Social Science Area	9-12
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Alternate 1:

Political Science 112 or 202	3
History of Civilization 101 and 102	<u>6</u>
Total	9

Alternate 2:

Political science 112 or 202	3
History of Civilization 101 or 102	3
Two-course (one-year) sequence in economics, geography, or sociology	<u>6</u>
Total	12

Humanities	11-12
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Alternate 1:

Reading of Literature 101 and 102	6
Fine arts (art, music, dramatic arts)	2-3
Philosophy or religion	<u>3</u>

Total	11-12
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Alternate 2:

Intermediate foreign language courses (221, 222 or 341, 342)	6
Fine arts (art, music, dramatic arts)	2-3
Philosophy or religion	<u>3</u>

Total	11-12
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Additional electives in groups

I, II, III, or V	3
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A student exempted by a department on the basis of a test (testing out) from any course that would apply toward the basic studies requirements (40 hours) may use a corresponding number of hours as free electives in any subject or discipline.

REQUIREMENT IN GOVERNMENT

Each student must complete a three semester hour course in government in accordance with Act 106, Public Acts of 1954.

REQUIREMENTS IN MAJORS AND MINORS

Each student must complete a major subject of at least 30 semester hours and a minor subject of not less than 20 semester hours with the following exceptions:

1. A student on the elementary teaching curriculum may present three minors of not less than 20 semester hours each, at least two of the minors being subject fields taught in elementary grades.
2. A student who completes the specialized curriculums for teachers of art, teachers of business education, teachers of industrial education and teachers of music, or the professional curriculums in applied science, business administration, home economics in business, industrial technology and occupational therapy will automatically satisfy major-minor requirements.

Hours of credit counted on a minor may not also be applied to a major or another minor, or vice versa. Basic Studies courses may be applied toward a major or a minor where appropriate.

Transfer students may be required to complete satisfactorily three semester hours in their minor field and as much as six semester hours in their major field at Eastern Michigan University in satisfying the requirements for graduation unless exempted by the departments concerned.

Credits in 120-121 English Composition courses, which are required, and credits in education courses, do not count toward majors and minors except in cases where such courses are specifically required as a part of that major or minor.

PHYSICAL EDUCATION ACTIVITY AND MILITARY SCIENCE REQUIREMENTS

All students shall present for graduation four semester hours (eight activity hours) in physical education activity courses. However, veterans with at least one year of active duty may substitute their military service credit in lieu of activity courses. Male students, with the exception of ex-navy men, ex-marines, varsity swimmers, or holders of Red Cross swimming or life saving certificate, are required to pass 153 Elementary Swimming or exemption test. Because credit in activity courses is computed in activity hours rather than semester hours, it should be understood that two activity hours are equal to one semester hour.

Minimum requirement for the bachelor's degree is 124 semester hours including military science credit for physical education.

This requirement may be met in the following ways:

1. Students who do not elect the military science options below shall complete eight activity hours in physical education activity courses. This requirement shall be modified or waived if, for reason of age or physical disability, the student is unable to participate in physical education activity courses. Physical disability shall be determined by the Health Service and, in conference with representatives of the Health, Physical Education and Recreation Department, a decision as to appropriate modification or waiver of the requirement will be made to insure maximum benefit to the student.
2. The one semester hour of credit received for Military Science 100 may, at the option of the student, be used either as elective credit, or be applied toward the physical education requirement. Students who complete the entire Basic ROTC program will receive six semester hours and may count a maximum of two of them toward the physical education requirement. By completing the Advance ROTC program, a student is deemed to have satisfied the entire physical education requirement.
3. Students who have been in military service will be granted credit in military science as follows:
 - (1) Those who have served for one year in the Army, Navy, Air Force, Marine Corps, Coast Guard (including attendance at service academies) will be given credit for the first two years of military science.
 - (2) Those who have served for six months in time of peace in the Army, Navy, Air Force, Marine Corps, Coast Guard (including attendance at service academies), will be given credit for the first year of military science.
 - (3) Students who have completed three years junior ROTC will be given credit for the first year of military science.
4. Veterans who are awarded credit for military science under category (1) above, are, nevertheless eligible, if otherwise qualified to enter the advanced course voluntarily and should consult the Military Science Department on special opportunities which are available. (*See Military Science Department Advance Program*).

RESIDENCE REQUIREMENTS

1. Candidates for the bachelor's degree must earn at least 30 semester hours at Eastern Michigan University. Of these 30 hours, a minimum of 15 hours must be taken on the campus of Eastern Michigan University. The remaining 15 hours may be taken off campus.
2. Of the last 30 semester hours, prior to the granting of a bachelor's degree, at least 10 hours must be taken in courses offered by Eastern Michigan University. These 10 hours may be taken either on or off campus.

SCHOLARSHIP

1. No student will be graduated from any curriculum if his scholarship index, based on the work of that curriculum, is less than 2.0. Credit earned at Eastern Michigan University must average at least 2.0.
2. To be eligible for graduation a student must maintain a minimum average of 2.0 in each major and minor.

CORRESPONDENCE CREDIT

1. No more than 15 semester hours of correspondence credit may be applied toward a bachelor's degree.
2. Correspondence credit may not be applied to meet any of the residence requirements.
3. Correspondence credit does not carry honor point credit and may not be used in the figuring of scholastic indices.

MICHIGAN COUNTY NORMAL SCHOOL CREDIT

A graduate of a Michigan county normal school may apply not more than 25 semester hours of county normal credit toward any bachelor's degree.

COURSE LEVEL

At least two-thirds of the work beyond the second year must be in courses not open to first year students.

LIMIT ON HOURS IN ONE SUBJECT

Not more than 60 semester hours in any one area of concentration may be applied toward the minimum of 124 hours required for a bachelor's degree.

THE UNIVERSITY LIBRARY

Director and Professor: Albert P. Marshall

Associate Professors: Sul H. Lee, associate director; Eugene A. Holtman, assistant librarian.

Assistant Professors: Mary Clare Beck, documents librarian; Leona Berry, assistant social sciences librarian; Haydee M. Cabrera, assistant catalog librarian; Nelly Doll, assistant science and technology librarian; Margaret Eide, head, social sciences division; Walter Fishman, director, audio-visual center; Sibylla Gibson, assistant catalog librarian; Ruth Gray, head, circulation department; Joanne Hansen, head, science and technology department; Jeanne Henle, assistant head, catalog department; Hide Ikehara, assistant catalog librarian; Jessamine Kallenbach, assistant humanities librarian; Grace Maxfield, head, catalog department; Cecil R. McLeod, head, book and card preparation department; Twyla Mueller, head, acquisitions department; Matthias G. Newell, head, orientation librarian; Richard Oltmanns, coordinator of production services, audio-visual center; Frances Saupe, assistant head, acquisitions department; Carol Selby, head, humanities division; Frances Simpson, assistant education and psychology librarian; Florence Stevens, head, education and psychology division; Charles Wright, coordinator of technical services, audio-visual center.

Instructors: Ann Andrew, assistant education and psychology librarian; Sarrel W. Beal, assistant social sciences librarian; Jennifer Berger, serials librarian; Robin Branstator, assistant humanities librarian; Troy Brazell, assistant humanities librarian; Mary Jane Butterfield, assistant social sciences librarian; Sandra Dow, assistant science and technology librarian; Lucille Hogan, assistant catalog librarian; Hannelore Rader, orientation librarian; Carol Sims, assistant catalog librarian; Elma

Stewart, assistant science and technology librarian; Helen Wilkinson, assistant catalog librarian; Alice Wu, assistant education and psychology librarian.

The University Library is an instrument of education and serves to complement the classroom as an important part of the learning experience. To achieve maximum benefit from a university education, the student develops a reliance on the library and its resources for the acquisition of knowledge and expansion of his abilities.

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 collection numbers over 480,000 items, including documents, microforms and bound periodicals. Special facilities are available for small study groups, for copying of materials and for the use of typewriters.

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

The focal point for all library services is the student and his educational development. An orientation program is designed to acquaint students with functional resources in a progressive manner so that learning may continue at the highest level when the college days of formal study are over. This program includes both group and individualized instruction by a well-prepared staff of professional librarians.



COLLEGE OF ARTS AND SCIENCES

DEAN: Donald F. Drummond

DEPARTMENTS

Art

Biology

Chemistry

Economics

English Language and Literature

Foreign Languages and Literature

Geography and Geology

History and Social Sciences

Mathematics

Music

Physics and Astronomy

Political Science

Psychology

Sociology

Speech and Dramatic Arts

LIBERAL ARTS AND PROFESSIONAL CURRICULUMS

The University offers liberal arts and professional curriculums, some four-year and some two-year, in the following areas:

1. Bachelor of Science Degree.
2. Bachelor of Arts Degree.
3. Bachelor of Fine Arts Degree.
4. Applied Science.
5. Dietetics.
6. Medical Technology.
7. Pre-Dentistry.
8. Pre-Engineering.
9. Pre-Forestry.
10. Pre-Law.
11. Pre-Medicine and Osteopathy.
12. Pre-Mortuary Science.
13. Pre-Pharmacy.
14. Pre-Social Work.

In a sense, the basic degree offered by the University is the Bachelor of Science degree. It presents the least restrictive program that meets the University's requirements for graduation. In the main, it offers the student the most flexibility in the use of his electives and in his selection of a major and a minor.

All other curriculums add requirements, specify additional courses, or have some planned program of concentration (such as majors, minors or "cores") that are required for or limited to just that curriculum. For example, some majors and minors listed later in the catalog apply only on an Elementary Education or Special Education Curriculum and would not be satisfactory as a major or minor on the Bachelor of Science degree alone.

When a student says that he wants a "liberal arts" degree, he usually refers to a Bachelor of Science degree program. If in addition he wishes to complete at least a year of college credit in a foreign language and to elect 75 hours (and usually also his major and minor) in groups I, II and III, he may instead select the Bachelor of Arts curriculum as a "liberal arts" degree. All curriculums, whatever the degree awarded, include at least those general requirements that satisfy the Bachelor of Science degree.

In addition to the curriculums listed above under the College of Arts and Sciences, there are other curriculums described later in the catalog. The Business curriculums begin on page 106, the Education curriculums begin on page 120, and the curriculums offered in the Applied Science departments of home economics and industrial education are listed beginning on pages 156 and 162.

Curriculum for the Bachelor of Science Degree

Adviser Chairman, Edgar L. Jones, Jr.

The student will complete, as a minimum, major subject of at least 30 semester hours, and one minor subject of at least 20 semester hours.

The basic studies requirements, to be met by all students, are listed below. These requirements may, if proper sequences are followed, apply also on the major and minor.

By using electives to meet the additional requirements outlined under the junior-senior high curriculum, the student may also qualify for a secondary provisional teaching certificate if he has chosen both an acceptable teaching major and minor.

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature, and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition	
or	
A foreign language course (121 through 222)	
Group II Science	10-12
Either of the following	
Two laboratory science courses from the biol- ogy, chemistry, geography, physics or psy- chology departments (both may be in the same department)	
or	
One laboratory science course from the above departments and one mathematics course	
Electives in the above sciences or mathematics.	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civiliza- tion	
or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government	
or	
202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the basic studies:	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature	
or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs)	4
Men: May apply two semester hours of military science toward this requirement	
Additional Electives	85-76
Total	124

Curriculum for the Bachelor of Arts Degree

Adviser Chairman, Edgar L. Jones, Jr.

A minimum of 75 semester hours must be elected from Groups I, II and III, below, including at least one year of college credit in one foreign language.

The student will complete, as a minimum, a major subject of at least 30 semester hours, and one minor subject of at least 20 semester hours.

The basic studies requirements, to be met by all students, are listed below. The requirements may, if proper sequences are followed, apply also on the major and minor.

By using electives to meet the additional requirements outlined under the junior-senior high curriculum, the student may also qualify for a secondary provisional certificate if he has chosen both an acceptable teaching major and minor.

A minimum total of 40 semester hours in the basic studies areas—Groups I, II, III and the humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition	
or	
A foreign language course (121 through 222) (Degree requires completion of one year college credit in one foreign language)	
Group II Science	10-12
Either of the following	
Two laboratory science courses from the biology, chemistry, geography, physics or psychology departments (Both may be in the same department)	
or	
One laboratory science course, from the above departments and one mathematics course	
Electives in the above sciences or mathematics.	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization	
or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government	
or	
202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the basic studies:	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature	
or	
221, 222 Intermediate Foreign Language or 341, 342 Survey (or more advanced foreign language literature courses)	

Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs.)	4
Men: May apply 2 semester hours of military science toward this requirement	
Additional Electives	85-76
Total	124

Curriculum for the Bachelor of Fine Arts Degree

Adviser Chairman, Kingsley Calkins

This program, designed for students who plan to enter occupations in which a substantial background in art is required, calls for a concentration of 54 semester hours in art.

	Semester Hours
Group I, Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition	
or	
A foreign language course (121 through 222)	
Group II Science	10-12
Either of the following	
Two laboratory science courses from the biology, chemistry, geography, physics or psychology departments (Both may be in the same department)	
or	
One laboratory science course from the above departments and one mathematics course	
Electives in the above sciences or mathematics.	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization	
or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government	
or	
202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies:	
A course in philosophy or religion	3
A fine arts course (Group V courses below automatically meet this requirement)	2-3
Either of the following	6
101, 102 Reading of Literature	
or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	

Group V Fine Arts	54
107 Art Survey I	3
108 Art Survey II	3
122 Two Dimensional Design	3
123 Drawing I	3
124 Drawing II	3
210 Life Drawing	3
216 History of Contemporary Art	3
231 Three Dimensional Design	3
305 Graphics	3
307 Ceramics or 320 Jewelry	3
310 Sculpture	3
313 Painting—Oil	3
314 Painting—Watercolor	2
Electives in art to complete 54 hours	16
Group VII Physical Education and Health Physical education activity courses (eight act. hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
*Electives (No more than six hours in art)	31-22
Total	124

Students completing the above 54 hour concentration on this curriculum will have satisfied all major and minor requirements for graduation.

Applied Science Curriculum

Bachelor of Arts or Bachelor of Science Degree

Adviser Chairman, James Barnes

This program, designed for students who plan to enter occupations in which a substantial background in mathematics and science is required, calls for concentration of 16-18 semester hours each in two of three departments—chemistry, mathematics and physics—and 36 hours in the other. To qualify for a Bachelor of Arts degree, the student must complete one year of college level credit in one foreign language.

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition	
or	
A foreign language course (121 through 222)	
Group II Science	68-71
Required Courses	51

*Note carefully that no more than 60 semester hours in Group V art courses may be applied to the minimum of 124 hours required for the Bachelor's degree.

Chemistry

131 General Chemistry I	4
132 General Chemistry II	3
141 Engineering Materials	3
180 Chemistry Laboratory Techniques	2
281 Quantitative Analysis	4

Mathematics

120 Calculus with Analytic Geometry I	4
121 Calculus with Analytic Geometry II	4
122 Elementary Linear Algebra	2
220 Calculus with Analytic Geometry III	3
221 Calculus with Analytic Geometry IV	3

Physics

223 Mechanics, Sound and Heat	5
224 Electricity and Light	5
270 Introduction to Modern Physics	3
272 Modern Physics Laboratory	1
456 Electronics for Scientists	4

Additional courses are required for a major.

Select one group 18-20

**Chemistry

371 Organic Chemistry	3
372 Organic Chemistry	3
373 Organic Chemistry Laboratory	2
461 Physical Chemistry	3
462 Physicochemical Measurements	2

***Electives 7

Mathematics

320 Differential Equations	3
425 Mathematics for the Scientist I	3
426 Mathematics for the Scientist II	3

***Electives 11

Physics

430 Intermediate Mechanics I	3
452 Electrical Measurements	4
471 Nuclear Physics	4

One of the following laboratory courses:

432 Mechanics Laboratory	1
442 Optics Laboratory	1
Electives	6

Group III Social Science 9-12

101 or 102 History of Civilization 3

Either of the following 3-6

The remaining 101 or 102 History of Civilization

or

A two course sequence in sociology, economics or geography

Either of the following 3

112 American Government

or

202 State and Local Government

**Students wishing to become professional chemists, please see Professional Curriculum in Chemistry, page 50.

***Electives must have approval of this department. Electives in physics must come from physics courses numbered 300 or 400.

Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Group I, III and V must be taken to complete the basic studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group VI Practical Arts	6
122 Technical Drawing	3
223 Descriptive Geometry	3
Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	21-11
Total	124

**Medical Technology Curriculum
Bachelor of Science Degree**

Adviser Chairman, **Charles Anderson**

This curriculum consists of a three-year program at Eastern Michigan University followed by a twelve-month internship at an affiliated school of medical technology. Junior or community college students may complete up to two years in their college, take the third year of work at the University, and, in those instances in which the University has affiliation with a school of medical technology in their home community, may return there for the internship in the fourth year. The University has such an agreement with St. Clair County Community College and the Port Huron Hospital; Flint Community Junior College, McLaren General Hospital and Saint Joseph Hospital; Jackson Junior College and W. A. Foote Hospital.

In addition, the University has affiliations with several hospitals in the Detroit and suburban area, so that students attending community colleges there may, with careful pre-planning of their programs, follow the same plan.

A major is allowed in medical technology with 30 semester hours of credit for the year of internship. In addition, a 20 semester hour minor (chemistry) is inherent in this program, thus automatically fulfilling the major and minor requirements for graduation.

At least 30 semester hours of the academic program must be completed at Eastern Michigan University.

To be eligible for internship in the fourth year, the student must have a transcript of his college credits evaluated by the Board of Schools of the American Society of Clinical Pathologists. Arrangements to have this done should be made with the dean of records and teacher certification during the last semester of the third year.

Medical technology schools affiliated with the University and their directors are:

- Detroit Memorial Hospital, Detroit . . . **J.D. Langston, M.D.**
- McLaren General Hospital, Flint **Kurt W. Mikat, M.D.**
- Oakwood Hospital, Dearborn . . . **Rosser L. Mainwaring, M.D.**
- Pontiac General Hospital **William R. Dito, M.D.**
- Port Huron Hospital, Port Huron . . . **Clemens M. Kopp, M.D.**

- Providence Hospital, Southfield . . **Edwin M. Knights, Jr., M.D.**
- Saint Joseph Hospital, Flint **Wayne L. Eaton, M.D.**
- Wayne County General Hospital, Eloise . . **W. Schmidt, M.D.**
- W. A. Foote Hospital, Jackson **Henry A. Kallet, M.D.**

Upon completion of the curriculum and successful achievement of the registry examination, the candidate will receive the Certificate in Medical Technology from the American Society of Clinical Pathologists.

	Semester Hours
First Year	
First Semester	15-17
121 English Composition or A foreign language course (121 through 222) (see page 60)	3-5
105 Higher Algebra II	3
105 Biological Science	4
131 General Chemistry I	4
Physical education activity (2) or military science	1
Second Semester	15-16
121 or 124 Fundamentals of Speech	2-3
112 American Government or 202 State and Local Government	3
222 General Zoology	4
132 General Chemistry II	3
180 Chemistry Laboratory Techniques	2
Physical education activity (2) or military science	1
Second Year	
First Semester	18-14
110 Physical Science (if no high school physics)	4
211 Bacteriology	3
210 Bacteriology laboratory	2
281 Quantitative Analysis	4
Physical education activity (2)	1
Electives	4-0
Second Semester	14-18
225 Parasitology	3
219 Elementary Organic Chemistry or 371 Organic Chemistry	3-4
220 Elementary Organic Chemistry Laboratory (if 219 is taken)	1
101 or 102 History of Civilization	3
*Humanities area requirement	3
Physical education activity (2)	1
***Elective	0-3
Third Year	
First Semester	16-14
*Humanities area requirements	6-5
**Social science requirement	3-0
***Electives	7-9
<i>*Humanities area requirements include:</i>	
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language	6
(or literature in a foreign language with a 222 prerequisite)	
A course in philosophy or religion	3
A fine arts course in music, art or dramatic arts	2-3
<i>**Social science requirements include:</i>	
Remaining 101 or 102 History of Civilization or a two-course sequence in economics, sociology or geography	3-6
<i>***At least seven semester hours of the free electives should be taken in courses outside of Group II.</i>	

Second Semester	16-15
351 Biochemistry or 372 Organic Chemistry . . .	3
352 Biochemistry Laboratory or 373 Organic Chemistry Laboratory	1-2
*Humanities area requirement	3
**Social science requirement	3
***Electives	6-4

Fourth Year

A twelve-month period spent in lecture and laboratory training at an affiliated school of medical technology	30
Total	124

The following elective is strongly recommended: foreign language (It is desirable that four semesters of college work, or equivalent, in one language be taken. Two years of a high school foreign language are equivalent to two semesters in college.)

The following electives are recommended when the student's time and interest permit:

120 or 121 Typewriting
136 Introduction to Digital Computers
236 Introduction to Computer Programming
221 Mechanics, Sound and Heat
222 Electricity and Light
301 Genetics
324 Comparative Anatomy of Vertebrates
327 Vertebrate Physiology
401 Biological Techniques
404 Histology
485 Radiation Techniques in Chemistry and Biology

Pre-Dentistry Curriculum

Adviser Chairman, John M. Sullivan, Chemistry

Students electing this curriculum should be aware of the exact admission requirements of the dental schools to which they plan to apply. A compilation of the admission requirements of all dental schools in the United States is available at the adviser's office in the Chemistry Department.

It is possible for a student with a strong high school background to complete the dental school requirements after two years. However, the vast majority of students entering dental school have completed either three or four years of college, and over half have earned a bachelor's degree. Pre-dental students are therefore urged to follow a course pattern in line with the requirements for the bachelor's degree. Upon completion of the pre-dental requirements, students should change their curriculum to the degree program of their choice.

Students should take the Dental Aptitude Test one year before they plan to enter dental school. Information and application forms are available from their adviser.

The following is a typical program for a student with a normal high school background. However, there is some flexibility, and students need not necessarily take the courses in this sequence. Any student whose high school biology, chemistry or mathematics background was exceptionally strong should consult his adviser about the possibility of by-passing the first course in these areas.

First Year

	Semester Hours
First Semester	15
121 English Composition	3
131 General Chemistry I	4
105 Biological Science	4
105 Higher Algebra II	3
Physical education activity (2) or military science	1
Second Semester	15-16
121 Fundamentals of Speech	2
132 General Chemistry II	3
180 Chemistry Laboratory Techniques	2
107 Trigonometry (if not taken in high school)	2
Physical education activity (2) or military science	1
Electives	5-6

Second Year

First Semester	15-16
222 Zoology	4
371 Organic Chemistry	3
Electives	8-9
Second Semester	15-16
372 Organic Chemistry	3
373 Organic Chemistry Laboratory	2
Electives	10-11

Third Year

First Semester	15-16
324 Comparative Anatomy of Vertebrates	4
221 Mechanics, Sound and Heat	4
Electives	7-8
Second Semester	15-16
222 Electricity and Light	4
Electives	11-12

Pre-Engineering Curriculum

Adviser Chairman, Clois Kicklighter

Courses common to most branches of engineering.

First Year

	Semester Hours
First Semester	15
121 English Composition	3
120 Calculus with Analytic Geometry I	4
122 Technical Drawing	3
131 General Chemistry I	4
Physical education activity (2) or military science	1
Second Semester	16
121 Calculus with Analytic Geometry II	4
122 Elementary Linear Algebra	2
223 Descriptive Geometry	3
223 Mechanics, Sound and Heat	5
180 Chemistry Laboratory Techniques	2

Second Year		
First Semester		15
220 Calculus with Analytic Geometry III	3	
224 Electricity and Light	5	
231 Statics	3	
201 Principles of Economics I	3	
Physical education activity (2)	1	
Second Semester		16
221 Calculus with Analytical Geometry IV	3	
229 Strength and Elasticity of Materials	4	
202 Principles of Economics II	3	
237 Introduction to Computer Programming and Numerical Methods	3	
141 Engineering Materials	3	
Suggested Electives*:		
121 Fundamentals of Speech	2	
112 American Government	3	
101 or 102 History of Civilization	3	
105 Introductory Sociology	3	
200 Types of Philosophy	3	
201 The Comparative Study of Religion	3	
101 Reading of Literature	3	

The sequence of courses given here assumes a high school preparation including three semesters of algebra, plane and solid geometry, a year of physics and a year of chemistry. A deficiency in any of these subjects, with the exception of solid geometry, will necessitate a change of program in order to provide the necessary background as soon as possible. It is recommended that students who are deficient in any of these subjects plan to make them up during the summer in a high school program, junior college or at Eastern in order to complete the engineering program in the customary time.

For the two-year program, students must complete two semester hours (four activity hours) in physical education activity courses or receive a similar amount of credit using the military science options appearing on page 29. However, if changing to a four-year curriculum, the student must satisfy the activity hour requirements of that curriculum.

The following third-year courses are available:

Aeronautical Engineering: 320 Mathematics, Differential Equations; 420 Mathematics, Advanced Calculus.

Chemical and Metallurgical Engineering: Make the following replacement in the first semester of the sophomore year: 231 Statics with 132 General Chemistry II. The program for the second semester will be made by replacing 229 Strength and Elasticity of Materials with 281 Quantitative Analysis.

Further available courses include: 371 Chemistry, Organic Chemistry; 372 Chemistry, Organic Chemistry; 461 Chemistry, Physical Chemistry.

Civil Engineering: 206 Surveying; 326 Geology, Structural Geology.

Electrical Engineering: 456 Electronics for Scientists; 452 Physics, Electrical Measurements; 320 Mathematics, Differential Equations.

Industrial Engineering: 240 Business Accounting.

Mechanical Engineering: 430 Physics, Intermediate Mechanics I; 431 Physics, Intermediate Mechanics II; 460 Physics, Heat and Thermodynamics.

*These courses are suggested as possible electives because they will transfer to and fit easily into the programs of, for example, the University of Michigan School of Engineering.

Pre-Forestry Curriculum

Adviser Chairman, Max E. Adler

This curriculum is designed to meet the needs of the majority of students who will later major in such diverse fields as wildlife management, fisheries, biology, forestry and conservation education. However, students entering one of these fields are reminded that forestry schools set their own requirements for admission, and thus it is imperative that exact requirements be obtained from current catalogs of the schools in which they are interested in completing their professional training. Therefore, some flexibility is allowed in the following suggested sequence of courses to meet the needs of individual students.

First Year		
		Semester Hours
First Semester		16
*120 Calculus with Analytic Geometry I	4	
119 Fundamentals of Chemistry	4	
121 English Composition	3	
**105 Biological Science	4	
Physical education activity (2) or military science	1	
Second Semester		15
120 Fundamentals of Chemistry	4	
221 General Botany	4	
105 Introductory Sociology	3	
Physical education activity (2) or military science	1	
*** Electives	3	
Second Year		
First Semester		16
221 Mechanics, Sound and Heat	4	
201 Principles of Economics I	3	
222 General Zoology	4	
101 or 102 History of Civilization	3	
121 Fundamentals of Speech	2	
Second Semester		16
222 Electricity and Light	4	
202 Principles of Economics II	3	
215 Journalism	3	
302 Systematic Botany or 310 Plant Physiology	3	
206 Surveying	3	

*If the student received a grade below "B" in high school trigonometry and advanced algebra, he should elect 105 Algebra and 107 Trigonometry before electing this course.

**105 Biological Science is required as a prerequisite for 221 Botany and 222 Zoology unless the student is exempted by test. Freshmen entering the pre-forestry program should take the biology placement test during orientation week. If not exempted from 105 Biological Science, the student should take the course during his first semester on the campus and delay 221 General Botany until the following semester.

***Students may elect 108 Earth Science, 121 General Drawing or other elective.

The general requirement for admission with junior standing to a professional school is 60 semester hours credit. Some schools do not include credit for physical education activity or military science within that minimum and the student planning to enroll in such a school should increase his load accordingly.

Also, many professional schools require attendance at a summer camp between the sophomore and junior or between the junior and senior years. Thus, it is imperative that the student complete prerequisites for these courses early and take this into account when planning his financial affairs for his junior and senior years.

In some cases a student will find it advantageous to earn a bachelor's degree before entering professional training. The student may do so by continuing for two more academic years at E.M.U. and observing the requirements prescribed for that degree (including physical education activity hours requirements). A student electing to follow this plan should allow an extra year to complete his graduate work in the professional school, however.

Pre-Law Curriculum

Adviser Chairman, David Hortin

For admission requirements, the student should consult the catalog of the law school in which he is interested. Most law schools require applicants to have a bachelor's degree. Therefore, the prospective pre-law student is urged to plan a program leading to a bachelor's degree and to select and declare his major no later than the beginning of his junior year.

The law schools do not usually require specific courses for admission and, in general, state that no single pre-law program can be recommended as the best one. Law school admissions officers emphasize their interest in the quality of the student's record and the challenge and the breadth of his program. One catalog says that, "the lawyer's range of knowledge should be as broad as it is humanly possible to make it without undue dilution."

The breadth of the program should not result in mere scattered elections. Some concentration in subjects such as history, English literature and composition, economics and political science is frequently suggested, and these fields are often selected as majors by pre-law students, but they are not the only fields selected. Courses in foreign language, philosophy, mathematics, the sciences, psychology, sociology, speech, constitutional law and business law are often good choices for the more than 30 hours of electives available to the pre-law student. Many law schools require up to six semester hours of accounting at the college level or equivalent extra instruction after admission. Any demanding course that will sharpen the student's command and mastery of the use of language, develop his critical understanding of human values and institutions or stretch his capacity for independent, searching, creative thinking will be of value to him.

Competition for admission to all professional schools is intensifying. If a student contemplating law school is not achieving at least a 2.5 grade point average by his junior year, he is well-advised to plan a program that will also prepare him for an alternate vocational goal.

Almost all law schools require applicants to submit scores on the Law School Admission Test, usually taken during the fall semester of the senior year. The pre-law student can get application forms for the test and information about it by writing to Law School Admission Test, Educational Testing

Service, Box 944, Princeton, New Jersey 08640, or they are available from the pre-law adviser. The tests are usually given in October, December, February, April and July of each year at selected locations throughout the United States and abroad. Applications for the test must reach ETS at least three weeks before the date of the test.

Pre-law students should follow either the Bachelor of Science Curriculum on page 32 or the Bachelor of Arts Curriculum on page 33.

Entering freshmen who have not made tentative choices of their major will be assigned to one of the pre-law advisers for undecided students while they explore in search of a major, then they will be assigned to an adviser in their major field. The choice must be made by the junior year.

Pre-Medicine and Osteopathy Curriculum

Adviser Chairman, Elizabeth V. Giles

The medical and osteopathy schools establish their own requirements for admission. The course requirements are similar, but differ enough so that the student should consult the catalogs of the various schools in which he is interested. The latest edition of *Medical School Admission Requirements*, available at the reference desk of the general library, should also be consulted. The introductory chapters of this book should be read by every prospective pre-medical student.

An important admission requirement for all medical schools, the Medical College Admission Test, is given in May and October in various centers throughout the nation. This is usually taken during the junior year.

Although a few students are admitted to medical school with only three years of college, most candidates earn the bachelor's degree prior to admission. If a student does not wish to earn a degree here, he should consult his adviser as soon as possible regarding the "90-hour program" outlined below.

The 90-Hour Pre-Medical Program

	Semester Hours
Group I Drama, Language, Literature and Speech	8
121 English Composition	3
121 Fund. of Speech	2
Electives	3
Group II Science	30-33
*Courses in biology	8
**Courses in chemistry	17
***Courses in mathematics	5-8
Courses in physics (Mechanics, Sound and Heat, and Electricity and Light)	8

*Should include 222 General Zoology and at least four more hours in a laboratory course in zoology.

**Should include 131 General Chemistry, 180 Chemistry Laboratory Techniques, 132 General Chemistry and 371-372-373 Organic Chemistry.

***Must be elected to meet math requirements for required courses in chemistry and physics. Should be elected early in the program.

Group III Social Science	9-12
Alternate 1:	
Political Science 112 or 202	3
History of Civilization 101 and 102	6
Electives in area	0-3
Total	9-12
Alternate 2:	
Political science 112 or 202	3
History of Civilization 101 or 102	3
Two-course (one-year) sequence in economics or geography or sociology	6
Total	12
Humanities Area Requirements	11-12
Alternate 1:	
Reading of Literature 101 and 102	6
Fine arts (art, music, dramatic arts)	2-3
Philosophy or religion	3
Total	11-12
Alternate 2:	
Intermediate foreign language courses (221, 222 or 341, 342)	6
Fine arts (art, music, dramatic arts)	2-3
Philosophy	3
Total	11-12
Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs.)	
Men: May apply two semester hours of mili- tary science toward this requirement	4
Electives (To total 94 hours)	
Total	94

Pre-medical students generally elect a major in biology and a minor in chemistry or a major in chemistry and a minor in biology.

Medical schools do not prescribe a pre-medical curriculum. Therefore, they will accept almost any major in the College of Arts and Sciences. In practice, however, it is difficult to concentrate in another area and still fulfill the current medical school science requirements. Before electing a major other than chemistry or biology, the adviser should be consulted. Further, if the pre-medical student is not soon achieving at least a 2.5 grade point average, his chances for admission to medical school are slim and he should modify his degree program so that other professional or vocational goals are possible for him.

Assuming he does not select the 90-hour program, he should then meet the requirements of the Bachelor of Arts or the Bachelor of Science curriculum on page 32 and study carefully the biology and chemistry majors and minors during his first year. Special curriculum patterns with these major-minor combinations are available from the advisers or the Academic Advising Office.

Because of the highly structured nature of the pre-medical program and the biology or chemistry majors, it is almost mandatory for the student to follow the first year as patterned below.

First Year—Pre-Medicine

	Semester Hours
First Semester	14-16
121 English Composition	3
131 General Chemistry I	4
***Math	2-4

105 Biological Science (if exempt, take 222 General Zoology)	4
(with two years high school biology take exempt test)	
Physical education activity (2) or military science	1
Second Semester	16-17
132 General Chemistry II	3
180 Chemistry Lab. Techniques	2
Math (see below)	3-4
222 General Zoology	4
Physical education activity (2) or military science	1
Elective	3

Pre-Mortuary Science Curriculum

Adviser Chairman, Elizabeth V. Giles

First Year

	Semester Hours
	29-33
121 English Composition	3
Biology or zoology electives	4
Social science electives	6
Chemistry—	
119 Fundamentals of Chemistry and 120 Fundamentals of Chemistry <i>or</i>	
131 General Chemistry and 180 Chemistry Lab Technology	6-8
Elective in general mathematics	3
Physical education activity (2) <i>or</i> military science	1
General electives	6-8

Second Year

	32
101 Psychology	3
General electives	29

The program in pre-mortuary science is two academic years or 60 semester hours in length.

Pre-Pharmacy Curriculum

Adviser Chairman, Edward L. Compere, Jr.

One Year

	Semester Hours
Group I Drama, Language, Literature and Speech	5
121 English Composition	3
121 Fundamentals of Speech	2
Group II Science	17-21
105 Biological Science (unless exempt by examination)	4

***Students with strong high school preparation and at least "B" quality mathematics, including two years of algebra, and trigonometry, may take 120 Calculus with Analytic Geometry I during the first semester.

Students with 1-1/2-2 years of less than high quality algebra take 105 Algebra.

Students with only 1 year of algebra take 104, followed by 105 Algebra.

Students without trigonometry take 107 Trigonometry.

131 General Chemistry I	4
132 General Chemistry II	3
180 Chemical Laboratory Techniques	2
221 General Botany	4
222 General Zoology	4
Group VII Physical Education and Health	2
Physical education activity courses (four act. hrs) (Men: May apply two semester hours of military science toward this requirement)	
Electives	8-4
Total	32

One year of college work will admit students to a professional school of pharmacy. Although the complete course in some pharmacy colleges has been lengthened to five years, the chief sequences of the professional course require three years. The accredited pharmacy schools throughout the United States have a standard rule that students in these schools must take the prescribed courses in a definite sequence. This necessitates three full years of work in the pharmacy school regardless of the number of years in college work preceding entrance to the pharmacy school. This is known as the "six semester rule." Thus, a minimum total of four or five years is required for a degree in pharmacy. With regard to the pre-professional program outlined above, many students may advantageously spend two years in such preparation in view of the trend toward an overall five year curriculum in pharmacy colleges. It is suggested that the eight hours of electives be chosen from the following fields: economics, history, mathematics, psychology and political science.

For those students who may wish to continue in graduate study and research, German and French should be included. Obviously, more than one year of pre-professional work would then be required.

Social Welfare Curriculum

Bachelor of Arts or Bachelor of Science Degree

Adviser Chairman, Leroy W. Watts

This program is designed to prepare students for graduate education in social work and for positions in social service requiring the bachelor's degree. Upon completion of the curricular requirements, including 53 semester hours of specified courses, the requirements of a major in social welfare and a minor in sociology will be fulfilled. The social welfare major is an interdisciplinary major consisting of the 23 hours of required social welfare and social work courses plus the six semester hours of psychology and the three semester hours of economics. The minor is a special 21 hour sociology minor. The outline of the curriculum given below identifies the specific courses for the social welfare major by an asterisk (*) and for the sociology minor by two asterisks (**) and shows their distribution among the group requirements.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	13-14
*105 Biological Science	4
*101 General Psychology	3

One additional laboratory science course from the biology, chemistry, geography, physics or psychology departments or one math course	3-4
*One of the following:	3
321 Child Psychology	
322 Psychology of Adolescence	
360 Abnormal Psychology	
Group III Social Science	53
101 or 102 History of Civilization	3
Either of the following:	3
112 American Government or 202 State and Local Government	
**105 Introductory Sociology	3
*Either of the following:	3
201 Principles of Economics I or 200 The American Economy	
**204 Marriage and the Family	3
**214 Racial and Cultural Minorities	3
**250 Elementary Social Statistics	3
**404 Methods in Sociological Research	3
**Two of the following:	6
202 Social Problems	
206 Criminology	
306 Urban Community	
308 Social Psychology	
309 Culture and Personality	
*212 Social Welfare	3
*213 Field Observation	2
*314 Social Work I	3
*315 Social Work II	3
*317 Community Service Experience	2
408 Social Work III	3
409 Social Work IV	3
*410 Field Experience I	2
*411 Field Experience II	2
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the basic studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	38-33
Total	124

Students completing the above curriculum have met the major and minor requirements for graduation. No outside minor is needed.

DEPARTMENTS

ART

Department Head: Kingsley M. Calkins

Professors: Dorothy Lammings, John Loree, John Van Haren

Associate Professors: Marvin Anderson, Jane Dart, Richard Fairfield, Charles Fensch, Sharon Rich, David Sharp, Doris Ann Smith, Susanne Stephenson, David Tammany

Assistant Professors: Barry Avedon, Igor Beginin, Sandra Braun, Jan Michael Field, Lawrence Freeman, Judy Loeb, Roger Mayer, Margers Raudzens, Jay Yager, Michael Zahratka, Richard Washington

Instructors: Robert Chew, Lynn Cohen, Joan Otis, John Orentlicher, Beverly Shankwiler, Ellen Wilt

Artist-in-Residence: Charles McGee

Students may elect the following 30 hour major, but the 54 hour major is preferred; see Curriculum for Teachers of Art, page 128. See page 125 for Arts Group Major and Minor. See page 33 for the Bachelor of Fine Arts Degree.

Major (30 semester hours)

	Semester Hours
Required courses	21
107 Art History Survey I	3
108 Art History Survey II	3
122 Two Dimensional Design	3
123 Drawing I	3
124 Drawing II	3
231 Three Dimensional Design	3
305 Graphics	
or	
310 Sculpture	
or	
313 Oil Painting	3
Elect six hours from the following:	6
210 Life Drawing	3
232 Advanced Drawing	3
235 Design in Materials	3
306 Graphics	3
311 Sculpture	3
413 Oil Painting	3
Elect three or four hours from the following:	3-4
215 History of 19th Century Art	3
216 Contemporary Art	3
301 Commercial Design	2
307 Ceramics	3
314 Painting—Watercolor	2
320 Jewelry	3

Minor (20-24 semester hours)

An additional four hours beyond the minimum 20 hours for graduation must be completed to meet North Central Association requirements (24) for teaching this minor at the junior-senior high level. Methods courses may be included in that 24-hour total.

	Semester Hours
Required courses	20
Elect fourteen or fifteen hours from the following:	14-15

101 Introduction to Art, or 123 Drawing I	3
122 Two-Dimensional Design	3
210 Life Drawing	3
231 Three-Dimensional Design	3
300 Creative Art, or 301 Commercial Design	3-2
Elect one of the following three courses	3
212 History of Art	3
213 History of Art	3
216 History of Contemporary Art	3
Electives in art	3-2

COURSES

The art staff endeavors to fit the content of the course to the goal of the student, giving consideration to individual occupational needs and to cultural background.

Certain student work may be retained by the staff for exhibit, demonstration or publication.

101 Introduction to Art. Three sem hours
An introductory course in drawing, painting, and basic composition for the purposes of developing ability and an understanding of form, line and color. Frequent opportunity is afforded for group criticism. *Non-Art Major—restricted to Early EI, or Later EI & O.T. Curriculum.*

107 Art History Survey I. Three sem hours
A survey of the development of the visual arts from cave art to the early Renaissance.

108 Art History Survey II. Three sem hours
A continuation of Art History Survey I from the Renaissance through modern times.

122 Two-Dimensional Design. Three sem hours
Emphasis on composition: emotional, expressive, decorative, intellectual. Studio projects, lecture, group criticism. Variety of media, color theory and color problems.

123 Drawing I. Three sem hours
A beginning drawing course for students who plan to specialize in art. A variety of media and approaches help the student to achieve the control necessary in drawing. Individual problems are assigned and group criticism is frequent. *Art majors and minors only.*

124 Drawing II. Three sem hours
Emphasis is on study of composition as an extension of the principles explored in Drawing I. Imaginative organization is stressed. Extensive experimentation with various media. Subjects such as the human figure are introduced as drawing problems.
Prereq: 123 Drawing I.

200 Art Appreciation. Three sem hours
A course for non-specializing students. The aim is to acquaint students with art philosophies, their elements, principles, and values. *Does not count toward art major.*

210 Life Drawing. Three sem hours
Knowledge of form (anatomy and designed forms). Study of natural form from the model to augment and diversify creative form.
Prereq: 123 Drawing I, 124 Drawing II, or permission of the department.

- 212 History of Art.** **Three sem hours**
A survey of the arts of the ancient Near East and of Western art through the Roman Empire.
- 213 History of Art.** **Three sem hours**
A continuation of 212 History of Art; a survey of Western art from the Gothic through the Rococo period.
- 215 History of 19th Century Art.** **Three sem hours**
Begins with a survey of European art in the late 18th Century as the beginning of the modern period, and concludes with Post-Impressionism at the end of the 19th Century.
Prereq: 107 Art History Survey I, 108 Art History Survey II.
- 216 History of Contemporary Art.** **Three sem hours**
A survey of the visual arts of the 20th Century, from Post-Impressionism through the latest contemporary developments.
Prereq: 215 History of 19th Century Art or permission of the department.
- 222 African and Afro-American Art.** **Three sem hours**
Surveys the visual arts of African and Afro-American Artists. Discussion of the form and content of African art in relation to its function in tribal life. Historical survey of Afro-American artists with emphasis on current works.
- 231 Three-Dimensional Design.** **Three sem hours**
Organizational problems in relationships of texture, space, line, volume, mass.
Prereq: 122 Two-Dimensional Design or permission of the department.
- 232 Advanced Drawing.** **Three sem hours**
Exploratory experiences preparatory to 313 Painting. An integration of the elements of design and techniques of drawing of the previous courses. This is the fourth in the introductory series.
Prereq: 210 Life Drawing.
- 235 Design in Materials.** **Three sem hours**
Consideration of surface organization in fabrics, walls, architecture, etc. Emphasis on the design relationships between materials and their treatment.
Prereq: 122 Two-Dimensional Design.
- 300 Creative Arts.** **Three sem hours**
Planned especially to meet the needs of the prospective teacher. Problems in two- and three-dimensional media, including materials suited to the elementary grades. Appreciation of contemporary arts and teaching practices peculiar to the art field.
Prereq: 101 Introduction to Art or 123 Drawing I.
- 301 Commercial Design.** **Two sem hours**
Lettering and type design and illustration, with emphasis on layout, preparation of art work for reproduction, and reproduction processes. Problems related to commercial art media and procedures used in newspaper and magazine advertising, posters and cover design.
- 302 Commercial Art.** **Two sem hours**
Advanced design and illustration as applied to multicolor magazine and book illustration, direct mail advertising and other areas of two-dimensional commercial design.
Prereq: 301 Commercial Design.
- 303 Commercial Art.** **Two sem hours**
The study of structural problems and visual techniques in connection with three-dimensional commercial design problems, such as display, product design and interiors.
Prereq: 302 Commercial Art.
- 304 Photographic Design.** **Three sem hours**
A course to introduce the student to photography as an art medium. Students will be given a variety of technical experiences in photography with the aim of developing an appreciation and knowledge of the aesthetic potential of photography. Student must supply his own camera equipment.
Prereq: 122 Two-Dimensional Design and 123 Drawing I.
- 305 Graphics.** **Three sem hours**
Acquaintance with graphic techniques. Woodcut and lithography.
Prereq: Junior standing and 210 Life Drawing.
- 306 Graphics.** **Three sem hours**
Advanced graphic techniques with emphasis on development of individual style through experimentation. Etching and silk screen.
Prereq: 305 Graphics.
- 307 Ceramics.** **Three sem hours**
Basic ceramics, including wheel throwing and handbuilding techniques, compounding earthenware and stoneware clay bodies, formulating glazes, firing electric and gas kilns.
Prereq: Junior art major or minor or permission of the department
- 308 Ceramics.** **Three sem hours**
Advanced ceramic techniques, emphasis on personal expression, compounding of individual clay bodies and glazes, loading and firing of kilns.
Prereq: 307 Ceramics.
- 310 Sculpture.** **Three sem hours**
Exploratory experiences in volume and space. The use of clay, stone, wood, metal, etc.
Prereq: 231 Three-Dimensional Design.
- 311 Sculpture.** **Three sem hours**
Continuing experiences in volume and space. Development of further skills with sculpture materials and concepts.
Prereq: 310 Sculpture.
- 312 Color Theory.** **Three sem hours**
A studio-lecture course dealing with principles of color interaction, color theory and phenomena. Six hours per week. Two hours lecture and criticism, four hours studio guidance, outside problems.
Prereq: 122 Two-Dimensional Design and 123 Drawing I.
- 313 Painting—Oil.** **Three sem hours**
Painting problems. Development of technique and concepts through experimentation with painting media.
Prereq: 122 Two-Dimensional Design and 124 Drawing II.
- 314 Painting—Watercolor.** **Two sem hours**
Intensive exploration of various water-based techniques—gouache, tempera, inks, etc.
Prereq: 122 Two-Dimensional Design and 124 Drawing II.
- 316 Life Drawing.** **Three sem hours**
Advanced study problems. The human form as composition and design. Varied media.
Prereq: 210 Life Drawing.

- 320 Jewelry.** **Three sem hours**
Design and creation of jewelry by fabricating, casting, lapidary, stone setting and combination of metal and wood. Emphasis on the aesthetic aspect of decorative art objects.
Prereq: 231 Three-Dimensional Design or permission of the department.
- 321 Jewelry.** **Three sem hours**
Processes and techniques applied toward a professional development in jewelry design. Advanced processes—casting, setting of precious stones.
Prereq: 320 Jewelry.
- 322 Jewelry.** **Three sem hours**
Advanced problems: raising metal into hollow forms, cutting and polishing of gem stones, gem identification and advanced metal joining and forming processes.
Prereq: 321 Jewelry.
- 331 Multi-Media Workshop.** **Three sem hours**
Investigations and experiments in direct use of industrial materials and kinetic media. Emphasis on media that have little art history.
Prereq: 231 Three-Dimensional Design.
- 404 Lettering.** **Two sem hours**
A survey of basic letter forms. Problems include letter and type indication of rough comprehensive layout as well as finished lettering for reproduction purposes. Lettering and type are used as they apply to labels, packaging, magazine and newspaper advertising.
Prereq: 301 Commercial Design.
- 405 Graphics.** **Three sem hours**
An advanced laboratory course primarily designed for art majors specializing in graphics. Individual assignments from the instructor in creative use of the more fundamental techniques learned in previous courses.
Prereq: 306 Graphics.
- 406 Graphics.** **Three sem hours**
An advanced laboratory course for art majors taking their sequence in graphics. Projects will include lithography, etching and aquatint processes plus individual assignments from the instructor in terms of the student's specific needs.
Prereq: 405 Graphics.
- 407 Ceramics.** **Three sem hours**
Intensive work for art majors specializing in ceramics with an emphasis on larger scaled, increasingly complex techniques and forms. Historical and contemporary works examined.
Prereq: 308 Ceramics.
- 408 Ceramics.** **Three sem hours**
Summation of the undergraduate ceramics program: emphasis on individual style, production techniques, studio management, exhibition programs.
Prereq: 407 Ceramics.
- 411 Sculpture.** **Three sem hours**
Advanced sculpture problems, including steel and open-form constructions. Intensive study of contemporary methods and techniques of sculpture.
Prereq: 311 Sculpture or permission of the department.
- 412 Advanced Sculpture.** **Three sem hours**
Advanced sculpture problems. Development of individual style in three-dimensional form.
Prereq: 411 Sculpture.
- 413 Painting—Oil.** **Three sem hours**
Further development of painting skills and aesthetic understanding of the two-dimensional surface complex. Emphasis on development of individual style.
Prereq: 313 Painting.
- 414 Advanced Painting—Watercolor I.** **Two sem hours**
Further development of painting skills and aesthetic understanding of the two-dimensional surface complex. Emphasis on development of individual style.
Prereq: 314 Painting.
- 416 Art Methods and Materials.** **Two sem hours**
Required of art majors in the second semester of the junior year. Designed to meet the needs of the classroom. Choosing, exploring, presenting materials for creating experiences in relation to growth and development of the child.
- 417 Teaching of Art.** **Two sem hours**
Understanding the purpose and responsibility of the art teacher; developing the creative potential in children; discussion of student teaching experience. Opportunities to observe and evaluate various types of art programs in the public schools. Problems, discussion, reading, panels, field trips.
Prereq: Senior standing and art education major.
- 419 Advanced Life Drawing.** **Three sem hours**
The study of the human form as part of the development of a personal style in art.
Prereq: 316 Life Drawing.
- 420 History of Primitive Art.** **Three sem hours**
A survey of art forms in Africa, North and South America and in Oceania.
- 421 History of Oriental Art.** **Three sem hours**
A survey of the art of the Far East, with significant examples chosen from India, China, Japan, and the influences forming their styles.
- 423 Advanced Painting—Watercolor II.** **Two sem hours**
Further development of individual style in watercolor.
Prereq: 414 Advanced Painting—Watercolor I.
- 424 Advanced Painting—Watercolor III.** **Two sem hours**
Further development of individual style in watercolor.
Prereq: 423 Advanced Painting—Watercolor II.
- 425 Advanced Oil Painting.** **Three sem hours**
Further development of individual painting style.
Prereq: 413 Painting—Oil.
- 426 Medieval Art History.** **Three sem hours**
The development of Medieval Art from the Early Christian through the Gothic periods.
- 427 Baroque Art.** **Three sem hours**
Principal developments in Italian and Northern art of the Seventeenth Century. Emphasis on major themes and aesthetic problems.
- 428 Seminar—Modern Art.** **Two sem hours**
Readings, reports and group discussions of painting and sculpture from 1900 to the present. Course focus will remain flexible at the discretion of the department.
Prereq: 216 History of Contemporary Art.

431 Multi-Media Workshop. Three sem hours
Advanced investigation and experiments in direct use of industrial materials and kinetic media. Emphasis on media that have little art history.

Prereq: 331 Multi-Media Workshop.

497 Directed Studio Problems. One sem hour
Advanced study on an individual basis. Restricted to juniors and seniors with permission of the department.

498 Directed Studio Problems. Two sem hours

499 Directed Studio Problems. Three sem hours
For advanced study on individual basis in areas in which the department does not have regular course work. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.

Prereq: Permission of the department.

BIOLOGY

Department Head: Bert M. Johnson

Professors: Robert O. Belcher, Donald F. M. Brown, Herbert H. Caswell, Jr., William E. Fennel, Richard A. Giles.

Associate Professors: John M. Bates, Najati S. Ghosheh, Dennis C. Jackson, Stephen C. Y. Liu, Merlyn C. Minick, Lawrence P. Richards, Paul A. Volz, Dale C. Wallace, Shih-An Yu

Assistant Professors: Howard D. Booth, Pearl E. DiMattia, Joan W. Irish, Paul W. Milske, Nancy L. Neale, Frank L. Sinclair, William D. Sperling, Suzanne Stevens, Elizabeth Waffle

Biology Major (30 semester hours)

The Department of Biology offers a major in biology, which permits concentrated study in aquatic biology, college biology teaching, general biology, microbiology or physiology.

	Semester Hours
Required Courses	12
105 Biological Science	4
(Unless exempted by examination, in which case an additional elective in area of concentration may be taken.)	
221 General Biology	4
222 General Zoology	4
Area of Concentration	18
(Select one area from aquatic biology, college biology teaching, general biology, microbiology, physiology)	
	30

All biology majors are required to take chemistry through organic.

Areas of Concentration

Aquatic Biology	18
410 Limnology	3
595 Workshop in Water Chemistry and Application of Instrumentation	2
Practicum in Field Methods	3
*A course in botany	3
*A course in zoology	3
Electives	4

It is recommended that the student electing this area of concentration plan to complete minors in chemistry and botany or zoology.

**Must be approved by Guidance Committee in aquatic biology.*

College Biology Teaching	18
301 Genetics	3
302 Genetics Lab	2
312 Plant Anatomy or	3-4
324 Comparative Anatomy	
320 General Cell Physiology	4
Taxonomic Field Course	3
420 Ecology	3

It is recommended that the student electing this area of concentration minor in chemistry, botany or zoology.

General Biology	18
301 Genetics	3
320 General Cell Physiology	4
420 Ecology or 410 Limnology	3
One Taxonomic Field Course	3
Electives in biology	5
(Any Group II biology course, except 205, 207, 208, 209 and 210)	

Within the 30-hour program, there must be at least seven hours each in botany and zoology. A chemistry, botany or zoology minor is recommended.

Microbiology	18
301 Genetics or 420 Ecology	3
330 General Microbiology Lab	2
331 General Microbiology	3
444 Microbial Physiology	3
One or two of the following	3-6
304 Mycology	3
360 Parasitology	3
451 Freshwater Algae	3
480 Protozoology	3
Electives	4-1

Those electing this area of concentration are urged to minor in chemistry, botany or zoology.

Physiology	18
320 General Cell Physiology	4
Two of the following	6
310 Plant Physiology	3
327 Vertebrate Physiology	3
444 Microbial Physiology	3
Electives	8-12

Selected from:

331 General Microbiology	3
301 Genetics	3
304 Mycology	3
311 Plant Pathology	2
312 Plant Anatomy	3
313 Biometry	3
323 Embryology	3
324 Comparative Anatomy	4
401 Biological Techniques	2
404 Histology	3
420 Ecology	3
451 Biochemistry	3
452 Biochemistry Lab	2
480 Radiation Biology	3
481 Isotopes in Biology	3

Students electing this area of concentration are strongly advised to take minors in chemistry and botany or zoology.

420 Science for Elementary Grades and 403 Methods and Materials for Teaching Biology are Group IV courses and will not count as electives on a biology major or minors.

Courses designated as Taxonomic Field Courses are:

- 300 Natural History of Invertebrates
- 302 Systematic Botany
- 304 Mycology
- 310 Natural History of Vertebrates
- 421 Entomology
- 422 Ichthyology
- 425 Ornithology
- 485 Mammalogy
- 450 Aquatic Tracheophyta
- 451 Freshwater Algae
- 480 Protozoology

Biology Minor (20-24 semester hours)

Required Courses	12
105 Biological Science	4
(unless exempted by examination)	
221 General Botany	4
222 General Zoology	4
Electives to total 20 semester hours	12-8
(Any Group II biology courses except 205, 208, 209 and 210)	

Students minoring in biology are advised to take 119 Fundamentals of Chemistry or 131 General Chemistry I.

An additional four cognate hours of sciences must be completed to meet North Central Association requirements (24) for teaching this minor at the junior-senior high level and the methods course may be included in that total.

Botany Minor (20 semester hours) Open only to those who are majoring in biology.

Required Courses	8
*105 Biological Science	4
(unless exempted by examination)	
*221 General Botany	4
Restricted Electives	12-16

Electives will be chosen from botany and biology courses in consultation with an appropriate adviser or guidance committee. Contact departmental office for assignment to guidance committee or adviser.

Zoology Minor (20 semester hours) Open only to those majoring in biology.

Required Courses	8
*105 Biological Science	4
*222 General Zoology	4
Restricted Electives	12-16

Electives will be chosen from zoology and biology courses in consultation with an appropriate adviser or guidance committee. Contact departmental office for assignment to guidance committee or adviser.

**Students applying these courses on a biology major may take an equivalent number of electives in biology on this minor.*

Minor in Conservation and Resource Use (24 semester hours)

This program is administered jointly by the heads of the Biology Department, the Economics Department, the Geography Department and the Sociology Department.

Required Courses:	Semester Hours
	13
108 Earth Science	4
*207 Elements of Ecology	2
224 Principles of Conservation	4
**200 The American Economy	3

Electives sufficient to bring total to 24 hours, selected from among the following courses:

114 National Parks	1
211 Geography of the United States and Canada	3
215 Economic Botany	3
220-221 Elements of Economics	6
223 Weather and Climate	3
229 Rocks of Michigan	2
232 Nature Interpretation	3
260 Economic History of the United States	2
306 Urban Community	3
332 Urban Geography	3
334 Population	3
339 Economic Geography	3
424 Climatology	2

Appropriate field and summer courses may be substituted as electives as approved by the adviser chairman.

Students are urged to meet the required course in government with 202 State and Local Government.

Students electing this minor must confer with the adviser chairman for this program to obtain an approved schedule of electives. No substitutes on the approved program will count toward its completion unless approved by the adviser chairman.

UNDERGRADUATE REQUIREMENTS FOR ADMISSION TO GRADUATE PROGRAM

The Department also offers a graduate program leading to a Master of Science in Biology. To meet the admission requirements for this program, the undergraduate must plan his bachelor's degree work to include at least 20 semester hours in biology (with at least 7 hours in botany and 7 hours in zoology), one year of college chemistry, one year of college physics and must achieve an academic record of B (3.0) or better during his junior and senior years.

**The prerequisite for 207 Elements of Ecology is 105 Biological Science or exemption by test. Students planning to take this minor who are not exempted from 105 Biological Science should elect it for basic studies credit in the freshman year. Biology majors minoring in conservation will take 420 Ecology on the major and substitute an additional approved elective on the minor.*

***Students who prefer to elect 201-202 Principles of Economics may substitute 201 for 200 The American Economy and count 202 as an elective on the minor. Students who are required to take 201-202 Principles of Economics for other purposes on their curriculums, as in business administration, may not count it on this minor and must substitute an additional elective for 200 The American Economy.*

OFF CAMPUS PROGRAMS

Courses in Tropical Biology

The courses listed below are taught at Sandy Point, Great Abaco Island, Bahamas. Laboratory facilities and living quarters for staff and students are available on the premises. All travel arrangements from Miami, Florida, to Sandy Point are made in advance by Eastern Michigan University. The student will arrange his own transportation from Ypsilanti to Miami. The cost per student for air fare (round trip) Miami to Sandy Point, lodging, meals and tuition will be about \$350.00 (subject to price changes). One week of these courses will be spent on the Ypsilanti campus and two weeks at Sandy Point. 428 Tropical Ecology, two semester hours, and 491 Special Problem in Biology, one semester hour, are combined to make a three credit hour class for this three-week period.

428 Tropical Ecology. Two sem hours
A study of several important biotic communities of the tropics. Investigation is in both marine and terrestrial environments. Lectures plus much laboratory and field work are required.

Prereq: General botany, general zoology, some concept of ecological principles and some familiarity with use of taxonomic keys.

491 Special Problems in Biology. One sem hour

Cooperative Field Courses At Fish Lake

Environmental Education Center

During the summer sessions some of the field-oriented courses are taught at Eastern Michigan University's Fish Lake Environmental Education Center in Lapeer County. The center is situated on a tract of 240 rolling acres surrounding Fish Lake, and adjoining the 4000-acre east parcel of the Lapeer State Game area. It is located in section 13 of Mayfield Township between Fish Lake Road and Five Lakes Road on the north side of Vernor Road.

Classes will be held in the Fish Lake School, on the N.E. corner of Fish Lake and Vernor Roads. Since the center has limited dormitory and food service facility, most workshops will be offered on a commuting basis.

Descriptions of the program and registration materials can be obtained upon request from Eastern Michigan University, Division of Field Services. These materials will also include information about housing and food costs, when these services are available. Deadline for registration is June 1. Tuition is \$30.00 per credit hour.

Cooperative Field Courses

At Higgins Lake

The courses listed below are taught at the Conservation Training School at Higgins Lake, under joint auspices of Eastern Michigan University, Central Michigan University, Western Michigan University and the Michigan Department of Conservation. They are normally scheduled for the week between the end of the spring semester and the start of the summer session. Only one course can be elected at a time, and each one carries one semester hour of credit.

All registrations for these courses are now handled by the Division of Field Services, Central Michigan University, Mt. Pleasant. Applications should be sent there directly, accompanied by a deposit of at least ten dollars to be applied toward

the fee. Applications should be sent before May 15 and are accepted in the order received. Enrollment is limited, and students who have not applied in advance usually cannot be admitted. Students desiring to receive their credits from Eastern Michigan University and who indicate this fact in their applications will be enrolled on EMU forms, eliminating the need for transcripts.

The fee of approximately eighty-two dollars covers tuition, board and room. For further information, consult the head of the Department of Biology.

230 Ecology. One sem hour
A course, taught principally in the field, identifying and illustrating basic ecological concepts with particular emphasis on their importance in the resolution of some current environmental problems.

231 Conservation. One sem hour
General principles of conservation, illustrated by field trips to resource-management projects in the vicinity.

232 Field Bird Study. One sem hour
Identification of birds and their songs and nesting habits, studied in laboratory and field.

234 General Field Botany. One sem hour
This course stresses field identification and ecological relationships of the higher plants. There is much opportunity for practice in the use of keys.

235 Field Entomology. One sem hour
Identification and control of insects of importance to conservation activities will be stressed. *Not currently offered.*

236 Field Mammalogy. One sem hour
Field trips to study habits, food, behavior, life history, conservation, etc. of the mammals common to our state.

237 Aquatic Biology. One sem hour
Stresses field recognition of the organisms found in aquatic environments, and their interrelationships with one another and their physical environment.

Cooperative Field Course
At Kensington Metropolitan Park

232 Nature Interpretation. Three sem hours
A field course conducted at the nature center and along the nature trails in Kensington Metropolitan Park under the joint auspices of Eastern Michigan University and the Huron-Clinton Metropolitan Authority. Combines intensive field and museum work in natural history with practical training and experience in interpreting natural objects and settings to individuals and groups. Previous field work in natural history and course work in biology essential. Administered through the Division of Field Services. For further information, consult the head of the Department of Biology. Course meets five hours daily, Monday through Friday, for three weeks.

COURSES
Biology

105 Biological Science. Four sem hours
A lecture and laboratory course in the basic principles of the biological world and their practical applications to the affairs of man. A terminal course for those not wishing to continue in science, it is also an introduction to basic courses in botany and zoology. *Students who have had 221 General Botany or 222 General Zoology may not elect this course.* Two one-hour

lectures, one one-hour recitation, plus audio-tutorial laboratory experience.

205 Field Biology. Four sem hours

A lecture, laboratory, and field course in the behavior, ecology, and broad classification of plants and animals, giving training in recognition of common plants and animals of Michigan. The course is designed to give background material to the nonspecialist interested in outdoor life, to those interested in nature interpretation and to the elementary school teacher.

Prereq: 105 Biological Science or equivalent, or permission of the department. Not open to students having credit in 221 General Botany or 222 General Zoology except by permission of the department.

207 Elements of Ecology. Two sem hours

The interactions of plants and animals with their physical and biological environment. Consideration is given to the way in which principles of ecology are applied in conservation practices. Lectures and readings are supplemented by field trips to locations of ecological interest in the area.

Prereq: 105 Biological Science or equivalent.

224 Principles of Conservation. Four sem hours

Introduces the basic resources of water, soil, vegetation, animal life, land as space, land in its unaltered condition, minerals and human powers, and develops the principles by which they may be wisely utilized and conserved with major emphasis on the renewable resources.

301 Genetics. Three sem hours

The basic principles of inheritance with their application to plants and animals, including man.

Prereq: 221 General Botany and 222 General Zoology or equivalent.

302 Genetics Lab. Two sem hours

A laboratory course designed to accompany or follow 301 Genetics in which the student will work with organisms which have proved to be most fruitful in extending our understanding of genetic principles, especially *Drosophila* and *Neurospora*. Practice in gathering and analyzing data from living populations will be provided. *Highly recommended for majors.* Others with interest in genetics should find it useful.

Prereq: 301 Genetics previously or concurrently.

313 Biometry. Three sem hours

A general course designed to study the statistical methodology and the practical application of such statistics in biology.

Prereq: A course in college algebra, 15 hours of biology.

320 General Cell Physiology. Four sem hours

A lecture and laboratory course in introductory general physiology. The course is devoted to the study of basic physiological mechanisms or processes common to all living organisms. Basic processes at the cellular level are emphasized rather than the applications of such processes to a particular organism.

Prereq: 105 Biological Science, 221 General Botany, 222 General Zoology and 219 Organic Chemistry.

329 General Cytology. Three sem hours

A general course covering the microscopic structure, chemical composition and function of cytoplasmic and nuclear components of the cell and their relation to heredity, reproduction and development.

Prereq: 221 General Botany, 222 General Zoology and 219 Organic Chemistry.

401 Biological Techniques. Two sem hours

Offers practice and theory in the preservation of biological specimens for research, medical technology and educational uses, with the emphasis on microscopic slide techniques.

Prereq: 221 General Botany and 222 General Zoology.

403 Methods and Materials for Teaching Biology. Two sem hours

Gives the student the specific knowledge and training concerning the principles, classroom methods and the preparation of classroom materials used in the teaching of biology.

Prereq: 222 General Zoology and 221 General Botany.

405 Organic Evolution. Two sem hours

The processes involved in the origin and evolution of life and the implication for biology and our current world view.

Prereq: 221 General Botany, 222 General Zoology, 301 Genetics. 230 Historical Geology is desirable.

410 Limnology. Three sem hours

A lecture, laboratory and field course dealing with physiochemical and biological interrelationships in lakes and streams.

Prereq: 221 General Botany, 222 General Zoology and one taxonomic field course or permission of the department.

411 Limnological Methods. Two sem hours

Introduction to field and laboratory techniques in limnology.

Prereq or Coreq: 410 Limnology, and permission of the department.

420 Ecology. Three sem hours

A laboratory and field course dealing with the interrelationships of plant and animal populations and their physical environment. Biological principles involved in terrestrial adaptations will be stressed. Individual student field problems will be required.

Prereq: 221 General Botany, 222 General Zoology and one taxonomic field course or permission of the department.

427 Introductory Molecular Genetics. Two sem hours

This course is designed as a follow-up to introductory genetics and will concentrate on the molecular aspects of the subject. The properties of genetical material will be discussed at molecular level whenever possible.

Prereq: 301 Genetics, organic chemistry; biochemistry desirable.

480 Radiation Biology. Three sem hours

The molecular, cellular, organismal and supraorganismal effects of corpuscular and electromagnetic radiations. Topics will cover the basic mechanisms of biological reactions to radiation, mutational effects of radiation, mammalian response to radiation, radiational studies with plants and radiation safety.

Prereq: Plant or animal physiology, one year physics, one year chemistry. Genetics is desirable.

481 Radioisotopes in Biology. Three sem hours

A lecture-demonstration course in basic isotope technology and its application to plant and animal physiology. The use in diagnosis and treatment of human diseases will also be discussed.

Prereq: 480 Radiation Biology or equivalent.

485 History of Biology. Two sem hours

Traces the development of major concepts in biology from the Greek natural philosophers to the present.

Prereq: At least two courses in biology.

491 Special Problems in Biology. One sem hour

492 Special Problems in Biology. Two sem hours

Individual work in some area of biology under direction of a staff member. Preliminary draft of proposed study must be approved by the department prior to enrollment. *Open only to majors and minors in the department.* May be elected more than once, after resubmission and approval.

Botany

209 Ornamental Plants. Two sem hours

This is a general cultural course intended to acquaint the student with ornamental shrubs and trees, common weeds and house plants. Stress is placed on identification and methods of propagation. Much time is spent in the greenhouse and on short field trips.

215 Economic Botany. Three sem hours

A study of plants useful to man, especially those which yield food, fibers, wood, rubber, drugs and other products of value. It is a lecture-demonstration course supplemented by reading. *Open to all students without prerequisite, though previous training in biology, botany or agriculture is desirable.*

221 General Botany. Four sem hours

The structure and function of seed plants and of representative lower plants, together with the fundamentals of plant heredity, ecology and evolution. Two one-hour lectures, one one-hour recitation plus audio-tutorial laboratory experience. *Prereq: 105 Biological Science or exemption.*

302 Systematic Botany. Three sem hours

Covers the essentials of the collection, identification and classification of flowering plants. The student will become familiar with the major plant groups, both from lecture and herbarium study and from field experience in varied habitats near Ypsilanti. *Counts as taxonomic field course.*

Prereq: 221 General Botany.

304 Mycology. Three sem hours

A study of molds, rusts, mildews, edible and poisonous mushrooms and other fungi. Their life histories; their economic importance, methods of identification, and preservation of specimens are topics studied. *Counts as a taxonomic field course.*

Prereq: 221 General Botany.

310 Plant Physiology. Three sem hours

Deals with major plant functions presented by lecture, demonstration and experimentation in laboratory and in greenhouse.

Prereq: 221 General Botany, 219 Elementary Organic Chemistry or equivalent.

311 Plant Pathology. Two sem hours

An introduction to those plant diseases due to fungi, bacteria, viruses, insects, parasites and malnutrition, and to their control by chemical, physical, ecological, cultural and genetic measures.

Prereq: 310 Plant Physiology is desirable.

312 Plant Anatomy. Three sem hours

Knowledge of basic plant histology is essential to the biologist. The course emphasizes recognition of primary and secondary tissues as variously combined in root, stem, leaf and flower of a wide variety of representative seed plants.

Prereq: 221 General Botany.

330 General Microbiology Laboratory. Two sem hours

An introduction to the techniques of isolating, cultivating and identifying bacteria and other microbes. Includes experiments on physiological, serological and pathological properties and physical, chemical and biological effect on growth and death on microbes.

Prereq: Must be accompanied or preceded by 331 General Microbiology.

331 General Microbiology. Three sem hours

An introductory course on 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 microorganisms and their animal, human and plant hosts.

Prereq: 105 Biological Science or equivalent, 119 Fundamentals of Chemistry desirable, 330 General Microbiology Laboratory optional.

345 Medical Mycology. Four sem hours

The medical and public health importance of diseases caused by fungi. Diagnostic methods and significant characteristics of the causal agents of mycoses are studied. Fungi included are the contaminants, dermatophytes and systemics. 221 General Botany and 304 Mycology are recommended.

430 Plant Morphology of Algae and Fungi. Four sem hours

A lecture and laboratory course on comparative morphology of the algae (freshwater and marine) and the fungi. A study of the structure and life cycles of representative organisms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution.

Prereq: 15 hours of biology including 221 General Botany.

431 Plant Morphology of Mosses Through the Vascular Plants. Four sem hours

A lecture and laboratory course on comparative morphology of the mosses, liverworts, ferns and other vascular plants. A study of the structure and life cycles of representative forms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution, etc.

Prereq: 15 hours of biology, including 221 General Botany; 430 Plant Morphology of Algae and Fungi recommended but not essential.

444 Microbial Physiology. Three sem hours

A lecture and laboratory course of physiological studies on bacteria and fungi. Emphasis will be placed on nutrition, metabolism, fermentation, physiology of parasitism and biosynthesis of polymers by microbes.

Prereq: 331 General Microbiology and 330 General Microbiology Laboratory.

450 Aquatic Tracheophyta. Three sem hours

Field and laboratory work in identification of herbaceous and shrubby vascular plants growing in aquatic habitats and in both vegetative and reproductive phases. *Counts as taxonomic field course.*

Prereq: 221 General Botany.

451 Freshwater Algae. Three sem hours

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

Prereq: 221 General Botany or equivalent.

Zoology

222 General Zoology. Four sem hours

A general survey of the groups of invertebrate and vertebrate animals according to the evolutionary sequence. Emphasis is placed upon the classification and structures, also on such aspects as physiology, life-histories, habits, distribution and economic relations. Two one-hour lectures, one one-hour recitation, plus audio-tutorial laboratory experience.

Prereq: 105 Biological Science or exemption.

270 Human Physiology. Three sem hours

A study of the functioning of the human body. Lecture, laboratory and demonstration.

Prereq: 105 Biological Science, 200 Anatomy for Occupational Therapy Students (or equivalent). Not open to biology majors, but can be taken on biology minor in which case 105 Biological Science is prereq. May not be taken for credit in addition to 327 Vertebrate Physiology or 200 Anatomy and Physiology.

300 Natural History of Invertebrates. Three sem hours

A field course designed to give training in the recognition, collection, identification and preserving of common invertebrates of Michigan, exclusive of the insects, with emphasis on their natural history, ecology and economic importance. *Counts as taxonomic field course.*

Prereq: 222 General Zoology.

306 Physical Anthropology. Two sem hours

The relationships of contemporary races of mankind with extinct hominids and the living and fossil primates are stressed against a background of geologic time and modern theories of evolution.

Prereq: 105 Biological Science or equivalent.

310 Natural History of Vertebrates. Three sem hours

A survey of the vertebrates, emphasizing their adaptations and their natural history (*i.e.*, those aspects of their ecology which cannot be readily studied by the experimental method either in the laboratory or in the wild). Laboratory work will stress the taxonomic classification, identification and distribution of local and other forms. Field work, sometimes conducted under adverse weather conditions and/or at night, will emphasize accurate observation and permanent recording of original data on local species. *Counts as taxonomic field course.*

Prereq: 222 General Zoology.

323 Animal Embryology. Three sem hours

Fundamental facts and principles of the reproduction and development of animals with laboratory studies of the frog, chicken, pig and other forms.

Prereq: 222 General Zoology.

324 Comparative Anatomy of Vertebrates. Four sem hours

The anatomy of the vertebrate organ systems is studied on a comparative basis, which emphasizes the evolutionary development of the groups. Laboratory work includes detailed dissection of the shark and cat. Three one-hour lectures and two two-hour laboratory periods.

Prereq: 222 General Zoology.

327 Vertebrate Physiology. Three sem hours

A study of physiological phenomena of the vertebrate body at the cellular and organ level with laboratory experiments to illustrate. Two one-hour lectures, one four-hour laboratory.

Prereq: 222 General Zoology, 219 Elementary Organic Chemistry or equivalent. Some physics is desirable.

360 Parasitology.**Three sem hours**

A survey of animal parasites which affect man and his environment. Emphasis is on the zoological inter-relationships. Lectures and laboratory.

Prereq: 222 General Zoology.

404 Histology.**Three sem hours**

An introduction to the structure and properties of vertebrate organs and their component tissues with some experience in the techniques for their microscopic study.

Prereq: 222 General Zoology.

421 Entomology.**Three sem hours**

A survey of the world of insects, their structure, function, behavior and ecology. The identification and classification of local insects will be stressed. A student field project will be required. *Counts as taxonomic field course.*

Prereq: 222 General Zoology or permission of the department.

422 Ichthyology.**Three sem hours**

A study of some aspects of the biology, classification, distribution and evolution of fishes. Attention is given to the morphology, physiology, behavior, natural history and ecology of fishes through work in lecture, laboratory and in the field. Specific experience in the identification of the freshwater fishes of the Great Lakes region is provided in addition to a general survey of some marine fish families. *Counts as a taxonomic field course.*

Prereq: 222 General Zoology or equivalent.

425 Ornithology.**Three sem hours**

A course in bird biology for the secondary teacher and students with advanced interest in biology. Field identification and census methods will be used to introduce the study of bird populations, behavior and ecology. A survey of major North American bird families will be made in the laboratory. A student field project will be required. *Counts as taxonomic field course.*

Prereq: 222 General Zoology or permission of the department.

430 Invertebrate Zoology.**Four sem hours**

Phylogenetic and anatomical study of one or more representative types from each phylum of invertebrates, with special emphasis on taxonomy, classical literature and current research. Three lectures and two two-hour labs weekly.

Prereq: 222 General Zoology.

480 Protozoology.**Three sem hours**

Survey of the protozoa with emphasis on their life cycles, morphology and ecology. Both free living and parasitic forms will be discussed. Techniques of collecting, culturing and preserving protozoans and their identification will be emphasized in the laboratory. *Counts as taxonomic field course.*

Prereq: 222 General Zoology.

485 Mammalogy.**Three sem hours**

Some aspects of the biology of mammals: origin and evolution, anatomy, classification, adaptations and zoogeography. Natural history and other aspects of their ecology are studied in the field, including behavior, migration, reproduction and population dynamics. A collection of five or more museum study specimens of different species is required of each student. *Counts as a taxonomic field course.*

Prereq: 222 General Zoology and 310 Natural History of Vertebrates or 420 Ecology or 324 Comparative Anatomy of Vertebrates.

Elementary Science

(see required courses on page 122)

103 Science for the Elementary Teacher. Three sem hours
Important biological concepts, especially relating to the interrelationships of organisms within their environment will be stressed. Considerable emphasis will be placed on the investigative or "discovery" type approach. The methodology involved in the newer approaches to teaching science will be an integral part of the course.

Prereq: Participation in the elementary teacher education project.

205 Field Biology.
(See Biology).

402 Science for Elementary Grades. Four sem hours
Intended for those who are planning to teach in the elementary grades. An attempt is made to prepare the student to organize the problems, collect the materials and direct the activities of the elementary science class. Methods of presenting simple experiments to children and of conducting field trips will be demonstrated. Two one-hour lectures and one two-hour laboratory.

CHEMISTRY

Department Head: Clark G. Spike

Professors: Charles T. Anderson, Edward L. Compere, Jr., Ronald W. Collins, Omer Robbins, Jr., Ronald M. Scott, John M. Sullivan

Associate Professors: Giles F. Carter, Bruce B. Graves, John W. Moore, O. B. Ramsay, Bruce D. West, Jerry R. Williamson, Steward D. Work, Masanobu Yamauchi

Assistant Professors: Stephen W. Brewer, Elizabeth V. Giles, Kenneth W. Hicks, Ralph R. Powell, K. Rengan, Stephen E. Schullery

Professional Curriculum in Chemistry

This curriculum provides the necessary background for those planning to become professional chemists. The curriculum meets the requirements established by the American Chemical Society for professional education in chemistry at the bachelor's level. The Department of Chemistry has been approved by the A.C.S. as providing the facilities, faculty and course offerings essential for a professional program. Students successfully completing this curriculum are prepared to enter technical positions in industrial or governmental research or to undertake graduate study in chemistry. Further work on the graduate level is highly recommended for those who are capable.

A total of 26 semester hours in mathematics and physics, required by the curriculum as prerequisites for advanced chemistry courses, fulfills the required minor. No additional minor is required.

Below is a list of the required courses arranged in a recommended sequence. This sequence a) assures satisfaction of prerequisite requirements, b) has no semesters with more than one chemistry laboratory course and c) allows the student maximum freedom in his senior year in the selection of advanced electives.

Ten semester hours, or an equivalent reading knowledge, of a foreign language, preferably German, are required for A.C.S. certification.*

First Year

Semester Hours

First Semester

131 General Chemistry I	4
120 Calculus with Analytical Geometry I	4

Second Semester

132 General Chemistry II	3
180 Chemistry Laboratory Techniques	2
121 Calculus with Analytical Geometry II	4
122 Elementary Linear Algebra	2

Second Year

First Semester

281 Quantitative Analysis	4
371 Organic Chemistry	3
220 Calculus with Analytical Geometry III	3
223 Mechanics, Sound and Heat	5

Second Semester

372 Organic Chemistry	3
373 Organic Chemistry Laboratory	2
221 Calculus with Analytical Geometry IV	3
224 Electricity and Light	5

Third Year

First Semester

461 Physical Chemistry	3
374 Organic Chemistry Laboratory	2

Second Semester

463 Physical Chemistry	3
462 Physical Chemistry Laboratory	2

Fourth Year

432 Advanced Inorganic Chemistry	3
481 Instrumental Analysis	4

Advanced elective courses (Two advanced courses from the list below must be selected; at least one must be from the Chemistry Department)*

Approved Advanced Electives:

Chemistry:

451-452 Biochemistry
472-473 Qualitative Organic
485 Radioisotope Techniques in Chemistry and Biology
496-497 Special Topics
498-499 Special Problems
530 X-Ray Crystallography
532 Structural Inorganic
553 Enzymology
555 Biopolymers
561 Advanced Physical Chemistry
565 Nuclear Chemistry
571 Advanced Organic
572 Stereochemistry of Organic Compounds
575-576 High Polymer Chemistry
581 Analytical

Mathematics:

- 237 Introduction to Computer Programming and Numeric Methods
 320 Differential Equations I
 337 Computer Programming Languages
 425 Mathematics for the Scientist I
 Other 400 level courses with Department approval

Physics:

- 430 Intermediate Mechanics I
 440 Optics
 450 Electricity and Magnetism
 452 Electrical Measurements
 456 Electronics for Scientists
 460 Heat and Thermodynamics
 470 Atomic Physics
 471 Nuclear Physics
 475 Introduction to Quantum Mechanics
 476 Solid State Physics

If 105 Higher Algebra II must be taken due to deficient high school preparation, the mathematics prerequisites for this sequence will still be met if the student begins the calculus sequence in his second semester.

The basic studies requirements for the Bachelor of Science or Bachelor of Arts degree must also be completed. A minimum total of 124 semester hours of academic credit (Including four semester hours of physical education) is required for graduation.

*NOTE: During the semester prior to graduation, students wishing A.C.S. certification of their degree must make formal application to the department head. If the student does not desire an A.C.S. certified degree in chemistry, a 40 semester hour chemistry major can be obtained by completing all of the above listed courses except the foreign language and one of the advanced electives.

Metallurgical Chemistry Curriculum

This curriculum provides the necessary background for industrial research and development in chemical metallurgy or other areas of chemistry involving a minimum of organic chemistry. Graduate study in chemistry or metallurgy would probably require additional course work in organic chemistry or metallurgy respectively. Below is a list of the required science and mathematics courses in a recommended sequence. All comments under "Professional Chemistry Curriculum" apply except those concerning A.C.S. certification.

First Year

	Semester Hours
First Semester	
131 General Chemistry	4
120 Calculus with Analytical Geometry I	4
123 Metal Processes	3
Second Semester	
132 General Chemistry	3
180 Chemistry Laboratory Techniques	2
121 Calculus with Analytical Geometry II	2
122 Elementary Linear Algebra	2

Second Year

First Semester	
281 Quantitative Analysis	4
223 Physics	5
220 Calculus with Analytical Geometry III	3

Second Semester

219 Elementary Organic Chemistry	4
220 Elementary Organic Chemistry Laboratory	1
221 Calculus with Analytical Geometry IV	3
224 Physics	5

Third Year**First Semester**

461 Physical Chemistry	3
237 Computer Programming	3
241 Materials Science	3

Second Semester

463 Physical Chemistry	3
462 Physical Chemistry Laboratory	2
341 Principles of Metallurgy	3

Fourth Year**First Semester**

432 Advanced Inorganic Chemistry	3
342 Experimental Metallurgy	2

The following electives are recommended when the student's time and interest permits:

476 Solid State Physics	3
498 Special Problems in Chemistry	2
530 X-Ray Crystallography	3
561 Advanced Physical Chemistry	3
481 Instrumental Analysis	4

Major (30 semester hours)

This major is provided for students who do not intend to become professional chemists. It is designed for students who plan to teach chemistry in a secondary school, who desire a general cultural education with an emphasis on chemistry, who are preparing for work in another field such as pre-medicine, pre-dentistry or pre-law or who are interested in combining chemistry with an allied field.

Required courses:**Semester Hours**

131 General Chemistry I	4
132 General Chemistry II	3
180 Chemistry Laboratory Techniques	2
281 Quantitative Analysis	4
371-372-373 Organic Chemistry	8
361 Fundamentals of Physical Chemistry	3
362 Physicochemical Measurements	1
Electives in chemistry from courses above 220	5

(Transfer students must elect at least six semester hours in this department for major.)

The methods class for those students who plan to teach chemistry at the junior-senior high level is Physics 325, Methods in Science Teaching, usually offered only in the fallsemester.

Minor (20-24 semester hours)**Required courses:**

131 General Chemistry I	4
132 General Chemistry II	3
180 Chemistry Laboratory Techniques	2
219-220 Organic Chemistry (or equivalent)	5
Electives from courses above 220	6

An additional four cognate hours of sciences must be completed to meet North Central Association requirements (24) for teaching this minor at the junior-senior high level. The methods course may be included in that total. (Transfer students must elect at least three semester hours in this department for minor.)

Program for Teachers of General Science (see page 87)

Program for Teachers of Physical Science (see page 86)

For graduate classes available to undergraduate students (see page 182).

COURSES

Chemistry

101 Science for Elementary Teachers. Three sem hours

A course designed for students who plan to teach in elementary school. Lectures deal with some basic principles of chemistry while the laboratory work emphasizes the discovery approach as it may be used in an elementary classroom. Only simple equipment and easily obtained chemicals are used in the experiments. Lecture: one hour per week. Laboratory: four hours per week.

Prereq: 100 Science for Elementary Teachers.

118 Contemporary Materials. Three sem hours

An overview of materials used in everyday life with emphasis on materials in construction, the automobile and the household. An introduction to understanding why metals, plastics, wood, glass and rubber behave as they do.

119 Fundamentals of Chemistry. Four sem hours

A study of the basic principles of chemistry designed for students who are taking neither a major nor a minor in chemistry. The course emphasizes an understanding of our surroundings through application of these basic principles. Lecture: three hours per week. Laboratory: two hours per week.

120 Fundamentals of Chemistry. Four sem hours

A continuation of 119 Fundamentals of Chemistry, stressing organic chemistry and biochemistry. Completes the survey of chemistry begun in 119 and is a terminal course. Lecture: three hours per week. Laboratory: two hours per week.

Prereq: 119 Fundamentals of Chemistry.

131 General Chemistry I. Four sem hours

The first semester of a basic lecture course covering the general principles of chemistry for science majors and students with interest and background in science. Lecture: four hours per week.

Prereq: High school chemistry, I-1/2 years of high school algebra.

132 General Chemistry II. Three sem hours

A continuation of 131 General Chemistry. The sequence 131, 132 and 180 constitutes the customary year of general chemistry. Lecture: three hours per week.

Prereq: 131 General Chemistry I. Coreq: 180 Chemistry Laboratory Techniques.

180 Chemistry Laboratory Techniques. Two sem hours

A course in basic practices of the chemistry laboratory. Qualitative analysis of common cations, volumetric quantitative analysis and a variety of synthesis, isolation and measurement techniques are included. Laboratory: six hours per week.

Prereq: 131 General Chemistry I.

219 Elementary Organic Chemistry. Four sem hours

A comprehensive one semester course in organic chemistry intended primarily for chemistry minors. Chemistry majors and pre-professional students should take 371 and 372 Organic. Students desiring additional organic chemistry may enroll in 372 Organic Chemistry. However, in this case, only three of the four credits in 219 will count toward the chemistry major or minor. Lecture: four hours per week.

Prereq: 131 General Chemistry I.

220 Elementary Organic Chemistry Laboratory.

One sem hour

A laboratory course meeting for one three-hour period per

week, providing instruction in the basic techniques of the organic chemistry laboratory and experience with organic chemicals. To accompany or follow 219 Elementary Organic Chemistry or 180 Chemistry Laboratory Techniques. Laboratory: three hours per week.

232 Inorganic Chemistry. Two sem hours

A course in descriptive inorganic chemistry in which the chemistry of the elements is correlated with the periodic table, atomic structures and basic chemical principles. Lecture: two hours per week.

Prereq: 132 General Chemistry II.

241 Materials Science. Three sem hours

An understanding of why materials behave as they do. The relation of composition and structure to properties of materials: metals, plastics, ceramics, glass and composites. Lecture: three hours per week.

Prereq: 131 General Chemistry, 180 Chemistry Laboratory Techniques, Physics 221 or 223 Mechanics, Sound and Heat, Mathematics 120 Calculus with Analytic Geometry I.

281 Quantitative Analysis. Four sem hours

A lecture and laboratory course treating instrumental, gravimetric and volumetric analysis. Lecture: two hours per week. Laboratory: six hours per week.

Prereq: 132 General Chemistry II and 180 Chemistry Laboratory Techniques.

341 Principles of Metallurgy. Three sem hours

A course covering the winning and refining of metals, their structure, diffusion, heat treatment, hardening and corrosion.

Prereq: 123 Metal Processes and 131 General Chemistry I.

342 Experimental Metallurgy. Two sem hours

A laboratory course emphasizing metallography, testing of physical properties, treatment, finishing, and analysis of metals and alloys. Laboratory: six hours per week.

Prereq: 180 Chemistry Laboratory Techniques and 341 Principles of Metallurgy.

351 Introductory Biochemistry. Three sem hours

A lecture course for medical technology and dietetics students dealing with the structure, function and metabolism of biologically significant compounds and with the chemistry of physiological processes. *Does not count toward chemistry major. No credit for both 351 and 451.* Lecture: three hours per week.

Prereq: 219 Elementary Organic Chemistry or equivalent.

352 Basic Biochemical Analysis. One sem hour

A laboratory class to accompany 351 Introductory Biochemistry. Emphasis is placed on the special analytical techniques employed by biochemists such as chromatography, electrophoresis, fluorimetry, flame photometry, spectrophotometry. *This course is restricted to medical technology and dietetics students.* Laboratory: four hours per week.

Prereq: 180 Chemistry Laboratory Techniques, 220 Elementary Organic Chemistry Laboratory or equivalent.

Coreq: 351 Introductory Biochemistry.

361 Fundamentals of Physical Chemistry. Three sem hours

Foundations of physical chemistry. An introduction to some

of the basic principles of physical chemistry, ie. Thermodynamics, Kinetics and Quantum Theory. This course is applicable to the 30-hour chemistry major and chemistry minor. Credit cannot be applied to the 40-hour major. Lecture: Three hours per week.

Prereq: 131 General Chemistry I, 132 General Chemistry II, 180 Chemistry Laboratory Techniques, 120 and 121 Calculus with Analytic Geometry.

362 Physicochemical Measurements **One sem hour**

A one-semester laboratory course whose emphasis is on measurements of physical constants. Experiments are chosen to illustrate physical measurements in the areas of Thermodynamics, Kinetics and Quantum Mechanics. This course is applicable to the 30-hour chemistry major and the chemistry minor. Credit cannot be applied to the 40-hour major. Laboratory: Four hours per week.

Prereq: 281 Quantitative Analysis.

Coreq: 361 Fundamentals of Physical Chemistry.

371 Organic Chemistry. **Three sem hours**

A lecture course for students specializing in science and those preparing for dentistry or medicine. Lecture: three hours per week. *Not open to students who have had credit for 219 Elementary Organic Chemistry.*

Prereq: 131 General Chemistry I.

372 Organic Chemistry. **Three sem hours**

A continuation of 371 Organic Chemistry, and with it constituting the customary year of foundation work in organic chemistry. *This course must be accompanied by 373 Organic Chemistry Laboratory. Lecture: three hours per week.*

Prereq: 371 Organic Chemistry.

373 Organic Chemistry Laboratory. **Two sem hours**

A laboratory course covering basic techniques involved in organic chemistry. *This course must be taken concurrently with 372 Organic Chemistry.* Laboratory: six hours per week.

Prereq: 180 Chemistry Laboratory Techniques.

374 Organic Chemistry Laboratory. **Two sem hours**

A laboratory course covering advanced techniques of organic chemistry. Laboratory: six hours per week.

Prereq: 372 Organic Chemistry and 373 Organic Chemistry Laboratory.

410 Scientific Glassworking. **One sem hour**

Weekly lecture-demonstrations cover basic methods of manipulation and properties of glass as related to simple construction and repair of common laboratory glassware. Weekly projects are submitted to the instructor for evaluation after completion. Laboratory: two hours per week.

432 Advanced Inorganic Chemistry. **Three sem hours**

An advanced level treatment of the newer inorganic chemical developments, with emphasis on theoretical advances in the interpretation of bonding and reactivity of inorganic compounds. Lecture: three hours per week.

Prereq: 461 Physical Chemistry or permission of the department; 232 Inorganic Chemistry is also recommended.

451 Biochemistry. **Three sem hours**

A lecture course dealing with occurrence, metabolism, synthesis and functions of biologically important substances such as

carbohydrates, proteins and fats. *No credit for both 351 and 451. Must be accompanied by 452 Biochemistry Laboratory.*

Lecture: three hours per week.

Prereq: 219 Elementary Organic Chemistry, or equivalent, and 132 General Chemistry II.

452 Biochemistry Laboratory. **Two sem hours**

Provides laboratory experience in the isolation, purification and analysis of biochemically important compounds. Modern laboratory techniques are stressed. Laboratory: seven hours per week.

Prereq: 220 Elementary Organic Chemistry Laboratory or equivalent. *Must be accompanied by 451 Biochemistry.*

461 Physical Chemistry. **Three sem hours**

A course which considers the principles of thermodynamics, kinetics and atomic and molecular structure. Lecture: three hours per week.

Prereq: 132 General Chemistry II, one year of college physics and 220 Analytic Geometry and Calculus III.

462 Physical Chemistry Laboratory. **Two sem hours**

A course involving the determination of the physical properties of substance, rate studies and measurement of thermochemical and electrical properties. Laboratory: seven hours per week.

Prereq: 281 Quantitative Analysis, 461 Physical Chemistry.

463 Physical Chemistry. **Three sem hours**

A continuation of the work begun in 461 Physical Chemistry. Lecture: three hours per week.

Prereq: 461 Physical Chemistry and 221 Analytic Geometry and Calculus IV.

472 Spectrometric Organic Structure Determination.

Two sem hours

The use of infra-red, ultra-violet, mass and nuclear magnetic resonance spectroscopy in organic structure determination. Emphasizes problem-working and practical application. Lecture: two hours per week.

Prereq: 372 Organic Chemistry.

473 Qualitative Organic Chemistry Laboratory.

Two sem hours

The systematic identification of organic compounds is based on fundamental organic reactions and spectrophotometric measurements. Microtechniques are emphasized. Laboratory: six hours per week.

Prereq: 373 Organic Chemistry Laboratory.

Coreq: 472 Spectrometric Organic Structure Determination.

481 Instrumental Analysis. **Four sem hours**

Theory and practice of chemical analysis and measurements by instrumental methods. Lecture: two hours per week. Laboratory: six hours per week.

Prereq: 281 Quantitative Analysis and 461 Physical Chemistry.

485 Radioisotope Techniques in Chemistry and Biology.

Three sem hours

The course will introduce students to principles and practices of radiation safety, measurement of radioactivity with various detectors and to laboratory techniques of handling radioactivity. Laboratory: three hours per week.

Prereq: 180 Chemistry Laboratory Techniques and one science lab course above the introductory level. *Permission of the department.*

490 Literature of Chemistry. **One sem hour**

A course designed to provide an introduction to the use and

nature of the chemical literature for those students undertaking research or advance study. Lecture: one hour per week. *Prereq: Junior standing. Prereq or coreq: one semester German or French.*

491 History of Chemistry. Two sem hours

A course concerned with the development of chemical concepts from the Greek natural science to the present. Lecture: two hours per week.

Prereq: Two years of college chemistry, including organic chemistry.

496 Special Topics in Chemistry. Two sem hours

An advanced level course in a specific area of chemistry covering new developments in that field. The area covered will be the area of specialization of the staff member teaching the course, and will thus vary as the need and interest change. Lecture: two hours per week.

Prereq: Permission of the department.

497 Special Topics in Chemistry. Two sem hours

Same as 496 Special Topics in Chemistry. For students who wish to repeat the course under a different instructor for additional credit. Lecture: two hours per week.

Prereq: Permission of the department.

498 Special Problems in Chemistry. Two sem hours

A course for advanced chemistry students involving participation in original research. The student is required to do preliminary library work on the historical background of his research problem and to participate in seminars discussing closely related work in the recent literature. A detailed progress report is required at the end of the semester.

Prereq: Permission of the department.

499 Special Problems in Chemistry. Two sem hours

A continuation of 498 Special Problems.

Prereq: 498 Special Problems in Chemistry and permission of the department.

ECONOMICS

Department Head: Young-lob Chung

Professors: Charles E. Helppie, John W. Simpson, Carl D. Snyder

Associate Professor: James R. Gibbons

Assistant Professors: Neal P. Cohen, Ahmed El-Safety, Gwen A. Fountain, Mary F. McCarthy, Donald W. Pearson, Harold E. Simmons

Major (30 semester hours)	Semester Hours
Required courses	30
201 Principles of Economics I	3
202 Principles of Economics II	3
301 Intermediate Macroeconomic Analysis	3
302 Intermediate Microeconomic Analysis	3
310 Economic Statistics	3
Electives in economics	15

Note: For students intending to pursue graduate studies in economics, a cognate minor in mathematics is strongly recommended.

Minor (20 semester hours)	Semester Hours
Required courses	20
201 Principles of Economics I	3
202 Principles of Economics II	3
Electives in economics	14

Conservation and Resource Use Minor (See page 45)

COURSES

200 The American Economy. Three sem hours
(Formerly Econ 290)

A one semester survey of the basic principles of economics for those students who seek a basic knowledge of the functioning of the present-day American economy but plan to take no other course in economics. Not open to students with 201 or 202 Principles of Economics.

201 Principles of Economics I. Three sem hours
(Formerly Econ 220)

The first half of an introduction to basic principles of economics. Emphasis is on macroeconomic concepts of national income, fiscal and monetary policy, and problems of unemployment, inflation, and economic growth.

202 Principles of Economics II. Three sem hours
(Formerly Econ 221)

The second half of an introduction to basic principles of economics. Emphasis is on microeconomic concepts of demand and supply and problems relating to prices and resource allocation.

Prereq: 201 Principles of Economics I or equivalent.

210 Mathematics for Economics. Three sem hours

A survey of major mathematics concepts and terms most used in the study of economics. Topics will include basic probability, elementary calculus, and fundamental matrix algebra, with their applications to economics. *Not open to students having Mathematics 120 Calculus with Analytic Geometry I and 121 Calculus with Analytic Geometry II or equivalent.*

300 Contemporary Economic Issues. Three sem hours

An economic analysis of a contemporary economic problem. Each semester a single topic will be covered and the topic may change each semester as the interest and/or problem changes. Students may elect this course several times as long as different topics are studied but it may be taken only twice for credit toward a major or minor in economics.

Prereq: 201 and 202 Principles of Economics or equivalent.

301 Intermediate Macroeconomic Analysis. Three sem hours
(Formerly Econ 430)

A study of national income analysis, employment theory and stabilization policies.

Prereq: 201 and 202 Principles of Economics or equivalent.

302 Intermediate Microeconomic Analysis. Three sem hours
(Formerly Econ 431)

A study of the theory of the firm, prices and resource allocations.

Prereq: 201 and 202 Principles of Economics or equivalent.

310 Economic Statistics. Three sem hours
(Formerly Econ 350)

An introduction to the statistical measurement and analysis of mass economic data; small samples and their use for description and inference; the statistical study of economic time series data; index construction and interpretation; and introductory regression analysis.

Prereq: 210 Mathematics for Economics or Mathematics 104 Higher Algebra I or more advanced mathematics course.

320 Labor Problems. Two sem hours
(Formerly Econ 324)

A study of supply and demand factors in the labor market.

collective bargaining, types and policies of labor organizations and employer organizations, recent legislation relating to labor.

Prereq: 201 and 202 Principles of Economics or equivalent.

321 Black Workers and Labor Market. Three sem hours
(Formerly Econ 340)

A consideration of the special problems and unique employment situation of black workers arising from historical and market influences and from corporate, union governmental policies.

Prereq: 201 and 202 Principles of Economics or permission of the department.

323 Labor and Government. Three sem hours
(Formerly Econ 425)

An examination of the economic aspects of labor legislation and governmental administrative rulings which affect unions and union-employer relations.

Prereq: 201 and 202 Principles of Economics or equivalent.

341 Money and Banking. Three sem hours
(Formerly Econ 322)

A study of the nature and role of money and credit, the banking system and other financial institutions and the relation of monetary policy to the level of economic activity.

Prereq: 201 and 202 Principles of Economics or equivalent.

350 Government Finance. Three sem hours
(Formerly Econ 329)

An analysis and description of the theory, institutions, and problems of financing the public sector. The effects are examined of expenditures, taxes and other revenue sources, borrowing, debt management, and grants-in-aid at all three levels of government upon the level and the distribution of national income and upon the allocation of resources are examined.

Prereq: 201 and 202 Principles of Economics or equivalent.

361 Corporation Finance. Three sem hours
(Formerly Econ 326)

An examination of the structure, financial organization, income and policy decisions of corporations.

Prereq: 201 and 202 Principles of Economics or equivalent.

365 Public Utility Economics. Two sem hours
(Formerly Econ 328)

An analysis of the economic function and significance of public utilities and the role of public regulation.

Prereq: 201 and 202 Principles of Economics or equivalent.

366 Economics of Transportation. Three sem hours
(Formerly Econ 325)

A survey of economic aspects of all forms of transportation, with consideration of the role of government and the socio-economic effects of the transportation sector on the rest of the economy.

Prereq: 201 and 202 Principles of Economics or equivalent.

370 Comparative Economic Systems. Three sem hours
(Formerly Econ 405)

A comparative analysis of the theoretical models underlying various economic systems; an investigation into how some of these systems in practice attempt to solve existing economic problems; how each of the major economic systems views the other economic systems.

Prereq: 201 and 202 Principles of Economics or equivalent.

371 Latin American Economic Problems.

Three sem hours

(Formerly Econ 330)

A general survey of major problems for economic development in Latin America. Emphasis is placed on the discussion of problems common to the area rather than specific study of one or a few countries.

Prereq: 201 and 202 Principles of Economics or permission of the department.

375 Economic History of the United States.

Three sem hours

(Formerly Econ 260)

A study of the economic development of the United States.

385 Economic Development. Three sem hours

(Formerly Econ 412)

A survey of theories of underdevelopment and an examination of some of the problems of underdeveloped economies, with an emphasis on development planning and policy making.

Prereq: 201 and 202 Principles of Economics or equivalent.

400 Problems in Economic Theory. Two sem hours

(Formerly Econ 327)

A thorough study of selected problems in economic theory.

Prereq: 301 Intermediate Macroeconomic Analysis or 302 Intermediate Microeconomic Analysis or permission of the department.

406 History of Economic Thought. Three sem hours

The course offers a broad introductory survey of the development of economic thought from the age of Mercantilism to Keynes, with emphasis on the contributions of some of the major writers and schools of economic thought.

Prereq: 201 and 202 Principles of Economics or equivalent.

415 Econometrics. Three sem hours

(Formerly Econ 450)

The application of mathematical economic theory and statistical procedures to economic data.

Prereq: 310 Economic Statistics or Mathematics 104 Higher Algebra I and three hours of higher mathematics.

432 Urban Economics. Three sem hours

(Formerly Econ 435)

A study of the level, distribution, stability and growth of income and employment in urban areas, as well as analysis of contemporary urban problems, such as inner-city poverty, housing-land use, transportation and local public services, with special reference to economic efficiency and programs.

Prereq: 201 and 202 Principles of Economics or equivalent.

445 Business Cycles. Three sem hours

(Formerly Econ 440)

An analysis of the nature and causes of business fluctuations. Consideration is given also to problems of forecasting business cycles, international aspects of the business cycle and governmental stabilization policies.

Prereq: 201 and 202 Principles of Economics or equivalent.

480 International Economics. Three sem hours

(Formerly Econ 402)

A description and analysis of the theory and special economic problems of international trade, factor move-

ments, exchange mechanisms, balance of payments, regional economic integration, assistance agencies and adjustments to changing conditions.

Prereq: 201 and 202 Principles of Economics or equivalent.

491 Research Seminar in Economics. Three sem hours
(Formerly Econ 451, 452)

An examination of selected issues in economic methodology, research procedures and techniques with the preparation of a major research paper and group analysis of its findings.

Prereq: Junior standing; economics major or minor.

497, 498, 499 Independent Studies.

One, two and three sem hours

Advanced study on an individual research basis in areas not covered in formal course work. Restricted to economics majors and minors.

Prereq: Twelve hours of economics, and permission of the instructor.

ENGLISH LANGUAGE AND LITERATURE

Department Head: Milton P. Foster

Professors: Alice R. Bensen, Walter M. Brylowski, Thomas L. Dume, Francis D. Evenhuis, Ernest S. Gohn, F. Eugene Haun, Catherine A. Hebert, Hoover H. Jordan, Martin L. Kornbluth, Marjorie M. Miller, George B. Perkins, Paul W. Pillsbury, Edward E. Potter, Frank E. Ross, Ivan Schreiber.

Associate Professors: Franklin Case, Jeffrey Duncan, Arthur Harris, Jay E. Jernigan, Naomi L. Madgett, Paul D. McGlynn, Ronald A. Mohl, Alfred Nelson, William Shuter, Patrick T. White.

Assistant Professors: Thomas P. Allen, James B. Angle, Paul S. Bruss, Virginia Cooper, B. Gilbert Cross, Bernard Decker, James Devers, David J. Geherin, William R. Hauer, Alethea Helbig, Thomas P. Hennings, Helen Hill, Robert Holkeboer, Eunice Howard, Sheila Ingersoll, Betty Ingram, Meredith H. Klaus, Robert G. Kraft, Helen Larcom, Donald A. Lawniczak, Mary MacDonald, Atelia MacLeod, Frank McHugh, Agnes Perkins, James Reynolds, Glenn R. Rulhley, David Saffer, Arie Staal, Curtis Stadtfeld, Ronald Trowbridge, Marshall Tymn, Margaret Webb, Jeremy A. Wild

Instructors: Nadean Bishop, Don S. Casanave, John D. Cormican, Robert DiGiovanni, Mary Fulton, Lawrence Hitch, George Klein, Russell Larson, Michael Madigan, Thomas Moore, Priscilla Osovski, Alan Rosenblum, Lawrence Smith, Eugene Steele, Ronald Thompson

Group Major in Literature, Language, Speech and Dramatic Arts (36 semester hours) for elementary teachers see page 126.

Group Major in English and American Literature and Language (36 semester hours)

This major is designed primarily for students preparing to teach in the junior and senior high schools. It is also available for students preparing to teach in elementary schools.

Basic literature courses (9 hours): 101, 102, 210

Basic language courses: one course in each of the following groups (six hours): 301 or 302
215 or 222 or 223 or 322

Restricted electives: one course in each of the following groups (12 hours):

*314 or 315 or 316

*317 or 318 or 319 or 327

*404 or 405 or 407 or 434

*409 or 410

Additional electives (nine hours) to be chosen from literature, composition or linguistics. Three semester hours of English composition may be applied on this major.

Students planning to teach should consider Curriculum and Instruction 311 Teaching of Secondary Reading as a free elective. In some cases preference is being given to applicants who have such a reading course.

It is recommended that students anticipating graduate study in English elect 221 History of the English Language.

Major in Literature (30 semester hours)

This major is designed primarily for degree-only candidates. It requires 101, 102, 210; at least one course from each of the starred groups above; and nine hours of electives in literature.

An additional four hours beyond the minimum 20 hours for graduation must be completed to meet North Central Association requirements (24) for teaching the following minors at the junior-senior high level. Up to four hours of composition, speech or English methods can be included in that total.

Minor in Language and Literature (20-24 semester hours)

	Semester Hours
101, 102 Reading of Literature	6
210 Shakespeare	3
One of the following	3
221 History of the English Language	
301 An Introduction to the English Language	
302 Modern English Syntax	
320 Introduction to Linguistic Science	
One of the following	3
215 Journalism	
222 Expository Writing	
223 Narrative Writing	
322 Creative Writing Workshop	
Electives in literature, composition, or linguistics	5-6

Minor in Literature (20-24 semester hours)

	Semester Hours
101, 102 Reading of Literature	6
210 Shakespeare	3
One of the following	3
314, 315, 316, 317, 318, 319, 327	
One of the following	3
401, 404, 405, 407, 409, 410, 434	
Electives in literature	5-6

Students on curriculums for elementary teachers may elect the following variation of this minor:

	Semester Hours
Required courses	21
101, 102 Reading of Literature	6
207 Introduction to Children's Literature	3
350 Critical Evaluation of Children's Literature	3
Three of the following:	
210, 251, 351, 352	9

Minor in English Language (21-24 semester hours)	
	Semester Hours
Required courses	21
221 History of the English Language	3
215 Journalism or 320 Introduction to Linguistic Science	3
222 Expository Writing	3
223 Narrative Writing or 322 Creative Writing Workshop	3
301 Introduction to the English Language or 302 Modern English Syntax	3
Electives in language	6

Not more than three semester hours of English composition may be applied on this minor.

HONORS PROGRAM IN ENGLISH

The Department of English offers an honors program to stimulate able students by allowing them greater flexibility of program and independence of study than are permitted on the regular English majors. The department welcomes any serious student who will find this work an encouragement. Freshman students who have excellent high school records and good test scores will find special sections of both 121 English Composition and 101-102 Reading of Literature available. Sophomores who plan to become candidates for honors are encouraged to enroll in the 298-299 Survey of English Literature. Near the end of their sophomore year, those desiring honors shall address to the director of the honors program a written application for admission to the program. Upon approval they will enroll in 398-399 Junior Honors Seminar and then the following year in 498-499 Senior Honors Seminar. Their successful completion of regular course work, an honors essay and a comprehensive examination will bring recognition of honors in English as part of their permanent record. Transfer students who wish to join the program should feel that their application for admission is entirely welcome. For further information, call at the office of the Department of English Language and Literature.

298 Survey of English Literature (Honors). Three sem hours
A survey of English literature from the Middle Ages through the eighteenth century.

Prereq: Superior performance in freshman literature courses and departmental approval.

299 Survey of English Literature (Honors). Three sem hours
A survey of English literature from 1800 to the present.

Prereq: Superior performance in freshman literature courses and departmental approval.

398 Junior Honors Seminar. Three sem hours
A seminar designed to meet the individual needs of students, to give them more intensive instruction than is possible in other courses through oral and written reports on subjects related to their other course work in English, their special interests and their areas of deficiency in literary study.

Prereq: Admission to the honors program.

399 Junior Honors Seminar. Three sem hours
A continuation of 398 Junior Honors Seminar.

Prereq: Admission to the honors program.

498 Senior Honors Seminar. Three sem hours
An intensive study of the major kinds of literary study.

Prereq: Admission to the honors program.

499 Senior Honors Seminar. Three sem hours

The theory and practice of literary criticism.

Prereq: Admission to the honors program.

All students who score below 550 on the verbal part of the SAT or below 25 on the English section of the ACT and who earned less than a 2.5 high school grade point average are required to take 121 English Composition in their first year at Eastern Michigan University. Students MAY NOT DROP English composition.

Students who have scores higher than those listed above must take either 121 English Composition or a basic language course in a foreign language (121, 122, 131, 132, 133, 221 or 222 French, German or Spanish), according to the norms appearing on page 60.

Students who score above 600 on the verbal part of the SAT or 27 on the English section of the ACT and whose high school grade point average was 3.0 or above may choose to enroll in special sections of 121 English Composition for superior students.

Students who earned credit in English composition under the Advanced Placement Program (see page 13) are not required to take 121 English Composition.

COURSES

Composition and Language

120 English Composition Laboratory. One sem hour

A laboratory in the elements of English composition—the conventions of syntax, diction, punctuation and paragraphing—to be required concurrently of those students enrolled in 121 English Composition who demonstrate a need for supplemental help. Grading in this course is "S" for passing, "U" for failure, and thus does not affect a student's grade point average.

121 English Composition. Three sem hours

The fundamental skills of reading, reasoning and writing with emphasis upon the reading and analysis of prose selections with a view of effective use of materials, writing mechanics, diction and style; frequent papers, conferences.

215 Journalism. Three sem hours

An introduction to the news media with a particular study of the role of the press in American democracy. Analysis of the content of the media and practice in the fundamentals of writing for mass audiences.

Prereq: Sophomore standing.

221 The History of the English Language. Three sem hours

A study of the development of the language from its earliest stages to the present with attention to social influences as well as matters of sound, word-formation and sentence structure.

Prereq: Sophomore standing.

222 Expository Writing. Three sem hours

The analysis and writing of various types of essay with emphasis on improvement of style. Students who are interested may work toward publication.

Prereq: Sophomore standing.

223 Narrative Writing. Three sem hours

The study and practice of techniques of narration including description, character development, plot structure, dialogue and the short story. Some attention is given to the problems of publication.

Prereq: Sophomore standing.

301 An Introduction to the English Language.**Three sem hours**

A survey of representative areas of language study. Students will be introduced to phonetic and phonemic theory and transcriptional practices. Other areas of suggested study include English morphology, the writing systems, the spelling conventions, the dictionaries, American regional dialects, social or functional variation, the doctrine of "correctness," the English vocabulary.

Prereq: Sophomore standing.

302 Modern English Syntax.**Three sem hours**

An introduction to the syntax of standard English. Modern systematic approaches to syntax will be compared with traditional school grammar at salient points.

Prereq: Sophomore standing.

306 Feature, Interpretive and Editorial Writing.**Three sem hours**

Writing of feature and interpretive articles and editorials designed for newspapers or magazines. Emphasis on research, interviewing and logical presentation of informative material. Writing assignments and analysis of writing in the mass media.

Prereq: 215 Journalism.

307 Editing and Advising High School Publications.**Three sem hours**

A study of professional editing techniques with emphasis on the knowledge and skills required for advising high school publications.

Prereq: 215 Journalism.

320 Introduction to Linguistic Science.**Three sem hours**

An introduction to linguistic theory and analytical procedures. Students will apply theoretical principles to problems of phonological and syntactic analysis in languages other than English.

Prereq: Junior standing.

322 Creative Writing Workshop.**Three sem hours**

A seminar workshop for the writer who wishes to gain experience in various creative disciplines. Each student will be expected to write fiction, poetry and drama according to his individual interest and will concentrate on the genre of his choice for the major work of the course.

Prereq: Permission of the department.

Literature

101 The Reading of Literature.**Three sem hours**

A reading and discussion of narratives from representative literature of the present as well as of the past. The course aims to develop the student's understanding and enjoyment of literature. The selections include short stories, novels and an epic from American, British and continental literature.

102 The Reading of Literature.**Three sem hours**

A continuation of course 101. The selections include poems and dramas from American, British and continental literature.

Prereq: 101 The Reading of Literature.

210 Shakespeare.**Three sem hours**

An intensive study of five of the principal tragedies with supplementary study of a Shakespeare handbook.

Prereq: Two courses in literature.

240 Great Dramas.**Three sem hours**

A reading and critical analysis of representative plays selected

from Grecian, Elizabethan, Restoration-18th Century and the Modern periods.

Prereq: 101 and 102 The Reading of Literature.

251 The Bible as Literature.**Three sem hours**

Introduction to the literary study of the Bible. The Old Testament is represented chiefly by specimens of narrative and prophetic writings; the New Testament, by selected incidents, parables and sayings from the life of Jesus as portrayed in the synoptic gospels. Discussion of Biblical influences upon English and American literature.

Prereq: Two courses in literature.

260 Afro-American Literature.**Three sem hours**

Representative American literature by black writers with emphasis upon the twentieth century. Readings in poetry, fiction, drama, autobiography and the essay.

Prereq: 101 and 102 The Reading of Literature.

305 Shakespeare: The Major Comedies and Histories.**Three sem hours**

A study of at least eight of the principal comedies and histories.

Prereq: Three courses in literature.

314 Old English.**Three sem hours**

A study of the language and literature of the Anglo-Saxon period.

Prereq: Three courses in literature.

315 The Age of Chaucer.**Three sem hours**

A study of *The Canterbury Tales* with collateral readings of other of Chaucer's works; Chaucer's contemporaries; the writers of the fifteenth century; the medieval drama.

Prereq: Three courses in literature.

316 English Literature 1500-1600.**Three sem hours**

A study of prose and poetry of the Renaissance, Thomas More and the Oxford group, the beginnings of criticism, the Italian influence, the Sonneteers and minor poets, the University Wits, Spenser.

Prereq: Three courses in literature.

317 English Literature 1600-1660.**Three sem hours**

A study of English literature from the beginning of the Century to 1660: Donne, Jonson, Bacon, minor Cavalier and Puritan poets, Burton, Browne, Taylor and other prose writers.

Prereq: Three courses in literature.

318 English Literature 1660-1744.**Three sem hours**

A study of English literature from 1660 to the death of Pope; Dryden, Swift, Pope, Addison, Steele and lesser poets and prose writers.

Prereq: Three courses in literature.

319 English Literature 1744-1798.**Three sem hours**

A study of English literature during the second half of the 18th century; poetry, essays, letters, novels; Johnson, Boswell, Goldsmith, Gray, Collins, Cowper, Burns, Blake and the lesser writers of the period.

Prereq: Three courses in literature.

327 Milton.**Three sem hours**

An intensive study of the poetry and prose of John Milton.

Prereq: Three courses in literature.

328 The American Novel 1798-1920.**Three sem hours**

A critical reading of the American novel from C.B. Brown and J. F. Cooper through World War I. A study of the

development of the novel in America from its earliest appearance to its critical maturity.

Prereq: 101 and 102 The Reading of Literature.

330 The Eighteenth Century Novel. Three sem hours

The novel from Defoe through Jane Austen. Emphasis on the development of such forms as the novel of the road, the psychological novel, the Gothic novel, the philosophical novel and the novel of manners.

Prereq: 101 and 102 The Reading of Literature.

331 The Nineteenth Century Novel. Three sem hours

A critical reading of the English novel from Scott to Hardy; a study of its form and achievement, as well as its relation to other significant novels of the time.

Prereq: 101 and 102 The Reading of Literature.

332 The Twentieth Century American Novel. Three sem hours

Reading and intensive study of certain significant American novels by representative writers of our time, from Henry James to the younger contemporary novelists who portray the many faces of America.

Prereq: 101 and 102 The Reading of Literature.

333 The Twentieth Century British and European Novel. Three sem hours

A study of British and European novels significant in the thought and aesthetics of our century, by such writers as Joyce, Proust, Lawrence, Forster, Wolfe, Huxley, Kafka, Pasternak, Malraux, Camus, Silone, Murdoch, Golding, Sillitoe.

Prereq: 101 and 102 The Reading of Literature.

340 English Drama 1558-1642. Three sem hours

A comprehensive study of English Drama from the accession of Queen Elizabeth in 1558 to the closing of the theatres in 1642.

Prereq: Three courses in literature.

341 English Drama 1660-1779. Three sem hours

A study of the significant plays from the restoration of Charles II to the close of the 18th century.

Prereq: Three courses in literature.

350 Critical Evaluation of Children's Literature. Three sem hours

The study in depth in each of the genres of children's literature with intensive work in the area of the student's special interest.

Prereq: 207 Introduction to Children's Literature or equivalent.

351 Folk Literature: Gods and Heroes. Three sem hours

A reading course in myths and ancient and medieval hero tales of Europe and the Near East with emphasis on those most frequently adapted in children's literature. Applies toward minor in children's literature only, but may be taken as a free elective.

Prereq: 101 and 102 Reading of Literature.

352 Folk Literature: Ballads and Folk Tales. Three sem hours

A reading course in the traditional ballads and folk tales of Europe and North America with emphasis on those which appear in children's literature. Applies toward minor in children's literature only, but may be taken as a free elective.

Prereq: 101 and 102 Reading of Literature.

401 Modern American and British Poetry. Three sem hours

A study of the chief poets of England and America since 1900.

Prereq: Three courses in literature.

403 Modern Drama. Three sem hours

A study of the chief dramatists from Ibsen to the present.

Prereq: Three courses in literature.

404 English Literature 1798-1832. Three sem hours

A study of the chief writers of the English Romantic movement: Wordsworth, Coleridge, Lamb, DeQuincey, Hazlitt, Byron, Shelley, Keats.

Prereq: Three courses in literature.

405 Victorian Poetry. Three sem hours

A study of Tennyson, Browning, the Pre-Raphaelites and the minor poets of the Victorian period.

Prereq: Three courses in literature.

407 Victorian Prose. Three sem hours

A study of selected writing of Macaulay, Carlyle, Ruskin, Arnold, Mill, Huxley and others.

Prereq: Three courses in literature.

408 American Literature 1608-1830. Three sem hours

A study of American writings of the colonial and early national periods from the beginnings to 1830, including backgrounds of religious and political controversy, the neo-classical influence and the emergence of native American literature.

Prereq: Three courses in literature.

409 American Literature 1830-1890. Three sem hours

A study of the chief literary movements in America from 1830 to 1890: romanticism, transcendentalism and the rise of realism, with emphasis on such authors as Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Twain, Howells, James.

Prereq: Three courses in literature.

410 American Literature 1890 to Present. Three sem hours

A study of the forms of realism and naturalism in American prose, poetry and drama as expressions of the growth of American culture; the critical controversies; the contemporary attempts to create new forms of expression.

Prereq: Three courses in literature.

420 Old English Poetry. Three sem hours

A study of Old English prosodic conventions with a close reading of representative poems from the various types and schools of Old English Poetry.

Prereq: 314 Old English.

430 History of Literary Criticism. Three sem hours

A study of major documents of literary criticism to enhance the appreciation of literature through an awareness of various criteria employed for the evaluation of literature in successive historical periods.

Prereq: Three courses in literature.

434 English Literature in Transition 1880-1914. Three sem hours

A study of such key figures as Meredith, Hopkins, Hardy, Pater, Yeats, Wilde, Shaw, Wells, Forster, the Edwardian poets, Conrad, Lawrence.

Prereq: Three courses in literature.

Teaching of Literature

(Credit will be given for only one course in this group.)

**207 Introduction to Children's Literature. Three sem hours
(Group I or IV)**

A concentrated reading course designed to impart the knowledge necessary for an appreciation and understanding of children's literature and its use in the schools. In addition to reading the classics and the critically acclaimed works of both fiction and non-fiction by modern writers, students will study poetry, folklore and mythology, and examine the relationship between illustration and text. Does not count toward major or minor in curriculums for teachers in junior and senior high school.

Prereq: Sophomore standing.

**308 High School English. Three sem hours
(Group IV)**

For students preparing to teach English in high school. Attention is centered upon methods of improving the teaching of composition and literature. *Does not count toward majors or minors.*

Prereq: Three courses in literature.

FOREIGN LANGUAGES AND LITERATURE

Department Head: John Henry Owens

Professors: Eugene M. Gibson, Francisco Villegas

Assistant Professors: Jean Bidwell, William Cline, Wilfried Hildebrandt, Brigitte Muller, Benjamin W. Palmer, Raymond E. Schaub

Instructors: Marilyn Cloutier, Timothy Flood, William Holloway, John R. Hubbard, John C. Pisoni, Geoffrey Voght

ENROLLMENT RESTRICTIONS

A student who enters the University with previous high school work in a foreign language and who wishes to continue the same language in the University will enroll in the course or courses for which he is qualified according to his high school record.*

Exception: after consultation with his adviser and with a representative of the Department of Foreign Languages, a student may elect a lower course which he feels is better suited to his proficiency. However, credit toward graduation will be granted for the lower course, or courses, only on the condition that the student subsequently pass an equivalent number of courses in the language beyond the course set as the norm.*

Foreign students will not be permitted to enter non-literature courses in their native language except by written permission of the department. This rule also applies to students born in the United States who have used a foreign language continually in their home.

DEPARTMENTAL RESIDENCE REQUIREMENTS

Majors in a foreign language must complete courses 443 Syntax and 444 Advanced Conversation, and one course in literature (above 400) in that language at Eastern Michigan University.

Minors in a foreign language must complete courses 443 Syntax and 444 Advanced Conversation in that language; minors in the literature of a foreign language must complete one literature course (above 400) in that language; and minors in a foreign language and literature must complete 343 Composition, 344 Conversation and either 341 or 342 Survey of Literature at Eastern Michigan University.

FRENCH

Major (30 semester hours)

Required courses for a major in French language and literature:

	Semester Hours
341, 342 Survey of French Literature	6
343 French Composition and 344 French Conversation	5
443 French Syntax and 444 Advanced French Conversation	4
Literature courses beyond the 400 level	6
Electives in French at any level	9

Students majoring in French will also take 411 Methods of Teaching Modern Language if they are on the junior-senior high school curriculum.

The courses listed here meet the minimum requirement only. It is highly desirable that students specializing in French or planning to continue with graduate work carry their work beyond the minimum. Many graduate schools require additional work in literature.

Minors (20 semester hours)

	Semester Hours
I. Required courses for a minor in French language and literature:	
341, 342 Survey of French Literature	6
343 French Composition and 344 French Conversation	5

*Norms:

- a) Students with less than two years of high school foreign language enroll in 121 course.
- b) Students entering with two years of high school foreign language:
 - 1) with no lapse of time, or less than 18 months, since the last foreign language class, enroll in 122 in a designated section.
 - 2) with a lapse of 18 months or more, enroll in 121 in a designated section.
- c) Students entering with three years of high school foreign language:
 - 1) with no lapse of time, or less than 18 months, since the last foreign language class, enroll in 221 or 233, or both.
 - 2) with a lapse of 18 months or more, enroll in 122.
- d) Students entering with four years of high school foreign language:
 - 1) with no lapse of time, or less than 18 months, since the last foreign language class, enroll in 222 or 234, or both. The 234 course will have a designated section for this group, with one extra hour of grammar drill per week without credit.
 - 2) with a lapse of 18 months or more, enroll in 221 or 233, or both.
- e) "Lapse of time" is measured from the last high school language class to the student's first registration at Eastern Michigan University.

Electives in French, at any level	9
II. Required courses for a minor in French language:*	
343 French Composition and 344 French Conversation	5
443 French Syntax and 444 Advanced French Conversation	4
Electives in French, at any level	11
III. Required courses for a minor in French literature:	
341, 342 Survey of French Literature	6
Courses in French literature above 400	6
Electives in French, at any level	8

The Department of Foreign Languages has just recently developed a new series of beginning courses, numbered 131, 132 and 133, in each of the three languages—French, German and Spanish. This new three-semester sequence of courses is an alternative to the two-semester sequence of 121 and 122. It is planned that 131 will be offered in the fall semester, 132 in the winter semester, and 133 in the spring session. A student who completes 133 thus has completed the first-year language sequence and may enter 221 and 233, just as the student who completes 122 may do.

COURSES

121, 122 Beginning French. Five sem hours each
The major objective is to read the written language. No composition or conversation, but the student is expected to pronounce with reasonable accuracy and to understand simple passages in the spoken language. Students are to spend one-half hour per day in the laboratory as a part of their home-work for the next class. By the completion of the course, the student should have a passive vocabulary of well over 3,000 words (Vanderbeke frequency), a command of idioms within a comparable range, and a thorough knowledge of grammatical structure. Priority in registration will be given to freshmen and sophomores and to majors and minors in another foreign language. (See enrollment restrictions page 60.)

131, 132, 133 Beginning French. Three sem hours each
The major objective is to read the written language. No composition or conversation, but the student is expected to pronounce with reasonable accuracy, and to understand the spoken language. Students are to spend three twenty-five minute periods weekly in the laboratory as part of their homework. Fall, winter and spring terms.

221, 222 Intermediate French. Three sem hours each
Rapid reading of large quantities of French prepares the student for practical use of the written language. *Students who plan to continue in French should take courses 233, 234 Elementary French Conversation concurrently with 221, 222.*
Prereq: 122 Beginning French, 133 Beginning French or three years of high school French. (See enrollment restrictions, page 60.)

233, 234 Elementary French Conversation. Two sem hours each
Students who plan to continue in French should take these courses concurrently with 221, 222 Intermediate French.

*Minors in French on the elementary curriculums, see page 126.

Credit will not be given for 233 until 234 is completed. The course meets three times per week. One day is devoted to grammar review, two days to conversation. As part of their home-work, students are to spend two half-hour periods per week in the laboratory listening and recording. *For students who plan to use the language orally or for teaching purposes. Prereq: 122 Beginning French, 133 Beginning French or three years of high school French.* (See enrollment restrictions, page 60.)

341, 342 Survey of French Literature. Three sem hours each
This is the preliminary course in French literature. It covers, during the two semesters, the major writers through the 19th century and is a prerequisite for all later courses in literature. Students must have sufficient oral comprehension to follow lectures in French. *Not open to freshmen.*
Prereq: 222 Intermediate French or permission of the department.

343 French Composition. Three sem hours
Intended to provide a solid grounding in grammar and composition for the teaching of French.
Prereq: 234 Elementary French Conversation or permission of the department.

344 French Conversation. Two sem hours
Meets three times per week. The student will spend three half-hour periods per week in the laboratory.
Prereq: 234 Elementary Conversation or permission of the department.

431 Molière. Three sem hours
The work of the semester is devoted to France's greatest comic playwright. A study of source material, technique and influence is included. In French.
Prereq: 341, 342 Survey of French Literature or permission of the department.

432 Corneille and Racine. Three sem hours
A study of the major plays of the two great tragic authors of the seventeenth century. In French.
Prereq: 341, 342 Survey of French Literature or permission of the department.

441, 442 Nineteenth Century French Novel. Three sem hours each
A study of the novel and the short story from the precursors of Romanticism to Marcel Proust. In French.
Prereq: 341, 342 Survey of French Literature or permission of the department.

443 French Syntax. Two sem hours
An advanced course in grammar and syntax with a large amount of drill on syntactical patterns.
Prereq: 343 French Composition or permission of the department.

444 Advanced French Conversation. Two sem hours
Meets three times a week. The student will be expected to spend one half hour per lesson in the laboratory, listening to recordings and making his own. The course may be repeated for credit.
Prereq: 344 French Conversation and 343 French Composition or permission of the department.

447, 448 Nineteenth Century French Theater. Three sem hours each
The first semester will cover the theater from the Revolution

to the war of 1870; the second semester will cover the realist, naturalist and neo-romantic movements into the early symbolism of the beginning of the twentieth century. In French.

Prereq: 341, 342 Survey of French Literature or permission of the department.

451 Readings in French. One sem hour
452 Readings in French. Two sem hours

Special projects in directed readings for majors and minors who have completed the available offerings in French, or who, because of most unusual circumstances, are granted departmental approval to substitute one or both of these for the regular courses.

Prereq: 341, 342 Survey of French Literature or permission of the department.

461, 462 Modern French Poetry. Two sem hours each

A detailed study of the evolution of modern French poetry from Baudelaire to the present. The first semester will cover the period through Mallarmé, and the second will carry on from then to the current writers. In French.

Prereq: 341, 342 Survey of French Literature or permission of the department.

471, 472 Eighteenth Century French Literature. Three sem hours each

A thorough study of the major authors and movements of the Period of the Enlightenment in France. In French.

Prereq: 341, 342 Survey of French Literature or permission of the department.

481 History of the French Language. Two sem hours

A brief historical account of the development of the language from its Latin and Vulgar Latin origins with special attention to the Old French and Middle French periods.

Prereq: 343 French Composition.

491, 492 Seventeenth Century Literature. Three sem hours each

A study of the Golden Age of French literature from the accession to the throne of Henri IV to the death of Louis XIV. The theater is not treated in this sequence of courses. In French.

Prereq: 341, 342 Survey of French Literature or permission of the department.

GERMAN

Major (30 semester hours)

Semester Hours

Required courses for a major in German language and literature:

343 German Composition and 344 German Conversation	5
341, 342 Survey of German Literature	6
443 German Syntax and 444 Advanced German Conversation	4
Electives in German Literature	6
(numbered above 400)	
Electives in German, at any level	9

Students majoring in German on the junior-senior high school curriculum will also take 411 Methods of Teaching Modern Language.

Minors (20 semester hours)

Semester Hours

I. Required courses for a minor in German

language and literature:

343 German Composition and 344 German Conversation	5
341, 342 Survey of German Literature	6
Electives in German, at any level	9
II. Required courses for a minor in German language:*	
343 German Composition and 344 German Conversation	5
443 German Syntax and 444 Advanced German Conversation	4
Electives in German, at any level	11
III. Required courses for a minor in German literature:	
341, 342 Survey of German Literature	6
Electives in German, at any level	14

COURSES

121, 122 Beginning German. Five sem hours each

Instruction includes pronunciation, aural-oral pattern practice, the fundamentals of grammar, written exercise, reading. Students are to spend one-half hour per day in the laboratory as part of their homework for the next class.

131, 132, 133 Beginning German. Three sem hours each

Instruction includes pronunciation, oral-aural pattern practice and fundamentals of grammar, written exercise, reading. Students are to spend one half-hour per class day in the laboratory as part of their homework for the next class.

221, 222 Intermediate German. Three sem hours each

Rapid reading of large quantities of German prepares the student for practical use of the written language. Special emphasis on vocabulary building and idiomatic construction. *Students who plan to continue in German should take courses 233, 234 Elementary German Conversation concurrently with 221, 222.*

Prereq: 122 or 133 Beginning German, or three years of high school German.

223 Scientific German. Three sem hours

Reading material will consist of scientific texts. For those students majoring in the sciences and for pre-medical students. *Prereq:* 122 or 133 Beginning German.

233, 234 Elementary German Conversation.

Two sem hours each

Students who plan to continue in German should take these courses concurrently with 221, 222 Intermediate German. There is extensive work in simple conversation and grammar review. *These courses are intended for students who plan to use the language orally or for teaching purposes.* The course meets three times per week; one day is devoted to grammar review and two days to conversation. As part of their homework, students will spend two one-half hour periods per week in the laboratory. Credit will not be given for 233 until 234 is completed.

Prereq: 122 or 133 Beginning German or three years of high school German.

341, 342 Survey of German Literature.

Three sem hours each

The first semester will cover the period from Old High German to the Enlightenment. The second semester extends from the Classical Period to the present day. *Not open to freshmen.*

Prereq: 222 Intermediate German or departmental approval.

*Minors in German on the elementary curriculums see page 126.

343 German Composition. **Three sem hours**
 Intended to provide a solid grounding in grammar and composition for the teaching of German.
Prereq: 234 Elementary German Conversation or departmental approval.

344 German Conversation. **Two sem hours**
 For students who desire a practical knowledge of the spoken language. Meets three times per week and the student will spend three half-hour periods in the laboratory.
Prereq: 234 Elementary German Conversation or departmental approval.

425 German Classicism. **Three sem hours**
 A study of the literature of the classical period with primary emphasis on Lessing, Goethe and Schiller.
Prereq: 341, 342 Survey of German Literature.

426 German Romanticism. **Three sem hours**
 Intensive study of outstanding authors closely associated with Romanticism, as well as those peripheral to it.
Prereq: 341, 342 Survey of German Literature.

427, 428 Modern German Authors. **Three sem hours each**
 A study of representative works from the various literary movements of the nineteenth and twentieth centuries.
Prereq: 341, 342 Survey of German Literature.

443 German Syntax and Advanced Composition. **Two sem hours**
 A senior level course in German vocabulary, structure and grammar. Half the course will be devoted to free composition and translation into German. The course may be repeated for supplementary credit since the material used will be changed frequently.
Prereq: 343 German Composition and 344 German Conversation or departmental approval.

444 Advanced German Conversation. **Two sem hours**
 The course will meet three times per week and the student is expected to spend one-half hour per lesson in the laboratory listening to recordings and making his own tapes. The course may be repeated for supplementary credit.
Prereq: 344 German Conversation and 343 German Composition or departmental approval.

451, 452 Reading in German. **One sem hour**
 Special projects in directed reading for majors and minors who have completed the available offerings in German, or who, because of most unusual circumstances, are granted departmental approval to substitute this for the regular courses.
Prereq: Permission of the department.

SPANISH

Major (30 semester hours)

	Semester Hours
Required courses for a major in Spanish language and literature:	
343 Spanish Composition and 344 Spanish Conversation	5
443 Advanced Spanish Composition and 444 Advanced Spanish Conversation.	4
341, 342 Survey of Spanish Literature	6
Literature courses numbered above 400	6
Electives in Spanish at any level	9
Students majoring in Spanish will also take 411 Methods of	

Teaching Modern Language, if they are on the junior-senior high school curriculum.
 The courses here meet the minimum requirements only. It is highly desirable that students specializing in Spanish or planning to continue with graduate work carry their work beyond the minimum; many graduate schools require additional courses in literature.

Minors (20 semester hours)

	Semester Hours
I. Required courses for a minor in Spanish language and literature:	
343 Spanish Composition and 344 Spanish Conversation	5
341, 342 Survey of Spanish Literature	6
Electives in Spanish, any level	9
II. Required courses for a minor in Spanish language:*	
343 Spanish Composition and 344 Spanish Conversation	5
443 Advanced Spanish Composition and 444 Advanced Spanish Conversation	4
Electives in Spanish, any level	11
III. Required courses for a minor in Spanish literature:	
341, 342 Survey of Spanish Literature	6
Electives in Spanish Literature numbered above 400	6
Electives in Spanish, any level	8

COURSES

121, 122 Beginning Spanish. **Five sem hours each**
 Specific emphasis on basic principles of grammar. Practice in elementary conversation, pronunciation, composition and reading. Students are to spend one half-hour per day in the laboratory as part of their preparation. Priority in registration will be given to freshmen and sophomores and to majors and minors in another foreign language.

131, 132, 133 Beginning Spanish. **Three sem hours each**
 Specific emphasis on basic principles of grammar. Practice in elementary conversation, pronunciation, composition and reading. Students spend one half-hour per lesson in the laboratory as part of their preparation for class.

221, 222 Intermediate Spanish. **Three sem hours each**
 For rapid reading of the language. Special emphasis on vocabulary building and on idiomatic construction. *Students who plan to continue in Spanish should take concurrently courses 233, 234 Elementary Spanish Conversation.*
Prereq: 122 or 133 Beginning Spanish or three years of high school Spanish.

233, 234 Elementary Spanish Conversation. **Two sem hours each**
Students who plan to continue in Spanish should take these courses concurrently with 221, 222 Intermediate Spanish. A review of Spanish grammar, simple composition, and extensive oral work. The course meets three times per week; one day will be devoted to grammar review, and two days to

*Minors in Spanish on the elementary curriculum, see page 126.

conversation. The student will spend two one-half hour periods per week in the laboratory. Credit will not be granted for 233 until 234 is completed.

Prereq: 122 or 133 Beginning Spanish or three years of high school Spanish.

341, 342 Survey of Spanish Literature.

Three sem hours each

These courses deal with the development of the different literary movements in Spain and with the major writers of the country from the middle ages to the present. In Spanish. *Not open to freshmen.*

Prereq: 222 Intermediate Spanish or permission of the department.

343 Spanish Composition.

Three sem hours

A thorough review of grammatical principles to provide the student of Spanish with a solid foundation for teaching.

Prereq: 234 Elementary Spanish Conversation or permission of the department.

344 Spanish Conversation.

Two sem hours

Improved pronunciation, the acquisition of an active vocabulary for daily life and greater oral facility are the aims of this course. The course meets three times per week and students will spend three half-hour periods in the laboratory each week.

Prereq: 234 Elementary Spanish Conversation or permission of the department.

431, 432 Survey of Spanish-American Literature.

Three sem hours each

These courses deal with the major writers of Spanish-America. The first semester examines the literary works up to the period of independence from Spain. The second semester is devoted to the study and discussion of literature from the period after independence from Spain to the present. In Spanish.

Prereq: 341, 342 Survey of Spanish Literature.

443 Advanced Spanish Composition.

Two sem hours

Designed to give the Spanish major advanced training in writing Spanish.

Prereq: 343 Spanish Composition and 344 Spanish Conversation, or permission of the department.

444 Advanced Spanish Conversation.

Two sem hours

For Spanish majors. It may be repeated for supplementary credit since different material will be used annually. The course meets three times a week and the students will spend three half-hour periods in the laboratory each week.

Prereq: 343 Spanish Composition and 344 Spanish Conversation, or permission of the department.

445 Spanish-American Novel.

Three sem hours

A study of the development of the Spanish-American Novel, covering one or more of the following areas: a) The Novel of the Land, b) The Romantic Novel, c) The Novel of the Mexican Revolution, d) The Gaucho Novel. This course may be repeated for credit if the material of the course is in another area.

Prereq: 431, 432 Survey of Spanish-American Literature.

446 Spanish-American Theatre.

Three sem hours

A study of the theatre in Spanish-America from its beginning to the present.

Prereq: 431, 432 Survey of Spanish-American Literature.

447 Modern Novel.

Three sem hours

The course will consist of a study of the development of the

modern novel in Spain during the nineteenth and twentieth centuries. Representative novels will be read and discussed.

Prereq: 341, 342 Survey of Spanish Literature or permission of the department.

448 Modern Drama.

Three sem hours

The development of modern Spanish drama and its various types will be studied. Plays to be read and discussed will be selected from the works of the principal dramatists of the nineteenth and twentieth centuries.

Prereq: 341, 342 Survey of Spanish Literature or permission of the department.

449 Romanticism.

Three sem hours

A study of the major works of Hispanic Romanticism.

Prereq: 341, 342 Survey of Spanish Literature.

451, 452 Readings in Spanish.

One sem hour each

Special projects in directed reading for majors or minors who have completed the available offerings in Spanish, or who, because of most unusual circumstances, are granted departmental approval to substitute this for the regular courses.

Prereq: Permission of the department.

453 Drama of the Golden Age.

Three sem hours

The course will deal with the drama of the 16th and 17th centuries. Works of the major authors will be read and discussed.

Prereq: 341, 342 Survey of Spanish Literature or permission of the department.

454 Modernism in Spanish America.

Two sem hours

A survey of the literary movement known as "modernismo" in the literature of Spanish-America.

Prereq: 431, 432 Survey of Spanish-American Literature.

455 The Generation of 1898.

Two sem hours

A study of the works of the main authors of the generation of 1898, from Unamuno to Ortega y Gasset.

Prereq: 341, 342 Survey of Spanish Literature.

463 Don Quijote.

Three sem hours

The universal qualities of both the book and its author, as well as their relation to Spanish life and literature of the period, are discussed.

Prereq: 341, 342 Survey of Spanish Literature.

481 History of the Spanish Language.

Two sem hours

A survey of the development of the Spanish language from spoken Latin to our days, based on the reading and discussion of texts.

Prereq: 343 Spanish Composition.

COURSES FOR LANGUAGE TEACHERS

411 Methods of Teaching Modern Language.

Two sem hours

The history, theory, and techniques of modern language teaching. *Not counted in Group I of the degree requirements, nor toward a major or minor in any modern language. Should be taken during the junior year.*

412 Methods of Teaching Modern Languages in Elementary Grades.

Two sem hours

The technique and materials of teaching French, Spanish and German in the elementary grades. *Not counted in Group I of the degree requirements, nor toward a major in any modern language. Should be taken before practice teaching.*

COURSES GIVEN IN ENGLISH

These courses count in Group I and satisfy requirements in that group. They are open to students from all departments and no knowledge of a foreign language is necessary.

103 Introduction to Language. Two sem hours
Intended for the student who has had *no* foreign language. It will acquaint him with the basic principles of linguistic structure as they apply to the Western European Languages taught in the department. Credit will be granted in Group I.

201 Mythology. Two sem hours
Designed to acquaint the student with the general field of classical mythology and the psychology underlying it. The poet's and artist's selection and use of the classic myths from early until modern times are studied and provide an interpretation of mythological allusions in literature.

234 Etymology. Two sem hours
Greek and Latin words and roots which are current in English forms are studied in order to enlarge the vocabulary and to produce a more discriminating use of words.

GEOGRAPHY AND GEOLOGY

Department Head: Ross N. Pearson
Professors: Paul O. Buckholts, George M. Howe, James R. McDonald, Lawrence Ogden, Daniel S. Turner
Associate Professors: Horace A. MacMahan, Jr., C. Nicholas Raphael, Ranjit Tirtha
Assistant Professors: Allen Cichanski, Robert T. Ernst, E. Lorene Hall, Eugene Jaworski, J. C. Kureth, Robert B. Mancell, Marshall S. McLennan, Andrew A. Nazzaro, Carl F. Ojala, Robert M. Ward
Instructor: Madolia E. Mills

Geography Major (30 semester hours)

	Semester Hours
Required courses for a major in geography:	
108 Earth Science	4
110 World Regions	3
223 Weather and Climate	3
235 Economic Geography	3
301 Introduction to Cartography	2
303 Field Geography	2
432 Political Geography or 433 Case Studies in Political Geography	3
One continental course in geography	3
*Electives in geography and geology	7

Geography Minor (20 semester hours)

	Semester Hours
Required courses for a minor in geography:	
108 Earth Science	4
110 World Regions	3
223 Weather and Climate	3
235 Economic Geography or 432 Political Geography	3
One continental course in geography	3
*Electives in geography and geology	4

**In consultation with departmental advisers, the student will select courses in the elective group compatible with his program objectives.*

Students on the later elementary curriculum who elect a major or minor in geography should choose at least five semester hours from the following list: 203, 205, 211, 313, 321, 322.

See page 125 for science group major and minor for elementary teachers.

See page 45 for interdepartmental programs in conservation and page 87 for general science.

Geology Major (30 semester hours)

	Semester Hours
Required courses for a major in geology:	
108 Earth Science	4
228 Mineralogy	3
230 Historical Geology	3
326 Structural Geology	3
329 Lithology	3
330 Sedimentation and Stratigraphy	3
Field Geology.	4-8
*Electives in geology-geography	7-3

Geology Minor (20 semester hours)

	Semester Hours
Required courses for a minor in geology:	
108 Earth Science	4
228 Mineralogy	3
230 Historical Geology	3
326 Structural Geology	3
329 Lithology	3
Electives as approved by the department	5

Earth Science Major (30 semester hours)

Required courses for a major in earth science:	
107 Trigonometry	2
108 Earth Science	4
119 Fundamentals of Chemistry	4
223 Weather and Climate	3
228 Mineralogy or 229 Rocks of Michigan	3-2
303 Astronomy	3
331 Introduction to Paleontology	3
**Electives	8-9

Earth Science majors who are candidates for teacher certification will take, in addition, 347 Teaching Earth Science, three semester hours in Group IV.

GEOGRAPHY AND GEOLOGY

Courses in Science

The following courses count in Group II.

102 Science for Elementary Teachers. Three sem hours
This course is designed for students who plan to teach in the elementary school. Lectures deal with basic earth science concepts and principles. The laboratory, which utilizes

***Students on the later elementary curriculum or secondary curriculum should choose at least eight semester hours from the following list: 114, 226, 230, 327, 424, 480; Biology 105, 224. Additional electives recommended for those planning graduate work in an earth science field should include: 227, 301, 303, 326, 330; Mathematics 107; Physics 221; Industrial Education 116, 206.*

simple and inexpensive equipment, emphasizes the investigative or discovery approach.

108 Earth Science. Four sem hours

The important aspects of the physical environment of man. The earth as a planet, landforms, weather and climate, water, soil, vegetation and mineral resources. *A requirement for both the major and minor in geography and geology.* Lecture: three hours per week. Laboratory: one hour period per week.

114 Geography of National Parks. One sem hour

A critical evaluation of the location, conservation needs and natural features—surface, geological phenomena, water, vegetation, wild life—which led to the designation of certain areas as national parks and recreational areas.

223 Weather and Climate. Three sem hours

Introduction to the properties and processes of the earth-atmosphere system that create weather and climate; deals summarily with observation, in depth with interpreting and understanding weather phenomena from commonplace to devastating; includes analytic description of climatic regions. Laboratory: two consecutive hours, one day a week; lecture: two hours per week.

Prereq: 108 Earth Science or one course in physics, chemistry or biology.

224 Principles of Conservation. Four sem hours

(See Biology, page 47)

226 The Oceans. Two sem hours

A study of the oceans, including coasts, development of currents, current patterns, salinity, temperatures, tides, sediment deposition, submarine topography, the energy balance and research techniques. The economic potential of marine waters and the products of the sea in relation to man are stressed.

Prereq: 108 Earth Science.

227 Topographic Maps. Two sem hours

A study of typical areas from topographic and geologic maps and aerial photos to illustrate the physical forces at work in the United States.

Prereq: 108 Earth Science or a course in geology.

228 Mineralogy. Three sem hours

A study of the crystallography, crystal chemistry and identification of the most important rock forming and economic minerals of the crust of the earth.

Prereq: 131 General Chemistry I.

229 Rocks of Michigan. Two sem hours

The identification and classification of rocks with special emphasis on characteristics used in the field.

Prereq: 108 Earth Science or a course in geology.

230 Historical Geology. Three sem hours

The origin and development of the earth's features along with the development and succession of plant and animal groups culminating in the forms that now inhabit the earth.

Prereq: 108 Earth Science or permission of the department.

301 Introduction to Cartography. Two sem hours

A laboratory course in the techniques of map making and graphic representation of geographic materials. The study and construction of several map projections, the evaluation of maps and the use of map-drawing instruments. Laboratory. A

requirement for the major in geography.

Prereq: 108 Earth Science or 110 World Regions or Permission of the department.

303 Field Geography. Two sem hours

Techniques in the observation of geographic features in the field. The construction of maps from field sketches and notes and the preparation of field reports. City, village, rural and recreational areas are mapped. *Not open to students who hold credit in 403.* Laboratory.

Prereq: 108 Earth Science or 110 World Regions or permission of the department.

311 Map Reading and Interpretation. Three sem hours

A non-technical introduction to maps and air photos as basic tools of geographic analysis. *Not open to majors or minors in geography.*

326 Structural Geology. Three sem hours

Introduction to the terminology, relationship and deformation of rocks with examples from specific areas. Laboratory problems are directed toward understanding of geologic structures in three dimensions and their representation, interpretation, projection and illustration as applied to economic problems. Laboratory.

Prereq: 108 Earth Science.

327 Introduction to Soil Science. Two sem hours

An introduction to soil science including the mineralogic, genitive, physical, chemical and biological properties of soils as related to earth science and the physical and economic environment of man.

Prereq: 223 Weather or permission of the department.

329 Lithology. Three sem hours

The origin, occurrence, association, chemical relationships and distribution of igneous, sedimentary and metamorphic rocks; laboratory study of rocks. Two one hour lectures. One hour laboratory.

Prereq: 228 Mineralogy. Not open to students with credit in 229 Rocks of Michigan.

330 Sedimentation and Stratigraphy. Three sem hours

Study of the properties, description and classification of sedimentary rocks; processes and environments of deposition of sediments; the relationships between deformation of the earth's crust and sedimentation; procedures in study and interpretation of sedimentary rocks.

Prereq: 108 Earth Science or equivalent; 228 Mineralogy.

331 Introduction to Paleontology. Three sem hours

Origin and development of life on earth and the environments in which animal assemblages lived. Study of the principles involved in the interpretation of fossils. Systematic study of the features of the animal groups most important in the fossil record.

Prereq: Earth Science or 230 Historical Geology or 105 Biological Science or permission of the department.

355 Geologic Field Methods. One sem hour

Construction principles and use of conventional instruments in geologic surveying, note taking and preparation of illustrations and reports.

Prereq: 108 Earth Science, 228 Mineralogy, 326 Structural Geology, 329 Lithology completed or currently enrolled, or permission of the department.

370 Glacial Geology. Three sem hours

A study of the glacial geomorphology and stratigraphy of the

Pleistocene drift with emphasis on the character of the drift sheets, their soils and lithology and the techniques of study as applied to the Wisconsin Stage in the State of Michigan. Comparisons are drawn with the movements and deposits of modern glaciers. Paleoclimatic cycles of Precambrian and Paleozoic glacial ages and theories of origin are stressed.

Prereq: 108 Earth Science, 230 Historical Geology, 330 Sedimentation and Stratigraphy or permission of the department.

403 Field and Project Geography. **Six sem hours**
Use of field instruments and methodologies in physical agricultural, urban and industrial geography. Five week post summer field camp off campus.

Prereq: Junior standing or permission of the department.

424 Climatology. **Two sem hours**
A study of the controls, characteristics and distribution of the elements of climate. Specific attention will be given to the study of the Koeppen classification and the use of Weather Bureau publications.

Prereq: 223 Weather.

428 Optical Mineralogy. **Four sem hours**
Study of the optical properties of crystalline matter. The petrographic microscope will be used in the identification of non-opaque and some opaque minerals, using crushed fragments and some thin-sections.

Prereq: 228 Mineralogy and 224 Electricity and Light (Physics).

430 Petroleum Geology. **Three sem hours**
A study of the origin, migration and accumulation of oil and natural gas. Exploration techniques in the use of structural geology, sedimentology and stratigraphy are stressed. The various drilling and coring methods, drilling equipment and the procedures of drilling are reviewed. Field trips to active drilling and/or producing areas are included when practical. Studies of specific oil and gas fields will be assigned.

Prereq: 230 Historical Geology, 326 Structural Geology, 329 Lithology, 330 Sedimentation and Stratigraphy or permission of the department.

439 Economic Geology. **Three sem hours**
A study of the geochemical behavior of metallic elements; the origin, processes, controls and classification of ore deposits; and fossil fuels. The latter part of the course would deal with the occurrence and distribution of metallic, non-metallic, petroleum and fossil deposits.

Prereq: 228 Mineralogy.

448 Ground Water. **Three sem hours**
Ground water occurrence, distribution, relationships to surface water and precipitation; subsurface flow, especially as related to well water production; tests of aquifers; well drilling and installation; ground water exploration and recharge; legal problems. Lecture three hours per week.

Prereq: 108 Earth Science, junior standing.

449 Mineral Deposits. **Three sem hours**
A study of specific mineral occurrences, mines and mining districts. The world's principal deposits of metallic and non-metallic resources and their mining techniques are emphasized. This course is designed as an application of 439 Economic Geology. Lecture three hours per week.

Prereq: 108 Earth Science, 329 Lithology, 439 Economic Geology.

461 Geomorphology. **Three sem hours**
A detailed study of landforms and the degradational, aggradational and structural processes by which they are formed. World wide examples are used extensively.

Prereq: 108 Earth Science, 230 Historical Geology and concurrent enrollment in 229 Rocks of Michigan or 326 Structural Geology.

462 Meteorology. **Two sem hours**
Instruction in weather map and data analysis and in principles and procedures of forecasting; includes use of all types of weather information: surface, upper air, radar and weather satellite; compares methods and predictability for forecasts ranging from a few hours to months. Lecture: one hour per week. Laboratory: two consecutive hours, one day a week.

Prereq: 223 Weather and Climate or equivalent.

466 Advanced Physical Geology. **Three sem hours**
A course for the geology major or professionally oriented earth scientist or geographer. A detailed study of the classical articles on all aspects of physical geologic processes and products.

Prereq: 108 Earth Science, 228 Mineralogy, 229 Rocks of Michigan or 329 Lithology, 230 Historical Geology, 330 Sedimentation and Stratigraphy.

470 Quantitative Methods in Geography and Geology. **Two sem hours**

An introduction to the use of those quantitative methods that are particularly adaptable to geographic and geologic analysis and research.

Prereq: Geography, geology or earth science major or permission of the department and junior standing.

480 Special Problems in Earth Science. **One sem hour**
An interdisciplinary treatment of the geographical, geological and biological sciences as they relate to techniques of observation and interpretation and to problem solutions in earth science and earth science teaching.

Prereq: Senior standing and one course in physics, chemistry and biology or permission of the department.

GEOGRAPHY COURSES IN SOCIAL SCIENCE

The following courses count in Group III.

110 World Regions. **Three sem hours**
An attempt to develop a tolerant understanding of peoples through an appreciation of the cultural and natural environments in which they live. Background information on selected world regions with emphasis on economic and social geography. The present occupations and activities of the population in each region. A requirement for both the major and minor in geography.

203 Geography of Asia. **Three sem hours**
A regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each of several regions, excluding the U.S.S.R.

Prereq: 110 World Regions or 108 Earth Science.

205 Geography of Europe. **Three sem hours**
A systematic treatment. The natural setting, cultural patterns, economic activities and developmental problems of the conti-

ment are discussed while selected significant regions are analyzed in detail.

Prereq: 110 World Regions or 108 Earth Science.

211 Geography of the United States and Canada.

Three sem hours

A regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each of several regions.

Prereq: 110 World Regions or 108 Earth Science.

235 Economic Geography.

Three sem hours

A systematic treatment of agricultural, mineral and manufactured products throughout the world. The geographic factors in world trade and the problems involved in trade between nations. A requirement for the major in geography.

312 Geography of Canada.

Two sem hours

A detailed regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each part of Canada.

Prereq: 110 World Regions or 108 Earth Science.

313 Geography of Michigan.

Two sem hours

A detailed regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each part of the state.

Prereq: 110 World Regions or 108 Earth Science.

321 Geography of Latin America.

Three sem hours

A regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each of several regions.

Prereq: 110 World Regions or 108 Earth Science.

322 Geography of Africa.

Three sem hours

A regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each of several regions.

Prereq: 110 World Regions or 108 Earth Science.

323 Geography of Australia and Pacific Islands.

Three sem hours

A regional treatment. The natural setting, the distribution of the people, the important occupations and the problems of future development in each of several regions.

Prereq: 110 World Regions or 108 Earth Science.

324 Geography of South Asia.

Three sem hours

A detailed systematic and regional study of the geography of India, Pakistan, Ceylon and the Himalayan Kingdoms. Emphasis will be placed upon population problems in their cultural and natural environment.

Prereq: 203 Geography of Asia or permission of the department.

332 Urban Geography.

Three sem hours

A study of geographic principles related to the distribution, function, structure and regional setting of urban centers.

Prereq: 110 World Regions or 108 Earth Science.

333 Settlement Geography.

Three sem hours

Morphological, functional, cultural and ecological factors as they are manifested in human settlement patterns.

Prereq: 110 World Regions or 108 Earth Science.

359 Geography of the U.S.S.R.

Three sem hours

A comprehensive view of the physical and economic geo-

graphy of the Soviet Union, including the natural setting, distribution of people, the important occupations and industrial and economic development.

Prereq: 110 World Regions or 108 Earth Science.

360 Cultural Geography.

Three sem hours

Man's development of a habitable world: a study of techniques, ideas and artifacts in man's use and transformation of the land.

Prereq: 108 Earth Science or 110 World Regions or permission of the department.

361 Population Geography.

Three sem hours

The geographic study of man's distribution over the earth emphasizing growth rates and densities as affected by cultural heritage, national policy and natural resources.

Prereq: 110 World Regions or permission of the department.

365 Nature and Origins of Urbanism.

Three sem hours

Regional examination of traditional, mercantile, colonial, primate and industrial cities as urban types; urbanism as an instrument of pioneering in the New World; Western man's view of the city through the ages.

Prereq: 110 World Regions or permission of the department.

423 Problems of Southeast Asia.

Two sem hours

A study of Southeast Asia as a geographic, economic and political unit. Emphasis will be on the political structures of Burma, Thailand, Laos, Cambodia, North and South Vietnam, Malaya, Indonesia and the Philippines.

Prereq: 110 World Regions or 108 Earth Science and 203 Geography of Asia.

425 Near East.

Two sem hours

The geography of Egypt, Saudi Arabia, Israel, Jordan, Lebanon, Syria, Turkey, Iraq, Iran and Afghanistan. The study of the natural and human elements; their influence on the conflict and prospects of the several nations.

Prereq: 110 World Regions or 108 Earth Science and 203 Geography of Asia.

431 Historical Geography of the United States.

Three sem hours

Geographical changes and developments in the United States from pre-historic times to 1900. Emphasis on the settlement and transformation of the land by Europeans and other significant changes in the geographic characteristics since the seventeenth century.

Prereq: 211 Geography of the United States and Canada or permission of the department.

432 Political Geography.

Three sem hours

A study of the theory and concepts of political geography, using contemporary examples. Size, location, resources, boundaries, population and level of technology are emphasized within and without the political framework.

Prereq: 110 World Regions or 108 Earth Science or permission of the department.

433 Case Studies in Political Geography.

Three sem hours

A regional study of the contemporary elements of political geography of selected states and nation states, emphasizing location, resources, population and level of technology.

Prereq: 110 World Regions or 108 Earth Science or permission of the department.

437 Development of Geographic Thought.

Three sem hours

A survey of the basic lines of geographic thought from classical

HISTORY AND SOCIAL SCIENCES

Department Head: R. Neil McLarty
Professors: Frederick M. Anderson, Manuel Bilsky, Donald W. Disbrow, Donald F. Drummond, David M. Earl, Richard D. Goff, J. Theodore Hefley, George S. May, Reinhard Wittke, P. Louis Zickgraf
Associate Professors: Richard H. Abbott, Sidney Gendin, Louis B. Gimelli, James E. Green, H. Roger King, Lester B. Scherer, Jeanne C. Wacker, Dorsey E. Walker, James E. Waltz, Ira M. Wheatley
Assistant Professors: Lee R. Boyer, W. Donald Briggs, Samuel L. Bufford, George H. Cassar, David L. Creighton, Jeffrey A. Fadiman, Emanuel G. Fenz, Della M. Flusche, Thomas H. Franks, Daryl M. Hafter, Michael W. Homel, Howard F. Kamler, William A. Miller, Walter G. Moss, Lawrence H. Prud'homme, Margaret L. Rossiter, Judith F. Siegel, Janice J. Terry
Instructors: Robert C. Fletcher, Stanley L. Harbison, Wayne H. MacVey, Paul L. Szonyi, Jiu H. Upshur

antiquity to the present day. Special emphasis is placed on the European contributions of the 19th century and on the development of the intellectual base of modern American geography.

438 Manufacturing Geography. Three sem hours
 An analysis of the spatial distribution of the world's manufacturing industries with emphasis on industrial and plant location techniques.
Prereq: 235 *Economic Geography* or permission of the department.

440 Agricultural Geography. Three sem hours
 Distribution and analysis of world agricultural patterns and prospects. Investigation into the effect of physical environment, level of economic development, political decisions, etc., on agricultural development.
Prereq: 235 *Economic Geography* or permission of the department.

441 Transportation Geography. Three sem hours
 Geographic factors influencing transportation by land, water and air.
Prereq: 235 *Economic Geography* or permission of the department.

497 Individual Problems (Honors Course). One sem hour
 Advanced study on individual basis in areas in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Permission of the department.

498 Individual Problems (Honors Course). Two sem hours
 Advanced study on individual basis in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Permission of the department.

GEOGRAPHY COURSES IN EDUCATION

The following courses count in Group IV.

347 Teaching Earth Science. Three sem hours
 The techniques of teaching laboratory-centered earth science courses, emphasizing inquiry teaching and questioning techniques. Practical experience is obtained by teaching actual earth science classes. A requirement for teacher certification in earth science.
Prereq: 108 *Earth Science* or equivalent, and junior standing or permission of the department.

348 Teaching Social Studies in Elementary Schools. Three sem hours
 An evaluation of methods commonly used in the teaching of social studies in the elementary grades with emphasis on planning units of work, use of visual aids and types of class activities most effective in the presentation of materials in this field.
Prereq: One course in geography.

SOCIAL SCIENCE

Major (36 semester hours)

The social science major is intended primarily for students preparing to teach in junior high schools and should not be elected by persons on the degree only program. It should be accompanied by a minor in history, economics, geography, political science or sociology, or by one of the minors offered in the Department of English Language and Literature—preferably the minor in language and literature. For a student who chooses both the social science major and a history, economics, geography, political science or sociology minor, the minor field shall be excluded from the social science major, and the 6–12 semester hours thus released shall be distributed among the other four social science areas.

At least 36 semester hours, distributed as follows:

	Semester Hours
History	12
101 History of Civilization	3
102 History of Civilization	3
223 American History to 1877	3
224 American History 1877 to Present	3
Economics	6
200 The American Economy	
or	
201 Principles of Economics I	3
Elective	3
Geography	6
110 World Regions	3
Elective	3
Political Science	6
112 American Government	
or	
202 State and Local Government	3
Elective	3
Sociology	6
105 Introductory Sociology	3
Elective	3

Students in the elementary, library science or special education curriculums should see page 126 for a social science group major or minor.

HISTORY

Major (30 semester hours)

	Semester Hours
Required courses	30
101, 102 History of Civilization	6
223 American History to 1877	3
224 American History, 1877 to Present	3
333 Europe since 1919	3
Restricted Electives (courses numbered 300 or above, including one course in United States history and one course in an area other than United States history)	6
Electives	9

Note: 123 Evolution of American Democracy and 201 The Comparative Study of Religion may not be used for credit on the history major.

Students majoring in history on a secondary teacher's certificate program will take in addition 481 Teaching of Social Studies.

Minor (20 semester hours)

	Semester Hours
Required courses:	
101, 102 History of Civilization	6
223 American History to 1877	3
224 American History, 1877 to Present	3
Restricted electives (courses numbered 300 or above)	5
Electives	3

Note: 123 Evolution of American Democracy and 201 The Comparative Study of Religion may not be used for credit on the history minor.

Social science students interested in the core curriculum should elect the social science major and the history minor, and should take 313 Michigan History as an elective on the history minor.

Note: Students majoring or minoring in history are encouraged to take courses in the following cognate areas:

Humanities	Social Sciences
History of the Arts	Political Science
History of Literature	Economics
Foreign Language Literature	Sociology
Philosophy	Cultural Anthropology

COURSES

World History

101 History of Civilization. **Three sem hours**
The classical heritage and the civilization of the Middle Ages and the Renaissance in historical perspective. Cultural development and institutional growth are emphasized.

102 History of Civilization. **Three sem hours**
A continuation of 101 History of Civilization. The study of cultural developments and the growth of institutions in the 17th and 18th centuries; social and economic changes in modern times.

103 History of Non-Western Civilization. **Three sem hours**
The civilizations of the Moslem world, Africa, India and East Asia in historical perspective. Philosophical outlook, cultural

development and technological advances are emphasized, with attention also being given to social and economic changes in the period since 1500.

201 The Comparative Study of Religion. **Three sem hours**
An introduction to the systematic study of religious experience and expression, organized around representative motif, phenomena and institutions and illustrated with relevant examples from the various historical religious traditions.

301 The Religions of South and East Asia. **Three sem hours**
A survey of the religious traditions of India, Ceylon, Burma, Thailand, China, Tibet and Japan, showing the interaction of folk religion with the developing concepts and institutions of Hinduism, Buddhism, Confucianism, Taoism and Shinto.
Prereq: 201 *The Comparative Study of Religion* or 103 *History of Non-Western Civilization.*

302 Near Eastern and Western Religions. **Three sem hours**
A survey of the historical evolution of the several religions originating in Western Asia, concentrating especially on the development and interaction of Judaism, Christianity and Islam.
Prereq: 201 *The Comparative Study of Religion* or 101 *History of Civilization.*

Ancient and Medieval History

323 Greek History. **Three sem hours**
Ancient Greece from the Bronze Age to the Roman conquest.

324 Roman History. **Three sem hours**
Ancient Rome from prehistoric background through the Age of Justinian.

327 The Early Middle Ages. **Three sem hours**
The transition from classical to European civilization with special attention to Europe's relations with its neighbors.

328 The High Middle Ages. **Three sem hours**
Development of distinctive European concepts, ideas, and institutions in the context of relations with non-European neighbors.

403 History of the Ancient Near East. **Three sem hours**
A survey of the civilization of the Fertile Crescent, Asia Minor and the Nile Valley from neolithic settlements down to classical times.
Prereq: 101 *History of Civilization.*

European History

309 France to 1789. **Three sem hours**
A study of the main currents in early modern times with special emphasis on the impact of the Protestant Revolt and the Renaissance on French society, the rise of absolutism and the political and intellectual background of the French Revolution.

310 France since 1789. **Three sem hours**
An examination of the major trends in French history since the start of the Revolution. Cultural, social, economic and intellectual trends are stressed as well as political. The ways in which France has been a seedbed for new movements in Europe are particularly noted.

Pages 71-72 are missing from the original publication.

developments. The dominant role of China during this period will be emphasized.

Prereq: Junior standing or permission of the department.

373 History of Modern China. Three sem hours
China from 1800 to the present: Traditional Confucian China in crisis, impact of the West, reform and revolution, Republican China, the Communist revolution, China since 1949.

Prereq: Junior standing or permission of the department.

374 History of Modern Japan. Three sem hours
Japan from 1800 to the present: Collapse of the shogunate, 19th century reforms, rise of the empire to great power status, defeat in World War II, post war changes. Political, economic and cultural developments are considered.

Prereq: Junior standing or permission of the department.

375 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. The rise and development of Indian nationalism and the struggle for independence. Independence and the problems faced by India since 1947.

Prereq: Junior standing or permission of the department.

377 History of Sub-Saharan Africa. Three sem hours
The historical evolution of Africa's civilizations: their origins, interrelations in ancient times, responses to Europe's colonization and current roles in the modern world.

Prereq: Junior standing or permission of the department.

438 History of Islamic Lands to 1800. Three sem hours
A survey of political, economic, religious and cultural developments in the Islamic lands from the time of Muhammed to 1800. Special attention is given to the role of Islam in Africa, to the cultural achievements of the Islamic peoples and to relations between Muslims and Christians.

Prereq: Junior standing or permission of the department.

441 Middle Eastern History, 1798–Present. Three sem hours
A survey of the political, economic and social history of the Middle East, including Turkey and Iran, with emphasis on the growth of independence movements within the area.

Prereq: 101, 102 History of Civilization or 271 Introduction to World Politics.

442 North Africa, 1798 to Present. Three sem hours
A survey of the political, economic and social history of North Africa, Egypt and the Sudan with emphasis on the internal movements for independence from colonial powers.

Prereq: 101 or 102 History of Civilization or 211 European Political Systems or 271 Introduction to World Politics.

Teaching Methods: History and Social Studies

348 Teaching Social Studies in Elementary Schools. Three sem hours

(See Geography and Geology Department)

481 The Teaching of Social Studies. Three sem hours
Designed for teachers in junior and senior high schools. An understanding of the nature of the subjects included in social science in the public schools and a study of problems related to the teaching of history and other social studies.

Independent Study

497 Independent Study in History. One sem hour

498 Independent Study in History. Two sem hours

499 Independent Study in History. Three sem hours

Advanced study on an individual basis in areas in which the department does not offer formal courses. *These courses are restricted to highly proficient juniors and seniors who are majors in the social sciences.*

Prereq: Permission of the department.

PHILOSOPHY

The philosophy curriculum provides a basic knowledge of the field of philosophy. The general program supplements curricula in many other disciplines, such as teaching, the performing arts and the sciences, and a philosophy major prepares students for graduate work in philosophy, law, theology and other related liberal arts subjects. The programs for the major and minor, outlined below, are arranged to strike a balance between courses in each of the topical groups.

Major (30 semester hours)—Non-Teaching

	Semester Hours
Required courses	30
180 Introduction to Logic	3
200 Types of Philosophy	3
230 History of Philosophy: Ancient and Medieval	3
231 History of Philosophy: Modern	3
340 Contemporary Philosophy	3
400, 401, 402, 403 Philosophy Seminar	2
Electives (to be chosen from other philosophy courses)	13

Minor (20 semester hours) Teaching

	Semester Hours
Required courses	20
180 Introduction to Logic	3
200 Types of Philosophy	3
230 History of Philosophy: Ancient and Medieval	3
231 History of Philosophy: Modern	3
Electives (to be chosen from other philosophy courses)	8

I. Basic Courses

180 Introduction to Logic. Three sem hours
An introduction to the techniques of analyzing and clarifying arguments and of distinguishing good reasoning from bad. The course includes a study of classical and modern deductive techniques, induction and common fallacies.

200 Types of Philosophy. Three sem hours
The goal of this course is to introduce the student to philosophy by the study of such types of philosophy as rationalism, empiricism, idealism, materialism and pragmatism. The course uses as sources representative works from such authors as Plato, Lucretius, Descartes, Berkeley and William James.

II. Intermediate courses of general interest**212 The Philosophical Bases of Contemporary Art.****Three sem hours**

This course helps the student understand contemporary art forms and the philosophical theories which underly them. By studying the arts themselves and the philosophies, the course tries to integrate the arts.

Prereq: One course in philosophy or permission of the department.

220 Ethics.**Three sem hours**

An introduction to the major problems of ethical theory through careful study of works selected from such writers as Aristotle, Kant, Mill and Nietzsche. The course examines such problems as the nature of value, the relationship between morality and happiness, the justification of ethical decisions, the idea of obligation, and the application of ethical theory to specific ethical problems.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

260 Existentialism.**Three sem hours**

An examination of contemporary existentialist thought about the nature of reality and human existence as reflected in the works of such men as Marcel, Heidegger, Sartre and Camus. The course also includes a study of the sources of existentialism as found in the works of Kierkegaard and Nietzsche.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

270 Philosophical Issues in Literature. Three sem hours

An examination of questions concerning man's nature, the nature of the world he confronts and man's quest for self-identity as these issues are illustrated in selected works of literature.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

280 Philosophical Foundations of Political Thought.**Three sem hours**

An examination of the philosophical bases of political ideology and theory. The course analyzes a variety of political theories, examining their component parts and discussing their basic assumptions. Examples are taken from the works of such writers as Plato, Aristotle, Hobbes, Locke, Rousseau, Mussolini, Marx and Thoreau.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

297 Philosophy and Contemporary Issues.**Three sem hours**

A philosophical examination of some of the issues that are prominent in contemporary society. Several of the following topics will be studied: political obligation and civil disobedience, pacifism, justification of revolution, social justice, community, alienation, the contemporary university.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

III. Studies in the History of Philosophy**230 History of Philosophy: Ancient and Medieval.****Three sem hours**

A study of important philosophical developments in Western thought from the pre-Socratics to the later Medi-

eval philosophers. The course covers the pre-Socratics, Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Occam and Duns Scotus.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

231 History of Philosophy: Modern. Three sem hours

A study of important philosophical developments in Europe from the Renaissance to the early nineteenth century. The course covers such figures as Descartes, Spinoza, Leibnitz, Hobbes, Locke, Berkeley, Hume and Kant. This course is a continuation of 230 History of Philosophy: Ancient and Medieval.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

335 American Philosophy.**Three sem hours**

An examination of the philosophical tradition in the United States through a study of such movements as idealism, transcendentalism, realism and pragmatism—from Jonathan Edwards to the present day.

Prereq: 231 History of Philosophy: Modern or permission of the department.

340 Contemporary Philosophy.**Three sem hours**

An introduction to philosophical developments since approximately 1900. The course covers movements such as pragmatism, analytic philosophy and existentialism, as reflected in the works of men like James, Dewey, Russell, Ryle, Heidegger and Sartre.

Prereq: 231 History of Philosophy: Modern or permission of the department.

410 Continental Rationalism.**Three sem hours**

An examination of the metaphysical views and theories of knowledge which emphasize the rational character of reality and the ability of man to acquire certain knowledge of reality through reasoning. The course deals with such major figures as Descartes, Spinoza, Leibnitz and Hegel.

Prereq: 231 History of Philosophy: Modern or permission of the department.

431 British Empiricism.**Three sem hours**

An examination of philosophical theories based on the claim that all knowledge is ultimately derived from sense experience. The course deals with such topics as causality, personal identity and theory of meaning as considered by writers like Hobbes, Locke, Berkeley, Hume, Mill and Russell.

Prereq: 231 History of Philosophy: Modern or permission of the department.

IV. Areas of Special Interest**310 Aesthetics.****Three sem hours**

A study of philosophical issues relating to works of art and other aesthetic objects. Possible topics include: the nature of aesthetic attitude, aesthetic evaluation, aesthetic meaning and aesthetic truth, expression in art, the nature of a work of art and basic value of art, the kinds of concepts used to talk about the arts.

Prereq: One course in philosophy.

320 Contemporary Ethical Theory. Three sem hours

An examination of contemporary ethical discourse, analyses of ethical decision-making, and the distinction between

normative ethics and meta-ethics.

Prereq: 220 Ethics or permission of the department.

350 Philosophy of Religion. Three sem hours

A philosophical study of the nature, goals and proper function of religion. Some possible topics are: traditional arguments for the existence of God, grounds for disbelief in God, immortality, religious experience, the nature of religious language, the relation of science to religion, the role of faith and revelation, the connection between religion and ethics.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

355 Philosophy of Law. Three sem hours

An examination of the nature of law and the relationship between law and morality. Such theories as legal positivism, legal realism and natural law will be explored. Recommended for pre-law students.

Prereq: 180 Introduction to Logic or 200 Types of Philosophy.

380 Philosophy of Science. Three sem hours

This course studies systematically the main philosophical problems raised by the results and methods of the physical and social sciences. Some of the topics covered are: the problem of meaning, measurement, the interpretation of probability statements, the justification of induction, the concept of cause, the laws of nature, description and explanation, determinism and indeterminism.

Prereq: Two courses in philosophy.

381 Symbolic Logic. Three sem hours

An introduction to the notation and proof procedures of symbolic logic with emphasis upon the clarification and development of the notion of a formal language.

Prereq: Two courses in philosophy or permission of the department.

400, 401, 402, 403 Philosophy Seminar. Two sem hours

An intensive study of selected topics in philosophy. Class work consists of the analysis of philosophical texts, and is designed primarily for students majoring or minoring in philosophy. Since the subject matter changes, the course may be taken more than once for credit.

Prereq: Two courses in philosophy.

425 Theory of Knowledge. Three sem hours

An investigation of the nature, scope and limits of knowledge. Some possible topics are: the connection between belief and knowledge, knowledge of other people's minds, the reliability of memory, the possibility of certainty in knowledge, theories of truth.

Prereq: Two courses in philosophy.

442 Philosophy of Mind. Three sem hours

A philosophical study of the nature of mind. A study of the logical relations among mental concepts such as consciousness, choice, intention, emotion, feeling, the unconscious. The course also deals with human action and considers the possibility and meaning of an adequate explanation of psychological phenomena.

Prereq: Two courses in philosophy.

460 Philosophy of Language. Three sem hours

An examination of the philosophically important aspects of

language. Possible topics include: theories of meaning, analysis of referring and predication, the relation between language and reality, analysis of vagueness and metaphor, the role of language in philosophical method, the relation between language and necessary truth.

Prereq: Two courses in philosophy.

470 Phenomenology. Three sem hours

An examination of the method and technique of phenomenological description of consciousness. Topics will be drawn from such areas of philosophy as ontology, theory of knowledge and philosophy of mind. Authors studied will include Brentano, Husserl, Heidegger, Merleau-Ponty, Ricoeur and Sartre.

Prereq: Two courses in philosophy.

480 Metaphysics. Three sem hours

A study of questions concerning the basic structure and ultimate nature of reality. Possible topics include: universals and particulars, space and time, determinism and freedom, the self, materialism, idealism, substance and process.

Prereq: Two courses in philosophy.

497 Independent Study in Philosophy. One sem hour

498 Independent Study in Philosophy. Two sem hours

499 Independent Study in Philosophy. Three sem hours

Advanced study on an individual basis in areas in which the department does not offer a formal course. *The course is restricted to juniors and seniors who are majoring or minoring in philosophy.*

MATHEMATICS

Department Head: Robert S. Pate

Professors: Madeline Early, John Ginther, James Northey

Associate Professors: Larry Badii, Donald Buckeye, Andrew Dempster, Margaret Gotts, Delia Koo, Nelly Ullman

Assistant Professors: Louise Barbee, David Cowles, Antonio Farias, Bob Goosey, Christopher Hee, Alan Heezen, Hartmut Hoft, Paul Howard, Kurt Lauckner, Alan Macdonald, Richard Marshall, Robert Mills, Mohammad Rafiq, Joanne Rankin, Toomas Rebane, John Remmers, Manda Suryanarayana, Enoch Tse, James Walter

Instructors: David Presser, Richard Vile, Michael Zeiger

The program in mathematics is designed to give majors certain basic courses, insure a broad background and yet allow enough electives for the student to adapt his program to one of the various phases of mathematics with which he may be concerned such as junior and senior high school teaching, statistics, engineering, the physical sciences or graduate work in pure or applied mathematics.

Students desiring a major in mathematics may choose from the following alternatives:

(1) The major of 30 semester hours (see below).

(2) The applied science curriculum (see page 34).

Students desiring a minor in mathematics may choose from the following alternatives:

(1) The regular minor in mathematics (see below).

(2) The special minor available to students on elementary teaching, library science and special education curriculums (see below).

The group major and group minor in general science also

provide opportunities for incorporating mathematics into a regular program of study (see page 87).

Students who desire acceleration or advanced standing in the mathematics sequence should consult the mathematics adviser, Bob L. Goosey.

Major (30 semester hours)

	Semester Hours
Required Courses	30
120, 121, 220, 122 Calculus with Analytic Geometry I, II, III and Elementary Linear Algebra	13
Electives from 221 or blocks A, B, C, D	11-13
Electives from 400 or blocks A, B, C, D	3-2
Electives from 105, 166, 236 or 237 or blocks A, B, C, D	3-2

Majors preparing to teach high school and junior high school mathematics must take course 221 and courses from at least three of the four blocks A, B, C and D.

Students majoring in business, the social sciences, biological science, or physical science and also majoring in mathematics should consult with a mathematics adviser concerning the most appropriate courses. Courses 221, 416, and 420 are suitable for any major and are highly recommended as preparation for graduate study. The following suggestions may serve as a general guide.

Business 236, 320, 402, 418, 436, 470, 471
Economics 236, 320, 402, 418, 470
Biology 236, 418, 470, 471
Physics 237, 320, 418, 423, 425, 426, 436
Chemistry 237, 320, 418, 425
Psychology 236, 402, 418, 470, 471

All mathematics majors other than teaching mathematics majors and the double majors indicated above, must take 221 Calculus with Analytic Geometry IV and courses from at least two of the four blocks A, B, C and D. It is expected that these students normally will exceed the thirty hour minimum requirement.

Minor (20 semester hours)

	Semester Hours
Required courses	20
120, 121, 220, 122 Calculus with Analytic Geometry I, II, III and Elementary Linear Algebra	13
Electives from 221 and Math 314 and above . .	4-5
Electives in Mathematics	3-2

Note:

It is recommended that students minoring in mathematics and preparing to teach mathematics complete electives from two of the blocks A, B, C, D.

The block courses referred to above are as follows:

Block A	Block B
314 Theory of Equations	441 College Geometry
411 Modern Algebra	445 Solid Analytic Geometry
414 Theory of Numbers	446 Synthetic Projective Geometry
416 Elements of Matrices	

Block C

320 Differential Equations I
321 Differential Equations II
420 Advanced Calculus I
421 Advanced Calculus II
423 Functions of a Complex Variable
425 Mathematics for the Scientist I
426 Mathematics for the Scientist II

Block D

337 Computer Programming Languages
402 Finite Mathematical Structures
418 Applied Linear Algebra
436 Numerical Analysis I
437 Numerical Analysis II
470 Introduction to Mathematical Statistics I
471 Mathematical Statistics II

Adjustments will be made for transfers having credit in courses not listed in the blocks.

Minor for the Elementary Teaching Certificate (20 semester hours)

	Semester Hours
Required Courses	20
101, 102, 140 and 301	12
plus either (1) 106 and 120 or (2) 110 and electives approved by the Mathematics Department	8

Note:

381 Teaching of Mathematics K-6 is required of all elementary teachers with this minor. Students seeking further information about this minor should consult M. Margaret Gotts.

General Requirements

1. No student may receive credit in courses 101, 104, 105, 107 or 164 after credit for 120 has been earned.
2. Students majoring in mathematics must complete at least five semester hours credit and minors must complete at least three semester hours credit in this department.
3. Majors preparing to teach mathematics in high school must complete a course in the teaching of mathematics in addition to the requirements for a major.

COMPUTER SCIENCE

This program will provide for continued growth in the field of computer science. It consists of a 31 hour major or a 20 hour minor. The major will provide for students interested in information processing and the minor will accommodate majors in physical sciences, social sciences, behavioral sciences and others concerned with information processing.

The program is being implemented over a three year period with new courses each term. Courses currently listed in the Department of Mathematics and counting on the computing major or minor include 136, 236, 237, 337, 436 and 437. The two new courses being offered during 1972-73 are 238 Computer Programming Applications (three hours) and 239 Assembly and Machine Language Programming (three hours). The courses and requirements for the major and minor are described in a computer science brochure available in the office of the Department of Mathematics. Further information about the program may be obtained from Robert A. Mills.

COURSES

- 101 Functional Mathematics I.** **Three sem hours**
An introductory course to acquaint the student with the principal ideas of mathematics. Includes sets, logic, study of integers, rational and real numbers, number bases, exponents and logarithms and axiomatic geometry. Emphasis is placed on the concepts involved.
- 102 Functional Mathematics II.** **Three sem hours**
Review and extension of the real numbers to a study of the complex numbers, elementary number theory, logic and nature of proof, basic probability and statistics and informal geometry. (*Open only to prospective elementary teachers.*)
Prereq: 101 Functional Mathematics I.
- 104 Higher Algebra I.** **Three sem hours**
A review of elementary algebra and a continuation into the study of functions, graphs and quadratic equations.
Prereq: One year of high school algebra.
- 105 Higher Algebra II.** **Three sem hours**
Sets, axioms of the real numbers, inequalities, functions, linear and quadratic equations, theory of equations, permutations and combinations and mathematical induction.
Prereq: One and one-half to two years high school algebra or 104 Higher Algebra I.
- 106 College Algebra and Trigonometry for Elementary Teachers.** **Four sem hours**
Basic algebraic and trigonometric concepts. Real and complex number systems, solutions of equations and inequalities, graphs of functions, determinants, sequences and series, permutations, combinations and probability. (*Open only to prospective elementary teachers.*)
Prereq: One year high school algebra, plane geometry and 102 Functional Mathematics II or 110 Algebra for Elementary Teachers or 301 Advanced Topics in Elementary Mathematics.
- 107 Plane Trigonometry.** **Two sem hours**
An elementary course in plane trigonometry. Students who have good records in high school courses including trigonometric identities, trigonometric equations and oblique triangles, should *not* take the course.
Prereq: One and one-half years of high school algebra or 104 Higher Algebra I, and one year of plane geometry.
- 110 Algebra for Elementary Teachers.** **Three sem hours**
Field properties, complex number, number sentences, introduction to coordinate geometry, nature of proof and concept of limit. (*Open only to prospective elementary teachers.*)
Prereq: 101 Functional Mathematics I.
- 120 Calculus with Analytic Geometry I.** **Four sem hours**
Differentiation of algebraic and trigonometric functions, applications, The Mean Value Theorem, definite and indefinite integrals, The Fundamental Theorem of Integral Calculus.
Prereq: Students having a "B" average in high school and in high school mathematics through trigonometry may take this course in their first semester. Others should enroll in 105 Higher Algebra II first, (and in 107 Plane Trigonometry if not taken in high school).
- 121 Calculus with Analytic Geometry II.** **Four sem hours**
Applications of integration; exponential, logarithmic and hyperbolic functions; methods of integration; plane analytic geometry.
Prereq: 120 Calculus with Analytic Geometry I or equivalent.
- 122 Elementary Linear Algebra.** **Two sem hours**
Vectors and matrices, operations on matrices, determinants, systems of linear equations, linear independence, linear transformations, eigenvalues.
Prereq: 120 Calculus with Analytic Geometry I or equivalent.
- 136 Introduction to Digital Computers.** **Two sem hours**
This course is designed for any student who wishes to learn the capabilities and applications of digital computers, as well as something about how computers work. It is not a programming course; however, the interested student will be able to use the knowledge gained in the course to write elementary programs.
- 140 Geometry for Elementary Teachers.** **Three sem hours**
Informal geometry of the plane and space, congruence and measurement, elementary theorems and proof and plane coordinate geometry. (*Open only to prospective elementary teachers.*)
Prereq: 101 Functional Mathematics I.
- 164 Algebra.** **Three sem hours**
A review of beginning algebra leading to material from intermediate and college algebra. Special emphasis is given to topics having special interest to students of business and social science.
Prereq: One year of high school algebra.
- 166 Finite Mathematics for Business.** **Four sem hours**
Introduction to sets, logic, probability, matrices, linear programming and theory of games.
Prereq: 164 Algebra or equivalent.
- 220 Calculus with Analytic Geometry III.** **Three sem hours**
Vectors and analytic geometry in space, differentiation of vector functions, partial differentiation, double integrals.
Prereq: 121 Calculus with Analytic Geometry II and 122 Elementary Linear Algebra or equivalent. (122 may be taken concurrently.)
- 221 Calculus with Analytic Geometry IV.** **Three sem hours**
Multiple integrals, vector analysis, infinite series, complex functions.
Prereq: 220 Calculus with Analytic Geometry III or equivalent.
- 230 Slide Rule.** **One sem hour**
The theory and practice of the slide rule. Each student must procure a log/log or vector slide rule.
Prereq: 107 Plane Trigonometry or equivalent.
- 231 Statics.** **Three sem hours**
The application of fundamental principles of mathematics to simple problems. Forces, components, vectors, moments, couples, friction and centroids.
Prereq: 121 Calculus with Analytic Geometry II and Physics 223 Mechanics, Sound and Heat. (Both may be taken concurrently.)

236 Introduction to Computer Programming.**Three sem hours**

An introductory course using FORTRAN language for students wishing to learn the uses of a digital computer. Practice in developing algorithms, writing programs and obtaining solutions of mathematical and scientific problems.

Prereq: One and one-half years high school algebra. (Credit will not be given for both 236 Introduction to Computer Programming and 237 Introduction to Computer Programming and Numeric Methods.)

237 Introduction to Computer Programming and Numeric Methods.**Three sem hours**

For science majors and pre-engineering students. FORTRAN language and some elementary techniques commonly used in the computerized solution of engineering problems. Practice in developing and executing programs on a digital computer.

Prereq: 121 Calculus with Analytic Geometry II. (May be taken concurrently.) (Credit will not be given for both 236 Introduction to Computer Programming and 237 Introduction to Computer Programming and Numeric Methods.)

301 Advanced Topics in Elementary Mathematics.**Three sem hours**

Acquaints prospective elementary teachers with new topics in the elementary mathematics curriculum such as algebraic systems, conic sections, trigonometry, statistical procedures and topics in number theory.

Prereq: 102 Functional Mathematics II or 110 Algebra for Elementary Teachers or 140 Geometry for Elementary Teachers.

306 Teaching of High School Mathematics.**Three sem hours**

Consideration of the mathematics program in the high school, its organization and content, methods of teaching and learning. This Group IV methods class does not count on the major or minor. *Not open to freshmen or sophomores or students on academic probation.*

Prereq: 120 Calculus with Analytic Geometry I.

314 Theory of Equations.**Two sem hours**

Includes the theory of equations, determinants, and related topics, such as rings and fields.

Prereq: 121 Calculus with Analytic Geometry II.

320 Differential Equations I.**Three sem hours**

The solutions of different types of ordinary differential equations and their applications. It is of particular value to students of the physical sciences and to those expecting to carry on graduate work in either mathematics or the physical sciences.

Prereq: 221 Calculus with Analytic Geometry IV.

321 Differential Equations II.**Three sem hours**

Linear differential equations with variable coefficients, series solutions of second order linear differential equations, numerical methods, non-linear differential equations and Sturm-Liouville Theory will be discussed.

Prereq: 320 Differential Equations I.

337 Computer Programming Languages.**Three sem hours**

Designed for students interested in gaining a thorough understanding of computer programming. Includes a detailed study of FORTRAN language, the FORTRAN compiler, a symbolic programming language, a machine oriented language and discussions of other available languages.

Prereq: 236 Introduction to Computer Programming or 237 Introduction to Computer Programming and Numeric Methods, and 121 Calculus with Analytic Geometry II. (121 may be taken concurrently.)

381 The Teaching of Mathematics K-6.**Three sem hours**

Learning to teach children in the elementary grades (K-6) the understandings and processes of mathematics. Attention is focused on learning-teaching situations and effective use of learning aids. *Required of all students on early elementary and later elementary curriculums. Not open to students on academic probation.*

Prereq: 101 Functional Mathematics I and junior standing.

400 History of Mathematics.**Three sem hours**

Designed to show the student how the subjects he is to teach have developed. Students have access to a large collection of books in the library.

Prereq: 220 Calculus with Analytic Geometry III.

402 Finite Mathematical Structures.**Three sem hours**

Selected topics in mathematical logic, set theory operations on statements, sets and functions, elements of probability theory, linear algebra, convex sets, linear programming and theory of games.

Prereq: 121 Calculus with Analytic Geometry II.

403 Current Research in Elementary School Mathematics.**Three sem hours**

A brief history of mathematics education, 1890 to present. Special emphasis on important research studies of this period. Consideration of various textbook series, use and evaluation of supplementary materials, the place value of teaching aids. Professional journals will be utilized throughout the course.

Prereq: 301 Advanced Topics in Elementary Math and 381 Teaching of Mathematics K-6.

411 Modern Algebra.**Three sem hours**

Introduction to modern algebra, logic, set theory, groups, rings and fields.

Prereq: 220 Calculus with Analytic Geometry III.

414 Theory of Numbers.**Three sem hours**

An introductory course dealing with the Euclidean algorithm and greatest common divisor, unique factorization theorem, linear Diophantine equations, congruences, theorems of Fermat, Euler and Wilson, quadratic residues, law of quadratic reciprocity and the Jacobi symbol.

Prereq: Junior or senior standing and/or permission of the department.

416 Elements of Matrices.**Three sem hours**

A review of determinants, linear dependence and vectors, elementary properties of matrices, transformations, canonical forms and various applications.

Prereq: 220 Calculus with Analytic Geometry III.

418 Applied Linear Algebra.**Three sem hours**

Applications of matrix algebra and determinants, linear dependence, linear programming, linear transformations in vector spaces. The emphasis will be more on applications rather than proof of the theorems.

Prereq: 121 Calculus with Analytic Geometry II or permission of the department.

420 Advanced Calculus I.**Three sem hours**

Real numbers, elementary topology of real line, sequences,

functions, limits, continuity, uniform continuity, differentiation, integration, sequences and series of functions, uniform convergence.

Prereq: 221 *Calculus with Analytic Geometry IV.*

421 Advanced Calculus II. **Three sem hours**
Vectors, functions of several variables, limit and continuity, partial differentiation, Implicit Function Theorem, line and surface integral, Green's Theorem, the Divergence Theorem, Stokes's Theorem, multiple integrals, improper integrals.

Prereq: 420 *Advanced Calculus I.*

423 Elements of Functions of a Complex Variable. **Three sem hours**

An introduction to the theory of functions: analytic functions, Cauchy-Riemann conditions, series expansion, Laurent series, poles and essential singularities, integration in a complex plane, Cauchy integral theorem, calculus of residues, conformal mapping.

Prereq: 221 *Calculus with Analytic Geometry IV or equivalent.*

425 Mathematics for the Scientist I. **Three sem hours**
The scientific applications of vector and tensor analysis, coordinate systems, matrices and determinants, infinite series, functions of a complex variable. Emphasis will be given to subjects of interest to the class.

Prereq: 221 *Calculus with Analytic Geometry IV.*

426 Mathematics for the Scientist II. **Three sem hours**
The scientific applications of ordinary and partial differential equations, special functions, integral transforms and subjects of interest to the class.

Prereq: 425 *Mathematics for the Scientist I.*

436 Numerical Analysis, Mathematics I. **Three sem hours**

Introduces the student to the numerical side of mathematical analysis, using the digital computer as a tool. Numerical differentiation and integration, numerical solution of simultaneous linear equations, solution of numerical algebraic and transcendental equations.

Prereq: 236 *Introduction to Computer Programming, or 237 Introduction to Computer Programming and Numeric Methods, and 121 Calculus with Analytic Geometry II or equivalent.*

437 Numerical Analysis II. **Three sem hours**
Introduces the student to numerical methods for solving ordinary and partial differential equations. Experience in using the methods discussed is gained via problems whose solutions are computerized by the students.

Prereq: 221 *Calculus with Analytic Geometry IV and a computer programming course or permission of the department.*

441 College Geometry. **Three sem hours**
The triangle, harmonic ranges and pencils, inversion, poles and polars, orthogonal circles, the radical axis, cross ratio and the principle of duality. Highly recommended to students who intend to teach.

Prereq: 220 *Calculus with Analytic Geometry III.*

445 Solid Analytic Geometry. **Two sem hours**
An introductory course dealing with lines, planes, surfaces, general equations of the second degree, properties of quadrics and the application of matrices.

Prereq: 220 *Calculus with Analytic Geometry III.*

446 Synthetic Projective Geometry. **Two sem hours**
Elementary study of duality, harmonic sets, perspectivity, projectivity, polarity and conics. Highly recommended to students who intend to teach.

Prereq: 121 *Calculus with Analytic Geometry II.*

470 Introduction to Mathematical Statistics I. **Three sem hours**

A study of probability theory; statistical inference, empirical and theoretical frequency distributions of one variable, sampling theory, correlation and regression.

Prereq: 220 *Calculus with Analytic Geometry III.*

471 Mathematical Statistics II. **Three sem hours**
A continuation of 470 Introduction to Mathematical Statistics, to include correlation and regression, testing hypotheses, Chi square and other distributions.

Prereq: 470 *Introduction to Mathematical Statistics I.*

480 Honors Course in Mathematics. **Two sem hours**
The content of this course varies with the instructor and the individual student. It consists of advanced reading and/or an individual project of a difficult nature. The work will be done independently with periodic reports to the instructor.

Prereq: Completion of the requirements for a major with 3.5 point average in mathematics.

491 Special Topics in Mathematics I. **Two sem hours**
A senior level course in a specific area of mathematics. The area to be studied will be determined by the field of specialization of the staff member teaching the course and the interest of the students enrolled.

Prereq: Permission of the department.

492 Special Topics in Mathematics II. **Two sem hours**
A second course of the type of 491.

Prereq: 491 *Special Topics in Mathematics I and permission of the department.*

MUSIC

Department Head: James B. Hause

Professors: Edith Borroff, William D. Fitch, Erich Goldschmidt, Oscar M. Henry, Maurice I. Laney, Arthur Parris, Maurice W. Riley, Thomas Tyra

Associate Professors: Armand Abramson, O. Blaine Ballard, Daniel R. Eller, John Elwell, Ruth Fenwick, Joseph Gurt, Marvin Howe, Alfio Pignotti, Hershale Pyle, Jean Sundquist, Edward Szabo, Mary Teal

Assistant Professors: Alejandra Atabug, Edgar Dittmore, Carter Eggers, Rachel Harley, Elaine Jacobson, Sylvan Kalib, Emily Lowe, Dady Mehta, Max Plank, Mary Phipps, Robert Quayle, Charles Roe, Mary Ida Yost

Instructors: Valija Bumbulis, Rodney Hill, Anthony Iannaccone, Fredric Moses, J. R. Smith, David Stewart

The Department of Music offers curriculums leading to the Bachelor of Arts, Bachelor of Music Education, Bachelor of Science and Master of Arts degrees. The individual programs present music in the context of a broad liberal education, prepare vocal and instrumental teachers for elementary and secondary schools, provide individual and group study in all performance media, offer cultural enrichment to students in all departments and provide training necessary to qualify students for concentrated graduate studies and college teaching.

The Department of Music further offers basic training for musicians interested in professional careers as instrumentalists, singers and conductors, as composers and arrangers, music scholars and librarians, and, in collaboration with other departments, work in dance, radio, television and theatre.

The Department of Music is a full member of the National Association of Schools of Music.

Enrollment to any curriculum in music will be determined by the results of instrumental or vocal auditions and theory-placement examinations in musicianship. All new students should write the director of music auditions and scholarships well in advance of their intended registration date to arrange these auditions and examinations. Beginners and transfer students may at that time apply for advanced standing in music.

Auditions and examinations will be held during the 1972-1973 academic year on the following days:

Fall Semester	Winter Semester	Summer
September 27, 1972	February 1, 1973	June 5, 1973
November 28, 1972	March 30, 1973	

MUSIC FEE

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

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

MAJOR

Arts Group Major (36 semester hours)

See Curriculum, page 125 under College of Education.

Music Major (Non-teaching: 49 semester hours)

The student will complete the requirements for the Bachelor of Arts degree curriculum, page 33, or the Bachelor of Science degree curriculum, page 32 by including the following 49 semester hour major and a different minor subject of 20 semester hours. In completing either of these curriculums, the student does not earn a teaching certificate.

	Semester Hours
Required courses for a major in music:	49
101, 102 Music Theory-Literature I, II	8
201, 202 Music Theory-Literature III, IV	8
301, 302 History of Music	6
401, 402 Music Theory-Literature V, VI	4
1X1-1X6 Applied Music (Principal Instrument)	12
Electives (Department courses for which prerequisites are satisfied)	11

Instrumental Music Education Major

The instrumental music education curriculum leads to teacher certification and a Bachelor of Music Education degree.

Fine arts group requirements are summarized as follows:

	Semester Hours
Basic Music Studies	33
Applied Music	20
Conducting	4
Ensembles	8
Electives	4
	69

For details of the curriculum see page 131.

Vocal Music Education Major

The vocal music education curriculum leads to teacher certification and a Bachelor of Music Education degree.

Fine arts group requirements are summarized as follows:

	Semester Hours
Basic Music Studies	26
Applied Music	22
Conducting	4
Ensembles	8
Electives	4
	64

For details of the curriculum see page 132.

MINOR

Arts Groups Minor (24 semester hours)

See Curriculum, page 125 under College of Education.

General Music Minor (Non-teaching: 20 semester hours)

Students planning admission to a general music minor should complete the following:

1. An application at the Department of Music Office.
2. Placement tests in applied music and basic musicianship.
3. A course of study worked out with a designated music adviser.

***Music Education Minor** (24 semester hours)

Students planning admission to a music education minor should complete the following:

1. An application at the Department of Music Office.
2. Placement tests in applied music and basic musicianship.
3. With a designated music adviser, work out a curriculum to include the necessary courses from music theory, music literature, music education, applied music, conducting and piano.

**All courses in this minor must have been completed before student teaching in music as a minor field. The methods course must have been taken in the area of teaching desired.*

COURSES

Theory-Literature and History

101 Music Theory-Literature I. Four sem hours

Integrated theory-literature course dealing with perception, writing, analysis and performance of basic musical materials; stylistic comprehension of music of all periods; separate lab in ear training required. *For music majors and minors.*

Prereq: Permission of the department.

102 Music Theory-Literature II. Four sem hours

Continuation of Music Theory-Literature I above.

Prereq: 101 Music Theory-Literature I or examination. For music majors and minors.

106 Introduction to the Performing Arts. Three sem hours

The arts of dance, theatre and music are studied both individually and collectively with the objective of determining their respective elements and of arriving at a better understanding and appreciation of the great works of art in the three fields. The place of these arts in our present day environment and their contribution to a richer life receive special emphasis. Attendance required at specified on-campus performances. (Music, Physical Education, Speech and Dramatic Arts Departments).

Prereq: Non-music majors only.

107 Music Appreciation. Two sem hours

The aims of the course are to acquaint the student with the various types, forms and styles of instrumental and vocal compositions. Includes listening laboratory sessions supported by concerts and recitals on campus. *For non-music majors only.*

201 Music Theory-Literature III. Four sem hours

Continuation of Music Theory-Literature II with more emphasis on harmonic, melodic and compositional techniques of 19th and 20th centuries; creative writing, ear training, comprehensive analysis of music of all periods.

Prereq: 102 Music Theory-Literature II and 252 Functional Piano or their equivalents.

202 Music Theory-Literature IV. Four sem hours

Continuation of Music Theory-Literature III.

Prereq: 201 Music Theory-Literature III.

236 Vocal Repertoire. Two sem hours

The study of solo song and its literature; emphasis on material relevant to various levels of vocal advancement. Repertoire includes French, German, Italian and English songs representing all musical periods.

Prereq: Permission of the department.

237 Choral Literature for the School and Church.

Two sem hours

A survey course on choral repertoire for the music educator. This course will embrace literature for junior-senior high school, church and community vocal groups. Selected materials for varied groupings will be examined and performed in class.

301 History of Music. Three sem hours

A chronological study of Western music in its historical and cultural setting. Includes recognition of idioms, changing

sounds, styles and forms of music in Medieval, Renaissance and Baroque periods, approximately through 1750. Each student surveys the history of his instrument.

Prereq: 202 Music Theory-Literature IV.

302 History of Music. Three sem hours

A continued chronological study of Western music in its historical and cultural setting, beginning about 1750. Emphasis similar to 301 History of Music but a strong concentration in contemporary music. Covers Classical, Romantic and present periods.

Prereq: 301 History of Music.

317 Music Composition. Two sem hours

Original writing and analysis of music, beginning with the smaller forms. May be repeated for credit.

Prereq: Permission of the department or 202 Music Theory-Literature IV.

341 Contrapuntal Techniques. Two sem hours

Writing in polyphonic forms with concomitant analysis.

Prereq: 202 Music Theory-Literature IV.

401 Music Theory-Literature V. Two sem hours

Integration of previous studies in theory-literature and music history; continued study and analysis of music from all periods; original, creative composition with special emphasis on contemporary style; the study of orchestration with assignments in writing for instruments individually as well as in combination.

Prereq: 302 History of Music.

402 Music Theory-Literature VI. Two sem hours

Continuation of 401 Music Theory-Literature V.

Prereq: 401 Music Theory-Literature V.

413 Orchestration. Two sem hours

Practical work in setting compositions for full orchestra and various other instrumental ensembles.

Prereq: 202 Music Theory-Literature IV.

414 Band Arranging. Two sem hours

Arranging for band; transcription from other media; original composition; analysis of representative work.

Prereq: Senior standing and permission of the department.

Music Education

104 Elements of Music. Two sem hours

Designed to give the grade teacher singing, music reading and theory experience in the elements of music. It acquaints the student with concepts of rhythm and tonality with the aim of developing musical skills and understandings.

Lecture: two hours per week.

Laboratory: one hour period per week.

207 Class Piano. Two sem hours

Group instruction for beginners in piano to provide the necessary skills for carrying on a music program in the classroom. *For students not specializing in music.*

208 Class Piano. Two sem hours

Continuation of 207 Class Piano with emphasis on the functional aspects of piano playing and elementary piano literature. *For students not specializing in music.*

Prereq: 207 Class Piano or its equivalent.

- 211 Basic Brass Class.** **One sem hour**
The teaching and playing of trumpet and trombone.
- 212 Brass Class.** **One sem hour**
The teaching and playing of French horn, euphonium and tuba.
- 232 Voice Class.** **One sem hour**
Special attention is given to improving the singing and speaking voice through the study of breath control, tone production and diction. *Open to all students except those majoring in vocal music.*
- 235 Diction in Singing.** **Two sem hours**
The physiological descriptions and laboratory practice of diction as used in singing.
Prereq: Permission of the department.
- 241 Basic Percussion Class.** **One sem hour**
The teaching and playing of non-melodic percussion instruments.
- 242 Percussion Class.** **One sem hour**
The teaching and playing of tympani and mallet instruments.
- 261 Basic String Class.** **One sem hour**
The teaching and playing of violin. *Majors or minors only.*
- 262 String Class.** **One sem hour**
Continuation of 261 Basic String Class and teaching and playing of viola.
Prereq: 261 Basic String Class.
- 263 String Class.** **One sem hour**
The teaching and playing of cello and double bass. *Majors and minors only.*
- 281 Basic Woodwind Class.** **One sem hour**
The teaching and playing of clarinet. *Majors and minors only.*
- 282 Woodwind Class.** **One sem hour**
The teaching and playing of flute and saxophone. *Majors and minors only.*
- 283 Woodwind Class.** **One sem hour**
The teaching and playing of oboe and bassoon. *Majors and minors only.*
- 320 Early Elementary Music Education.** **Three sem hours**
A study of materials and teaching techniques in relation to the interests, characteristics and needs of children in the early elementary grades.
Prereq: 104 Elements of Music and junior standing.
- 321 Later Elementary Music Education.** **Three sem hours**
A study of music materials and teaching techniques in relation to the interests, characteristics and needs of children in the later elementary grades.
Prereq: 104 Elements of Music and junior standing.
- 322 Music Literature for Children.** **Two sem hours**
A study of those types, forms and styles of vocal and instrumental music of various periods that are especially appropriate for use with children, as well as effective materials and techniques for directing children's listening.
Prereq: 104 Elements of Music or its equivalent.
- 330 Music Education in the Elementary School.** **Three sem hours**
Includes the teaching techniques of care and development of the child voice, rote songs, rhythmic activities, ear training, listening lessons, creative music, song interpretation and classroom instruments. Various music series designed for grade schools and other materials are used.
Prereq: Junior standing. Open to music education majors and minors only. Completion of 254 Functional Piano/175 Voice or completion of 074 Voice/155 Piano; completion of 202 Music Theory-Literature IV; corequisite 326 Conducting; satisfactory academic record; faculty approval.
- 331 Music Education in the Secondary School.** **Three sem hours**
Includes the study of the following topics: care and treatment of adolescent voices; classification and training of voices, song interpretation; organization and administration of all types of choral ensembles; theory, history and literature of music classes; evaluation of numerous materials suitable for choral organizations and other classes in the secondary school; and psychology and philosophy of music education.
Prereq: Satisfactory completion of 330 Music Education in the Elementary School and junior standing. Open to music education majors and minors only.
- 332 Instrumental Music in the Public Schools.** **Four sem hours**
Designed to prepare students to teach instrumental music; covers organization of beginning classes, special problems of strings, selection of suitable materials, techniques of teaching, public relations and other areas of interest in the development of orchestras and bands. Special emphasis placed on music for grades four through nine.
Prereq: Junior standing. Open only to instrumental music education majors.
- 333 Orchestral Methods.** **Two sem hours**
Designed to assist students in their preparation as orchestra directors; covers special problems relevant to the string orchestra, string ensembles, and to the string curriculum in the secondary schools.
Prereq: 332 Instrumental Music in the Public Schools and junior standing. Open only to instrumental music majors.
- 334 Band Methods.** **Two sem hours**
Designed to assist students in their preparation as band directors in secondary schools; covers charting and drills for marching band; rehearsal procedures and selection of suitable materials for the concert band.
Prereq: 332 Instrumental Music in the Public Schools and junior standing. Open only to instrumental music education majors.
- 492 Student Teaching.** **Eight sem hours**
Admission to student teaching requires satisfactory completion of specified curriculums as well as faculty approval through a screening exam. Details are contained in "Statement of Policy Concerning Standards for Admission to Student Teaching in Music" available from the Music Supervisor of Student Teaching.
- 495 Student Teaching.** **Four sem hours**
See admission requirements under 492 Student Teaching.
- 496 Student Teaching.** **Four sem hours**
Prereq: 495 student teaching in music.

Music Honors

490 Honors Course in Music.

Provides superior students with the opportunity for an intensive program of independent study, original composition, performance or research.

Prereq: Senior standing, cumulative average of 3.5 in music, 3.2 in general studies. Regulations governing honors courses must be followed. (see page 22.)

Two sem hours

Recitals

Each semester in residence the student will be expected to participate in student recitals. These performances may take place in studio classes, informal departmental recitals, or, where the special qualifications are met, in public recitals.



A senior recital will be presented before a faculty committee. Ensemble music may be included on the programs. In such event the recitalist must have a principal solo role in the music performed. *Approval of senior programs for public performance will rest with the committee's recommendation.*

All public recitals are subject to prior review and approval by a faculty committee.

Applied Music

Students who do not qualify by audition for admission to a curriculum in music may, at the discretion of the department, be assigned preparatory work (Music IX0) until ready for university applied music study. It should be understood that delayed admission as a departmental major may extend the time normally required to satisfy graduation requirements.

Transfer students may be granted credit for applied music study accomplished at another institution or with a recognized private teacher. Eligibility for credit will be determined by audition. Prior study with a private teacher must be confirmed by a statement from that teacher to be presented at the audition. A course of study designed to satisfy Department of Music graduation requirements will be recommended at that time.

At the time of admission to a music curriculum, students with piano as a secondary instrument must demonstrate the required level of proficiency for graduation in their chosen curriculum, or elect piano every semester until the required proficiency is attained.

Principal Instruments

- IX0 series - For the student who requires additional preparation in his principal instrument before entering regular freshman level work. Credit: one hour per semester, which cannot apply toward graduation requirements in either music major or music minor curriculums.
- IX1 series - Lower level work. Credit: two hours per semester for music majors. May be repeated for credit.
- IX5 series - Upper level work. Credit: two hours per semester for music majors. May be repeated for credit.

- 110 Applied Music (Brass) One sem hour
 111 Applied Music (Brass) Two sem hours
 115 Applied Music (Brass) Two sem hours
 120 Applied Music (Organ) One sem hour
 121 Applied Music (Organ) Two sem hours
 125 Applied Music (Organ) Two sem hours
 140 Applied Music (Percussion) One sem hour
 141 Applied Music (Percussion) Two sem hours
 145 Applied Music (Percussion) Two sem hours
 150 Applied Music (Piano) One sem hour
 151 Applied Music (Piano) Two sem hours
 155 Applied Music (Piano) Two sem hours
 *160 Applied Music (Guitar) One sem hour
 *161 Applied Music (Guitar) Two sem hours
 *165 Applied Music (Guitar) Two sem hours

**Does not qualify as principal instrument in Bachelor of Music Education curriculums. Acceptable for Bachelor of Arts or Bachelor of Science degree with major in music.*

- 160 Applied Music (Harp) One sem hour
 161 Applied Music (Harp) Two sem hours
 165 Applied Music (Harp) Two sem hours
 160 Applied Music (Strings) One sem hour
 161 Applied Music (Strings) Two sem hours
 165 Applied Music (Strings) Two sem hours
 170 Applied Music (Voice) One sem hour
 171 Applied Music (Voice) Two sem hours
 175 Applied Music (Voice) Two sem hours
 180 Applied Music (Woodwinds) One sem hour
 181 Applied Music (Woodwinds) Two sem hours
 185 Applied Music (Woodwinds) Two sem hours

The Bachelor of Music Education degree requires 16 credit hours of work on the principal applied music instrument, to be earned through the IX1 and IX5 series. Four of the sixteen hours must be completed in upper level studies (IX5 series). Students are admitted to the IX1 series level at different degrees of competency, therefore some students will require more time to achieve the proficiency needed for admission to the IX5 series level. Students at IX1 series level will be permitted to repeat the last semester of the IX1 series for credit for a maximum of two semesters. Permission to move to IX5 series level may be given by the faculty jury with the permission of the teacher. Instrumental music education majors enrolled in applied music will be formed into appropriate small ensembles at the discretion of the applied teacher. The total number of hours spent each week in lessons and small ensembles will be limited to the number of credit hours given.

Secondary Instruments

OX1 series - For music minors. Credit: one hour per semester. May be repeated for credit.

- 011 Applied Music (Brass) One sem hour
 021 Applied Music (Organ) One sem hour
 041 Applied Music (Percussion) One sem hour
 051 Applied Music (Piano) One sem hour
 061 Applied Music (Guitar) One sem hour
 061 Applied Music (Harp) One sem hour
 061 Applied Music (Strings) One sem hour
 071 Applied Music (Voice) One sem hour
 081 Applied Music (Woodwinds) One sem hour

***251 Functional Piano. One sem hour**
 A required course for all music majors and minors with no previous piano experience. Embraces a knowledge of keyboard skills necessary both for accompaniment of simple music and for developing musical understanding basic to all course work in music. *Majors or minors only.*

***252 Functional Piano. One sem hour**
 Continuation of 251 Functional Piano.
Prereq: 251 Functional Piano or its equivalent.

***253 Functional Piano. One sem hour**
 Continuation of 252 Functional Piano. Stresses keyboard harmony, accompaniment, sight-reading, piano literature and technique.
Prereq: 252 Functional Piano or its equivalent.

***254 Functional Piano. One sem hour**

**Any break in the continuity of Functional Piano courses will require an audition before resumption of study.*

Continuation of 253 Functional Piano. Additional accompaniment experience, keyboard harmony, improvisation, piano literature and techniques.

Prereq: 253 Functional Piano or its equivalent.

326 Conducting. Two sem hours
 Fundamentals of baton technique, score reading and interpretation of instrumental and vocal music.

Prereq: Junior standing, music major or minor.

327 Instrumental Conducting. Two sem hours
 A practical course in instrumental conducting; score preparation, baton technique, study of technical and musical problems in conducting traditional and contemporary works.

Prereq: 326 Conducting.

328 Choral Conducting. Two sem hours
 A practical course in choral conducting; baton technique, score analysis, study of technical and musical problems in conducting traditional and contemporary works.

Prereq: 326 Conducting.

Large Ensembles

131 University Choir. One sem hour
 An ensemble of advanced singers. Open to all students in the University.

Prereq: Permission of the department.

134 University Women's Chorus. One sem hour
 Open to all women students.

Prereq: Permission of the department.

135 University Men's Chorus. One sem hour
 Open to all men students.

Prereq: Permission of the department.

136 Madrigal Ensemble. One sem hour
 Chamber music for mixed voices. Open to all students.

Prereq: Permission of the department.

248 Orchestra. One sem hour
 Open to all students in the University.

Prereq: Permission of the department.

249 Band. One sem hour
 Open to all students in the University. Enrollment in 249 Band requires attendance for the entire semester. Male students electing 249 Band may also elect Physical Education 140 Marching Band for two hours activity credit.

350 Contemporary Chamber Ensemble. One sem hour
 Various mixed ensembles of soloists. Devoted to performance of twentieth-century music, especially of the last fifteen years. Compositions require performers on all instruments, solo voices, and, on occasion, electronic music. *Open to all qualified musicians.*

Prereq: Permission of the department.

351 Collegium Musicum. One sem hour
 Various ensembles of soloists—instrumental, vocal and mixed. Opportunity to perform old and new music infrequently heard. Open to all qualified students.

Prereq: Permission of the department.

448 Opera Workshop. One sem hour

449 Opera Workshop. Two sem hours

450 Opera Workshop. Three sem hours
 A laboratory-performance course which will deal with perfor-

mance of opera scenes and, when feasible, complete works. The musical, technical and dramatic aspects of production will be stressed.

Prereq: Permission of the department.

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

Prereq: Audition.

150 Marching Band (150). Two sem hours
(See Physical Education)

Small Ensembles

Small ensemble experience for instrumentalists is provided in conjunction with applied music courses beginning September 1, 1971.

These courses are available to the non-major by permission of the department.

245 Brass Ensemble. One sem hour
 Chamber music for brass. Open to all students.

Prereq: Permission of the department. Non-major only.

246 String Ensemble. One sem hour
 Chamber music for strings. Open to all students.

Prereq: Permission of the department. Non-major only.

247 Woodwind Ensemble. One sem hour
 Chamber music for woodwinds. Open to all students.

Prereq: Permission of the department. Non-major only.

PHYSICS AND ASTRONOMY

Department Head: James M. Barnes
Professors: Walter L. Gessert, Chales B. Breedlove, Adolph P. Loeber, Karl Parsons, Robert Silver
Associate Professors: Fred T. Johnson, James C. Porter, Clinton E. Thomas
Assistant Professors: Jean R. Moore, Jon K. Wooley, Richard F. Roth
Instructor: P. Daniel Trochet

PHYSICS

Research "R" Major

The research major provides the necessary background for those planning to become professional physicists. The requirements listed below insure adequate depth and breadth of subject matter and experience in both theoretical and experimental physics and in mathematics. Students successfully completing this major are prepared to enter technical positions in government or industrial research or to undertake graduate study in physics. Further work on the graduate level is highly recommended for those capable of doing it.

Required courses for the "R" major in physics (36 semester hours):

	Semester Hours
223 Mechanics, Sound and Heat	5
224 Electricity and Light	5
430 Intermediate Mechanics I	3
450 Electricity and Magnetism	4
475 Intro to Quantum Mechanics	3

Three of the following laboratory courses:	3-12
272 Modern Physics Laboratory	1
432 Mechanics Laboratory	1
442 Optics Laboratory	1
452 Electrical Measurements	4
456 Electronics for Scientists	4
471 Nuclear Physics	4
417 Undergraduate Research or	
490 Special Problems (Honors Course)	2
Electives in Physics	11-2
Total	36
Additional Requirements:	
120 Analytic Geometry and Calculus I	4
121 Analytic Geometry and Calculus II	4
220 Analytic Geometry and Calculus III	4
221 Analytic Geometry and Calculus IV	4
Two of the following five courses:	
320 Differential Equations	3
423 Elements of Functions of a Complex Variable	3
425 Mathematics for the Scientist I	3
426 Mathematics for the Scientist II	3
436 Numerical Analysis	3

See also *Additional Physics Requirements below.*

Synthesis "S" Major

The synthesis major is provided for students who plan to teach physics in a secondary school, who desire a general cultural education with an emphasis on physics, who are preparing for work in another field such as pre-medicine or pre-law or who are interested in combining physics with an allied field such as biology, chemistry, astronomy or geology or with the field of business. A maximum of six semester hours of designated astronomy courses may be included among the electives on this major.

Required courses for the "S" major in physics (30 semester hours):

	Semester Hours
223 Mechanics, Sound and Heat	5
224 Electricity and Light	5
270 Introduction to Modern Physics	3
430 Intermediate Mechanics I	3
Three of the following laboratory courses	3-12
272 Modern Physics Laboratory	1
*320 Physics Laboratory Techniques	2
432 Mechanics Laboratory	1
442 Optics Laboratory	1
452 Electrical Measurements	4
456 Electronics for Scientists	4
471 Nuclear Physics	4
Electives in Physics and Astronomy	11-2
Total	30

*Prospective teachers who are pursuing a junior-senior high school curriculum with a major in physics must take 320 Physics Laboratory Techniques.

Additional Requirements	
120 Analytic Geometry and Calculus I	4
121 Analytic Geometry and Calculus II	4
220 Analytic Geometry and Calculus III	4

See also *Additional Physics Requirements below.*

Applied Science Major (see page 34)

Minor

	Semester Hours
Required courses for a minor in physics (20 semester hours):	
223 Mechanics, Sound and Heat	5
224 Electricity and Light	5
270 Introduction to Modern Physics	3
One of the following laboratory courses:	1-4
272 Modern Physics Laboratory	1
432 Mechanics Laboratory	1
442 Optics Laboratory	1
452 Electrical Measurements	4
456 Electronics for Scientists	4
471 Nuclear Physics	4
Electives in Physics	6-3
Total	20
Additional Requirements:	
120 Analytic Geometry and Calculus I	4
121 Analytic Geometry and Calculus II	4

See also *Additional Physics Requirements below.*

Additional Physics Requirements

All students who are completing a physics major (not physical science) are required to attend Physics Seminar for at least two semesters during their junior and senior years without credit. Physics Seminar meets eight times each semester.

Students who change their curriculum to a physics major or minor after completing 221 Mechanics, Sound and Heat and 222 Electricity and Light may request the department to approve substitution of these courses for 223 Mechanics, Sound and Heat and 224 Electricity and Light. The total number of hours required for a major or minor is not reduced by this substitution. Transfer students who are majoring in physics or physical science must take a minimum of six semester hours in this department; those minoring must take a minimum of three semester hours.

Physics majors and physical science majors who are candidates for teachers' certificates will take 325 Methods of Science Teaching in addition to the requirements of the major.

Physical Science Major

Combined group major in physical science (astronomy, chemistry, mathematics, physics) with required cognate minor in astronomy, chemistry or mathematics.

This major-minor combination is provided to prepare students for teaching the physical sciences at the secondary level. Students will complete 56 hours in the four areas (60 hours if the minor is in astronomy) that are so distributed as to fulfill the minimum requirements for a 20 hour minor in chemistry or mathematics, or a 24-hour minor in astronomy. A 36-hour group major must be completed from the four areas, but no course may be counted in both major and minor areas.

The following courses must be included in the 56-60 hour program:

	Semester Hours
120 Analytic Geometry and Calculus I	4
121 Analytic Geometry and Calculus II.	4
131 General Chemistry I	4
132 General Chemistry II	3
180 Chemical Laboratory and Techniques	2
221 or 223 Mechanics, Sound and Heat	4-5
222 or 224 Electricity and Light	4-5
270 Introduction to Modern Physics	3
304 Astronomy for Science Students	4
320 Physics Laboratory Techniques for Teachers	2

One of the following laboratory courses: 1-4

272 Modern Physics Laboratory	1
432 Mechanics Laboratory	1
442 Optics Laboratory	1
452 Electrical Measurements	4
456 Electronics for Scientists	4
471 Nuclear Physics	4

Electives chosen from Physics 300 and above to complete 20 hours of Physics 6-1

Required Cognate Minor

Regular minor in chemistry, mathematics or astronomy 20-24

All electives must be approved by the adviser. See also Additional Physics Requirements above.

GENERAL SCIENCE

Combined group major in general science and required cognate minor in biology, chemistry, geography, mathematics or physics.

The student will complete a minimum of 56 semester hours in the above five areas of science, so distributed as to fulfill the minimum requirements for a 20-hour minor in one of the five areas and a 36-hour group major composed of courses from the other four areas. If planning to teach, he will take in addition an appropriate methods course. The selection of all the courses to fulfill these requirements must be approved by the head of the department in which the student proposes to minor, and no course not so approved shall be counted toward meeting these requirements for graduation.

The following required courses must be included within the 56 semester hours of this program:

	Semester Hours
*107 Trigonometry	2
*105 Higher Algebra.	3
**105 Biological Science	4
108 Earth Science	4
131 General Chemistry I	4

**Students exempted from either mathematics course will elect instead an equivalent amount of more advanced mathematics.*

***Students exempted from 105 Biological Science will take instead either 221 General Botany or 222 General Zoology.*

180 Chemistry Laboratory Techniques	2
221 Mechanics, Sound and Heat	4
222 Electricity and Light	4
223 Weather and Climate	3
224 Conservation	4
304 Introductory Astronomy for Science Students	4

The student who completes this program will be well prepared to teach general science plus his minor, and can, by careful selection of electives on the group major, meet the North Central Association minimum requirements of ten semester hours in one or more additional sciences. After graduation and provisional certification, the required election of ten additional semester hours to qualify for the permanent certificate may be used to raise the subject area minor to a major, or to develop one or more additional subject areas into certifiable minors.

Combined group minor in general science and major in biology, chemistry, geography, mathematics or physics.

The student may instead qualify for a 30-hour major in one science and a group minor in the other four science areas. In such case he shall apply the basic course in the major field to count on the major, and the group minor shall consist of the remaining required courses from the above list. This program may require the completion of as many as 60 semester hours of science, or possibly more in case of a physics major not well prepared in mathematics.

Twenty-four hours must be completed to meet North Central Association requirements (24) for teaching this minor at the junior-senior high level. The methods may be included in this total.

Courses

100 Science for Elementary Teachers. Three sem hours

This course is designed to stimulate interest in science by the use of simple and inexpensive equipment to demonstrate scientific principles. The course includes such topics as sound, light, heat, electricity and magnetism. *This course does not count towards a physics major or minor.*

Prereq: Participation in the elementary teacher education project.

110 Physical Science I. Four sem hours

This course is for those who are curious about the universe around them. Lectures and laboratory work show the value to the general student of the physical scientist's particular way of examining, describing and thinking about nature. No previous mathematics or science is required. The topics used to illustrate scientific thought and illuminate natural phenomena include: motion, mass and force, relativity, theory building, kinetic theory of heat, evidence for the existence of the atom, electromagnetic phenomena. Students in science, medicine or engineering, and those who have had high school physics, should take physics courses 221-222 or 223-224. *This course does not count toward a physics major or minor.* Four lectures and one laboratory period per week.

112 Physical Science II. Four sem hours

A continuation of 110 Physical Science. Continued exploration in lecture and laboratory of methods used by scientists in

examining and describing physical phenomena, including: waves in various media, electrical forces and currents, the electromagnetic spectrum, the photon, the electron, the atom, the atomic nucleus. The laboratory will illustrate and exemplify the phenomena and encourage exploration by allowing students to follow a special interest as a project. Four lectures and one laboratory period per week.

Prereq: 110 Physical Science. This course does not count toward a physics major or minor.

210 Musical Acoustics. Two sem hours

For students with a major interest in music. The physical bases of sound production, transmission and reception will be outlined and demonstrated. Applications to topics such as intervals, temperament, acoustics of rooms and tone production in the various types of musical instruments will be considered. *This course does not count on a physics major or minor.*

211 Elementary Physical Science. Three sem hours

Designed particularly for teachers in both early and later elementary science. A study will be made, at an elementary level, of common machines, weather, matter, energy, heat, sound, light, magnetism and electricity. Individual student activity in the working out of simple experimental projects, followed by class discussions, will constitute a major part of the course. Most of the apparatus will be made from materials available in the home or at a variety store. *This course does not count on a physics major or minor.*

221 Mechanics, Sound and Heat. Four sem hours

A basic course in college physics intended for those liberal arts students who desire an introduction to physics and for those pre-professional students who do not require a rigorous knowledge of problem solving. All students desiring physics as a major subject of study and all pre-engineers must elect 223 Mechanics, Sound and Heat. This course deals with the same laws of mechanics, sound and heat as are treated in Physics 223, but will place more emphasis on applications and somewhat less on problems. Laboratory: two consecutive hours, one day per week.

Prereq: 107 Trigonometry and 105 Higher Algebra II, or a "B" average in high school mathematics through trigonometry.

222 Electricity and Light. Four sem hours

A continuation of 221 Mechanics, Sound and Heat. A study is made of static and current electricity, of magnetism and of light. Laboratory: two consecutive hours, one day per week.

Prereq: 221 Mechanics, Sound and Heat.

223 Mechanics, Sound and Heat. Five sem hours

A basic course in college physics intended for students majoring in physical science and those on a pre-engineering curriculum. Deals with laws of mechanics, sound and heat together with their application. Laboratory: two consecutive hours, one day per week.

Prereq: 120 and 121 Calculus with Analytic Geometry I & II. (121 may be taken concurrently.)

224 Electricity and Light. Five sem hours

A continuation of 223 Mechanics, Sound and Heat. A study is made of static and current electricity, of magnetism, and of light. Laboratory: two consecutive hours, one day per week.

Prereq: 223 Mechanics, Sound and Heat.

229 Strength and Elasticity of Materials. Four sem hours

The fundamental principles of mechanics are applied to

engineering problems involving stress and strain, including tension, torsion, shear, bending deflection of beams, theory of columns and strain energy.

Prereq: 231 Statics, 223 Mechanics, Sound and Heat. This course does not count on a physics major or minor.

270 Introduction to Modern Physics. Three sem hours

An introduction to modern physics and relativity stressing the qualitative interpretation, according to the modern quantum theory, of experimental results in atomic and nuclear physics.

Prereq: 222 or 224 Electricity and Light.

272 Modern Physics Laboratory. One sem hour

A laboratory course providing experimental studies in such areas as late classical, relativistic, quantum and nuclear physics. Three hours of laboratory per week.

Prereq: 270 Introduction to Modern Physics, which may be taken concurrently.

320 Physics Laboratory Techniques. Two sem hours

Easily available or inexpensive laboratory materials will be used to provide laboratory-centered instruction in physics for prospective teachers. Laboratory: six hours per week.

Prereq: 221 Mechanics, Sound and Heat and 222 Electricity and Light, or equivalent. Open only to those pursuing teaching curriculums. Required of prospective teachers on the junior-senior high school curriculum who are physics or physical science majors.

325 Methods in Science Teaching. Two sem hours

Devoted to a study of classroom technique and methods of presentation of the subject matter of junior and senior high school science, including practice in the preparation and presentation of demonstrations illustrating scientific facts and principles. *Students majoring or minoring in any of the sciences are eligible for this course.*

390, 391 Physics Project. Two sem hours

A suitable project in physics is to be done on an individual basis. Arrangements must be made with a physics staff member before the beginning of the semester.

Prereq: Permission of the department.

417 Undergraduate Research Laboratory. Two sem hours

Laboratory work of a research nature is done under the direction of a staff member working on a research problem. One problem will extend through the semester, with a comprehensive report required. Six hours are to be spent in the laboratory each week. Arrangements must be made with the department before the beginning of the semester. *Open to seniors nearing completion of a physics major.*

Prereq: Permission of the department.

430 Intermediate Mechanics I. Three sem hours

This course is a replacement of 232 Dynamics.

The statics and dynamics of a particle, projectiles with air resistance, central forces, dynamics of a system of particles, vibrational motion and pendulums.

Prereq: 224 Electricity and Light, 121 Calculus with Analytic Geometry II.

431 Intermediate Mechanics II. Three sem hours

A continuation of 430 Intermediate Mechanics I. Mechanics of a rigid body, generalized coordinates, the Lagrangian and Hamiltonian functions, relative motion.

Prereq: 430 Intermediate Mechanics I, 220 Calculus with Analytic Geometry III.

432 Mechanics Laboratory. One sem hour

A laboratory course providing experimental studies in intermediate mechanics. Three hours of laboratory per week.

Prereq: 430 Intermediate Mechanics I.

436 Vibration and Sound. Three sem hours

Detailed studies of vibration and wave motion are made with specific emphasis on acoustic waves in air and other media. Other topics considered: reflection, refraction and interference of sound; vibrating strings and air columns; electro-acoustic transducers; architectural acoustics.

Prereq: 221 or 223 Mechanics, Sound and Heat, 222 or 224 Electricity and Light, 221 Calculus with Analytic Geometry IV.

440 Optics. Three sem hours

An intermediate course dealing with fundamentals of geometrical and physical optics. Some topics considered are: reflection, refraction, lenses and optical instruments, spectroscopes and spectra, interference, diffraction and polarization.

Prereq: 221 or 223 Mechanics, Sound and Heat, 222 or 224 Electricity and Light, 121 Calculus with Analytic Geometry II.

441 Modern Optics. Three sem hours

A course dealing with those aspects of physical and quantum optics which are essential for the quantitative description of modern optical technology such as lasers and holography. Emphasis is on physical optics. Topics covered include: application of Fourier Transform to diffraction, holography, Fresnel reflection coefficients, propagation of light in crystals, coherence and partial coherence and lasers.

Prereq: 440 Optics, 221 Calculus with Analytic Geometry IV.

442 Optics Laboratory. One sem hour

A laboratory course providing experimental studies in geometrical, physical and quantum optics. Three hours of laboratory per week.

Prereq: 440 Optics, which may be taken concurrently.

450 Electricity and Magnetism. Four sem hours

An intermediate course in the classical theory of electricity and magnetism which develops the concept of electric and magnetic fields from the historical force laws of Coulomb and Ampere and which culminates with the formulation of Maxwell's Equations. Among the topics discussed are Gauss' Law, conductors, dielectrics, magnetic susceptibility, magnetic fields of currents, Faraday's Law of Induction and electromagnetic forces.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light; 221 Calculus with Analytic Geometry IV.

452 Electrical Measurements. Four sem hours

An intermediate course in electricity. The classroom work covers the fundamental principles involved in measuring electric and magnetic quantities. In the laboratory the student acquires experience in the use of high grade electrical apparatus. The experiments include studies of galvanometers, Wheatstone bridges of various forms, potentiometers and standard cells, vacuum tubes, magnetic measurements and methods of measuring capacitance and inductance. Laboratory: four consecutive hours, one day per week.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light.

456 Electronics for Scientists. Four sem hours

Treats non-communication theory and applications of vacuum tube and semi-conductor diodes and amplifying elements and related devices. In the laboratory, tube and transistor charac-

teristics are studied together with circuits and instruments employing these elements. Laboratory: three consecutive hours, one day per week.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light.

460 Heat and Thermodynamics. Three sem hours

An intermediate course in the fundamentals of heat and thermodynamics. Topics considered are: thermal expansion, specific heat, change of state, heat transfer, elementary kinetic theory, thermodynamic laws, entropy and other thermodynamic functions.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light; 221 Calculus with Analytic Geometry IV.

462 Kinetic Theory and Statistical Mechanics.**Three sem hours**

An introduction to the kinetic theory of gases and statistical mechanics, rigorous enough to satisfy the needs of students concentrating in physics and of those contemplating advanced study in related fields of science and engineering. The principal topics are the Maxwell-Boltzman distribution law, entropy and probability, transport phenomena, quantum statistics, Bose-Einstein and Fermi-Dirac statistics, the connection between statistical mechanics and thermodynamics, the equation of state, the elementary electron theory of metals and statistical methods in nuclear physics.

Prereq: 224 Electricity and Light; 220 Calculus with Analytic Geometry III.

470 Atomic Physics. Three sem hours

Electronic charge and mass, electron dynamics and relativity, quantum theory of radiation and specific heats, x-rays and crystal structure, atomic spectra and electron distribution, complex spectra, wave mechanics, solid state physics.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light; 121 Calculus with Analytic Geometry II.

471 Nuclear Physics. Four sem hours

Radioactivity, scintillations, counters, cloud chambers, particle accelerators, transmutation of the elements, waves and particles, fission, fusion, stellar energies, nuclear reactors, cosmic rays, nuclear forces. Laboratory: two consecutive hours, one day per week.

Prereq: 221 or 223 Mechanics, Sound and Heat; 222 or 224 Electricity and Light; 121 Calculus with Analytic Geometry II.

475 Introduction to Quantum Mechanics. Three sem hours

This course will develop the fundamental ideas of the quantum theory; the dual nature of matter, wave equations and wave packets, observable and linear operators, the application of the Schroedinger and Heisenberg equations to elementary systems, Pauli's theory of electron spin.

Prereq: 224 Electricity and Light; 220 Calculus with Analytic Geometry III.

476 Solid State Physics. Three sem hours

An introduction to the principles and phenomena associated with the solid state: crystal structure, lattice waves, free electron model, band theory, properties of solids, imperfections.

Prereq: 450 Electricity and Magnetism, 475 Introduction to Quantum Mechanics.

481 Mathematical Physics. Three sem hours

Advanced mathematical topics selected for their importance for the physics student, with applications drawn from the field

of physics. Vectors, matrices, tensors, partial differential equations, contour integration, calculus of variations, integral equations and transforms, eigenvalue functions, perturbation and group theory, special functions.

Prereq: 221 Calculus with Analytic Geometry IV; 224 Electricity and Light.

490, 491 Special Problems (Honors Courses). Two sem hours

An original experimental or theoretical problem in some area of physics is to be investigated on an individual basis. Arrangments must be made with a staff member before the beginning of the semester.

Prereq: 20 semester hours of physics, a "B" average in physics and permission of the department.

495 Readings in Physics (Honors Course). One sem hour

Designed to give individual students a planned intensive reading program in some field of physics, the subject being chosen jointly by the student and the instructor. A part of this course will be the presentation of an hour-long talk in the chosen subject at an open meeting of the Physics Department staff and students.

Prereq: 20 semester hours of physics and permission of the department.

ASTRONOMY

Astronomy Group Minor (24 semester hours)

This minor is designed to give the interested student a basic knowledge of astronomy and related fields. It is recommended that students wishing to undertake graduate work in astronomy complete an "R" major in physics with a minor in either mathematics or astronomy. Electives used to fulfill the astronomy minor cannot be used to complete any other major or minor.

	Semester Hours
Required courses	24
304 Introductory Astronomy for Science Students	4
402 Advanced General Astronomy	3
403 Practical Astronomy	4
Electives approved by the Department of Physics and Astronomy in physics, astronomy, mathematics (above 200) or chemistry	13

Non-physics majors must include 223 Mechanics, Sound and Heat and 224 Electricity and Light among these electives.

Courses

303 Introduction to Astronomy. Three sem hours

An astronomy course for students of any curriculum. The purpose of the course is to acquaint the student with the general field of astronomy. Topics discussed include the history of astronomy, the solar system, nebulae, stars and stellar systems. Evening observations with telescopes and a study of constellations are an integral part of this course. *This course does not count on a physics major or minor.*

304 Introductory Astronomy for Science Students. Four sem hours

The aim of this course is to acquaint the student with the science of astronomy. Special attention is given to techniques

and related sciences used by astronomers. Evening laboratory sessions involving telescopic and naked eye observations are an important part of this course. Not open to students with credit in 303 Introduction to Astronomy. *This course may count on an "S" physics major.*

401 Celestial Mechanics. Two sem hours

A course designed for science and mathematics majors treating the kinematics and dynamics of bodies in geocentric, heiocentric and astrocentric orbit. Special attention is given to the two body problems and some consideration is given to the problem of perturbation. *Course may count on an "S" physics major.*

Prereq: 304 Introductory Astronomy for Science Students, 223 Mechanics, Sound and Heat.

402 Advanced General Astronomy. Three sem hours

A course for science and mathematics majors treating in a more rigorous fashion topics introduced in 304 Astronomy. Some topics considered are: the two body problem, binary stars, the determination of stellar distances, proper motions and masses, astronomical spectroscopy, solar physics. *This course may count on an "S" physics major.*

Prereq: 304 Introductory Astronomy for Science Students, 221 Mechanics, Sound and Heat; plus 120 and 121 Calculus with Analytic Geometry I and II or 223 Mechanics, Sound and Heat.

403 Practical Astronomy. Four sem hours

A course for science and mathematics majors treating such problems as: the analysis of observational data, determination of time and position on the earth. Astronomical observations with telescopes, sextants and the EMU meridian circle are an integral part of this course. *This course may count on an "S" major in physics.* Laboratory: three hours per week.

Prereq: 304 Introductory Astronomy for Science Students, 120 and 121 Calculus with Analytic Geometry I and II.

408, 409 Astronomy Project. Two sem hours

A project in some area of astronomy is to be done on an individual basis. Arrangements must be made with an appropriate staff member before the beginning of the semester. Laboratory: six hours per week.

Prereq: 304 Astronomy or permission of the department.

POLITICAL SCIENCE

Department Head: James S. Magee
Professors: Robert O. McWilliams, Samuel R. Solomon
Associate Professors: Benjamin T. Hourani, Barnabas A. Racz, Leonas Sabaliunas, Hisham Sabki
Assistant Professors: Thomas L. Brewer, Robert C. Grady, David W. Hortin, James D. Johnson, Marjorie J. Lansing, Karen E. Lindenberg, Charles M. Monsma, James W. Pfister, Jong H. Yoo
Instructor: Casimir A. Bobinski

Major (30 semester hours)

	Semester Hours
Required courses:	30
112 American Government	3
202 State and Local Government	3

210 Comparative Political Analysis or	
211 European Political Systems	3
358 Political Parties and Pressure Groups or	
359 Public Opinion and Propaganda	3
417 Political Theories	3
Electives, including at least one additional course from each of the four fields listed below in the note	15

Minor (20 semester hours)

	Semester Hours
Required Courses	20
112 American Government	3
202 State and Local Government	3
Electives, including at least one additional course each from three of the four fields listed below in the note	14

Note: Courses in political science are divided into four subject-matter fields as follows:

American National Government and Politics—112, 312, 313, 358, 359, 364.

American State and Local Government—202, 216, 270

International Relations and Comparative Government—210, 211, 271, 341, 354, 361, 362, 367, 371, 372, 373, 374, 377, 441

Political Theory and Methodology—310, 417, 418, 422

COURSES

112 American Government. Three sem hours
A study of the forms and functions of American government on all levels: national, state and local. National government receives special emphasis, but comparisons between the levels of government are made throughout the course. *Satisfies the political science requirement of all curriculums.*

202 State and Local Government. Three sem hours
A study of the forms and functions of state and local government with special emphasis on the government of Michigan. Especially valuable for teachers of social studies in senior and junior high schools. *Satisfies the political science requirement of all curriculums. Not open to freshmen.*

210 Comparative Political Analysis. Three sem hours
An introduction to the basic concepts and analytical approaches utilized in the comparative study of politics and political systems.
Prereq: 112 American Government.

211 European Political Systems. Three sem hours
A comparative survey of the political systems of Great Britain, France, Italy, Germany and the Soviet Union.
Prereq: 112 American Government or 202 State and Local Government.

216 Municipal Government. Three sem hours
A study of the forms and functions of municipal government.
Prereq: 112 American Government or 202 State and Local Government.

270 Introduction to Public Administration. Three sem hours
The nature of public administration; problems connected therewith—direction and organization; recruitment, training

and promotion of personnel; maintenance of loyalty and efficiency.

Prereq: 112 American Government or 202 State and Local Government.

271 Introduction to World Politics. Three sem hours
The fundamentals of great power politics together with the impact of efforts at international organization.

Prereq: 112 American Government or 202 State and Local Government.

310 Scope and Methods of Political Science. Three sem hours

The course is designed to acquaint the student with philosophical and methodological problems and analytic techniques in the study of politics. Each student is expected to gain competence in formulating and executing research projects.

Prereq: 112 American Government or 202 State and Local Government.

312 American Constitutional Law I. Three sem hours

313 American Constitutional Law II. Three sem hours

Although these courses are designed to provide a two-semester study of the judicial process and judicial opinions, each course may be elected independently. The environment of judicial decision-making will be ascertained through an investigation of the politics, procedures and personalities of the Supreme Court. The impact of the court upon the development and operation of the American system of government will be assessed through an examination of leading court decisions.

Prereq: 112 American Government or 202 State and Local Government.

341 International Law. Three sem hours

An introduction to the principles and practices of Public International Law. The origin and development, the nature and sources of International Law. Special emphasis will be placed upon the legal problems of peace and war and the future perspectives of International Law in the relations of nations.

Prereq: 112 American Government or 202 State and Local Government.

354 Government and Politics of Canada. Three sem hours

Analysis of the Canadian political system in terms of historical background, political environment, constitutional structure, legislative, executive and judicial processes, political parties and pressure groups, public opinion and voting behavior, political problems and trends.

Prereq: 112 American Government.

358 Political Parties and Pressure Groups. Three sem hours

The formal and informal organization, operation and function of American political parties, minor parties, political leadership. The structure techniques and role of pressure groups in American society.

Prereq: 112 American Government.

359 Public Opinion and Propaganda. Three sem hours

The nature, formation, measurement and role of public opinion; the structure of control and the performance of the mass media; the nature of techniques, strategies and effects of propaganda.

Prereq: 112 American Government.

361 Government and Politics of the U.S.S.R. Three sem hours

A study of Soviet political institutions including constitutional

developments, structure and operation of the government. Emphasis will be placed on the role of the Communist Party.
Prereq: 112 *American Government* or 202 *State and Local Government*.

362 Foreign Relations of the Soviet Union. Three sem hours
A study of Soviet foreign policy, methods and some related problems from 1917 to the present. Particular emphasis will be given to the Sino-Soviet rift and its implications.
Prereq: 112 *American Government* or 202 *State and Local Government*.

364 The Legislative Process. Three sem hours
A study of the agencies, procedures and influences in the formation of public policy by Congress, state legislatures and administrative agencies.
Prereq: 112 *American Government*.

367 Contemporary Political Systems of Latin America. Three sem hours
A study of the governmental structure and the nature of political activity in selected Latin American nations, with an emphasis on issues such as urbanization, military influence, students and labor in politics and the development of political parties.
Prereq: 210 *Comparative Political Analysis* or permission of the department.

371 Government and Politics of the Middle East. Three sem hours
The Middle East as a case study in the field of comparative politics, European colonial policies, nationalist movements and politics of independent states.
Prereq: 211 *European Political Systems* or permission of the department.

372 Government and Politics of Sub-Sahara Africa. Three sem hours
Africa as a case study in the field of comparative politics, tribal political systems, European colonial policies, nationalist movements, multi-racial conflict and politics of independent states in Sub-Sahara Africa.
Prereq: 211 *European Political Systems* or permission of the department.

373 Governments and Politics of South and Southeast Asia. Three sem hours
An introduction to the political systems of India, Pakistan, Burma, Thailand, Vietnam, Indonesia and the Philippines. Emphasis will be given to the connection between society and politics and to national and regional development.
Prereq: 112 *American Government*.

374 Political Systems of the Far East. Three sem hours
A study of the political systems of selected Far Eastern states, including Japan, China and Korea.
Prereq: 210 *Comparative Political Analysis* or permission of the department.

377 American Foreign Policy Process. Three sem hours
An introduction to the formulation and execution of American foreign policy, including consideration of the role of public opinion, the press, interest groups, Congress, the President, deterrence theory and decision-making in crisis situations.
Prereq: 112 *American Government*.

417 Political Theories. Three sem hours
A study of political philosophy from ancient times to the middle of the nineteenth century. *Open to juniors and seniors only.*
Prereq: 112 *American Government* or 202 *State and Local Government*.

418 Recent Political Theory. Three sem hours
A comparative study of the so-called "isms"—capitalism, socialism, communism and fascism. Their political aspects and their impact upon democracy will receive special emphasis. *Open to juniors and seniors only.*
Prereq: 112 *American Government* or 202 *State and Local Government*.

422 American Political Theory. Three sem hours
A concise survey of American political thought. The origins, growth and present state of American political ideologies will be examined.
Prereq: 112 *American Government* or 202 *State and Local Government*.

441 International Organization. Three sem hours
The structure and functions of international organizations. Collective security, disarmament and the pacific settlement of disputes will be examined. The League of Nations and the United Nations will be emphasized.
Prereq: 112 *American Government* or 202 *State and Local Government*.

497 Individual Studies in Political Science. One sem hour
498 Individual Studies in Political Science. Two sem hours
499 Individual Studies in Political Science.

Three sem hours
Advanced study on an individual basis in areas in which the department does not offer formal courses. *Normally this course is restricted to political science majors.*
Prereq: Senior standing and permission of the department.

PSYCHOLOGY

Department Head: Samuel Karson

Professors: Robert L. Anderson, Francis M. Canter, Monroe P. Friedman, Valmore R. Goines, Donald E. Jackson

Associate Professors: Stuart A. Karabenick, Murray Meisels, Jerry W. O'Dell, Kenneth B. Pool, Ferdinand Stern, Zakhour I. Youssef

Assistant Professors: Michael D. Beecher, Dennis J. Delprato, Barry A. Fish, Judith E. Gallatin, Peter A. Holmes, John Knapp, Richard R. Knight, Richard M. Lerner, Joan M. Marshall, Henry Orloff, Robert E. Rosenwein, Anne C. Weinstock

Semester Hours

Required courses:

101 or 102 General Psychology	3-4
205 Quantitative Methods in Psychology	3
301 Experimental Psychology	4
453 History and Systems of Psychology	3

Restricted electives of one each from the following groups: 12

Group A—Adjustment and Personality	
207 Psychology of Adjustment	3
360 Abnormal Psychology	3
451 Dynamics of Personality	3

Group B—Biological	
357 Sensation and Perception	3
457 Physiological Psychology	3
458 Comparative Psychology	3
Group C—Modification of Behavior	
304 Learning	3
356 Motivation	3
Group D—Developmental	
321 Child Psychology	3
322 Psychology of Adolescence	3
Electives by advisement	5-4

Minor (20 semester hours)

	Semester Hours
101 or 102 General Psychology	3-4
Electives in psychology	17-16
(as approved by psychology adviser)	

COURSES**101 General Psychology. Three sem hours**
(formerly 201)

Introduction to methods, principles and theories evolving from the scientific analysis of behavior. *Not open to students who have credit in 102 General Psychology.*

102 General Psychology. Four sem hours

Introduction to methods, principles and theories evolving from the scientific analysis of behavior. Laboratory demonstrations and experiments illustrating selected concepts. *Not open to students who have credit in 101 General Psychology.* Lecture: three hours per week. Laboratory: two hours per week.

205 Quantitative Methods in Psychology. Three sem hours

An introduction to the basic concepts and methods used in the analysis of psychological data. Methods of describing groups of data and of determining individuals' positions in groups will be studied, as will means of determining relationships and differences between groups.

Prereq: 101 or 102 General Psychology, and 104 Higher Algebra I, or equivalent.

207 Psychology of Adjustment. Three sem hours

Systematic presentation of issues, concepts, principles and theories in the study of human adjustment.

Prereq: 101 or 102 General Psychology.

301 Introductory Experimental Psychology. Four sem hours

Design, control and measurement techniques employed in the scientific investigation of behavior: e.g. motivation, emotion, perception and learning. Lecture and laboratory.

Prereq: 205 Quantitative Methods in Psychology.

304 Learning. Three sem hours

An examination of research and theories of learning as developed by Thorndike, Guthrie, Tolman, Hull, Skinner, Mowrer and others, plus selected contemporary topics.

Prereq: 301 Introductory Experimental Psychology.

308 Social Psychology. Three sem hours

An introductory study of the order and regularity underlying processes of human interaction. Motives and attitudes, social norms and roles, the socialization process, personality and

group membership are discussed. The effect of group membership upon individual behavior is stressed.

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

321 Child Psychology. Three sem hours

The development of human behavior from conception to adolescence. Analysis of developmental processes involved in cognition, socialization, emotion and personality, relying on research and theory. Emphasis is on developmental trends. *Not open to students on early elementary curriculum.*

Prereq: 101 or 102 General Psychology.

322 Psychology of Adolescence. Three sem hours

Provides the student an opportunity to formulate, examine and understand a comprehensive, balanced picture of the physical, mental, emotional, social and ideological developments and adjustments during adolescence.

Prereq: 101 or 102 General Psychology.

330 The Psychology of Contemporary Issues. Three sem hours

The application of psychological principles and methodology to selected contemporary world problems such as arms control, disarmament and cybernation.

Prereq: 101 or 102 General Psychology.

340 Psychological Perspectives on Prejudice and Discrimination. Three sem hours

The study of the psychological processes underlying the phenomena of prejudice and discrimination. Primary attention will be given to a review of materials on personality and development as this is relevant to the practice of discrimination and to the experience of prejudice on the part of both minority and majority group individuals.

Prereq: 101 or 102 General Psychology and sophomore standing.

351 Industrial Psychology. Three sem hours

Applications of psychological methods and principles to industrial problems.

Prereq: 101 or 102 General Psychology and junior or senior standing.

352 Psychology Testing and Evaluation. Three sem hours

Principles and theory of psychological testing. Introduction to evaluation, administration and interpretation of group and individual tests used in diagnosis and prognosis.

Prereq: 101 or 102 General Psychology and junior or senior standing.

356 Motivation. Three sem hours

Review and analysis of research and theory on the determinants of the direction, persistence and vigor of behavior.

Prereq: 301 Introductory Experimental Psychology.

357 Sensation and Perception. Three sem hours

Analysis of the dimensions of sensory experience and their integration into percepts, including an examination of theories of perception.

Prereq: 301 Introductory Experimental Psychology.

360 Abnormal Psychology. Three sem hours

Modern theories of the origin of mental disorders and personality disturbances, nature and mechanism of the various

forms of abnormal behavior, prevention and treatment, social significance of aberrations.

Prereq: 101 or 102 General Psychology and junior or senior standing.

370 Psychology In The Field Setting. Two sem hours
Supervised work in field settings which provide opportunities for experiences relevant to the field of psychology, with focus on the integration of psychological materials and methods with supervised work experiences. One hour lecture and four hours field work per week.

Prereq: 101 General Psychology, sophomore standing, concurrent enrollment in any clinical, developmental, personality or social course in the department, and permission of the department.

381 Individual Reading in Psychology. One sem hour
Supervised reading of psychological literature.

Prereq: 101 or 102 General Psychology and prior departmental approval of a planned reading program.

382 Individual Reading in Psychology. Two sem hours
Supervised reading on psychological problems.

Prereq: 101 or 102 General Psychology and prior departmental approval of a planned reading program.

383 Individual Reading in Psychology. Three sem hours
Supervised reading on psychological problems.

Prereq: 101 or 102 General Psychology and prior departmental approval of a planned reading program.

391 Individual Research in Psychology. One sem hour
Supervised investigation of psychological problems.

Prereq: 205 Quantitative Methods in Psychology and permission of the department.

392 Individual Research in Psychology. Two sem hours
Supervised investigation of psychological problems.

Prereq: 205 Quantitative Methods in Psychology and permission of the department.

393 Individual Research in Psychology. Three sem hours
Supervised investigation of psychological problems.

Prereq: 205 Quantitative Methods in Psychology and permission of the department.

448 Seminar in Psychology. Two sem hours
Provides an opportunity to synthesize various approaches to the study of psychology. Opportunities are afforded for development, presentation and critical appraisal of individual projects designed by the students. *Open to students in their senior year majoring or minoring in psychology.*

450 Psychology of Individual Differences. Two sem hours
Analysis of research on variability between individuals and groups as per intelligence, aptitudes, achievement, motivation, perception and attitudes.

Prereq: 101 or 102 General Psychology.

451 Dynamics of Personality. Three sem hours
Integration of the physiological, psychological and cultural determinants of human personality and analysis of selected theories of human personality.

Prereq: Six hours in psychology and junior or senior standing.

453 History and Systems of Psychology. Three sem hours
Historical development of modern psychological theories, with emphasis on contemporary systems, including functionalism, behaviorism, phenomenology, psychoanalysis and dynamic

psychologies.

Prereq: Twelve hours of psychology and senior standing.

457 Physiological Psychology. Three sem hours
Analysis of the relationships between physiological processes and behavior. *Open to junior and senior science majors with permission of the department.*

Prereq: 301 Introductory Experimental Psychology, and 105 Biological Science or 222 General Zoology.

458 Comparative Psychology. Three sem hours
An exploration of modern solutions to the innate versus learned behavior controversy and an examination of species differences with respect to behavior and behavioral capacities.

Prereq: 301 Introductory Experimental Psychology.

SOCIOLOGY

Department Head: Edward Green

Professor: S. Joseph Fauman

Associate Professors: Werner J. Einstadter, Lawrence K. Kersten, Leroy W. Watts

Assistant Professors: Patrick C. Easto, Allen S. Ehrlich, Patricia R. Ferman, Fred T. Gibilisco, Gordon E. Moss, Mady W. Segal, David Stupple, Nancy N. Thalhofer, Patricia K. Townsend, Bruce L. Warren, Ira M. Wasserman

The program in sociology advances the goals of liberal education and provides majors with a foundation for graduate study, professional education in social work or teaching sociology in secondary school. The social welfare curriculum outlined on page 40 offers pre-professional education in social work and preparation for careers in fields of social service.

Major in Sociology (30 semester hours)

	Semester Hours
Required Courses	30
105 Introductory Sociology	3
135 Cultural Anthropology	3
250 Elementary Social Statistics	3
308 Social Psychology	3
403 Modern Sociological Theory	3
404 Methods in Social Research	3
405 Social Theory and Social Structure	3
One of the following	3
306 Urban Community	
307 Industrial Sociology	
310 Social Stratification	
362 Social Organization	
Electives	6

May be taken in sociology, anthropology or social work. (Any courses in social work or anthropology to be counted toward elective credit for the sociology major must be at the 300 level or above.)

Minor in Sociology (20 semester hours)

	Semester Hours
Required Courses	20
105 Introductory Sociology	3
135 Cultural Anthropology	3
306 The Urban Community	3
308 Social Psychology	3
Electives	8

SOCIOLOGY COURSES

- 105 Introductory Sociology.** **Three sem hours**
A number of basic sociological concepts are used to analyze selected aspects of American society in intergroup relations, rural and urban communities, social classes and in family, educational, religious, governmental and economic institutions.
- 202 Social Problems.** **Three sem hours**
A sociological analysis of problems arising in contemporary American society in connection with the organization of social behavior in selected areas of social life, such as child rearing, relations between the sexes, crime and delinquency, relations between racial and cultural sub-groups and personality disorders.
Prereq: 105 Introductory Sociology.
- 203 Sociology of Childhood and Youth.** **Two sem hours**
A study of the normal child and youth as social beings, and the common factors of everyday life affecting the integration of personality. Textbooks, lectures, discussion, reports.
Prereq: 105 Introductory Sociology.
- 204 Marriage and Family.** **Three sem hours**
Provides information pertinent to the position and significance of the family in our changing society. Information drawn from sociology, social psychology and psychology is applied to courtship and mate selection, as well as to problems of marital adjustment.
Prereq: 105 Introductory Sociology.
- 206 Criminology.** **Three sem hours**
An examination of the types of crime and theories of criminal causation and prevention. Attention is given to functioning of police and court systems and to problems of penology, including parole.
Prereq: 105 Introductory Sociology.
- 214 Racial and Cultural Minorities.** **Three sem hours**
Racial and cultural minorities in the modern world with particular references to the Negro and to European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems.
Prereq: 105 Introductory Sociology.
- 240 Concepts of Sociology.** **Three sem hours**
A scientific analysis of human behavior in the following areas: distribution and change of population, cross-cultural study of societies and communities, measurement of class behavior, social basis of personality, theory of deviant behavior, communication in small groups, mass communication and public opinion and social change.
Prereq: 105 Introductory Sociology.
- 250 Elementary Social Statistics.** **Three sem hours**
In this course the student will be trained to analyze social data. He will be introduced to the nature of empirical data, the organization of univariate data, measures of central tendency, measures of dispersion, the nature of correlation, regression in the two variable case, tests of significance and the general character of statistical inference.
Prereq: 105 Introductory Sociology, high school algebra or equivalent.
- 306 The Urban Community.** **Three sem hours**
Ecological and social organization of urban life. Special emphasis upon the metropolitan trend in the United States and the social problems created by it.
Prereq: 105 Introductory Sociology.
- 307 Industrial Sociology.** **Three sem hours**
The social structure of the workplace, the work experience of the participants and the relation of both to the community and to society. Particular attention is given to the formal structure of large-scale organizations and the operation of small groups within them.
Prereq: 105 Introductory Sociology.
- 308 Social Psychology.** **Three sem hours**
An introductory study of the order and regularity underlying processes of human interaction. Motives and attitudes, social norms and roles, the socialization process, personality and group membership are discussed. The effect of group membership upon individual behavior is stressed.
Prereq: 105 Introductory Sociology and 101 General Psychology.
- 309 Culture and Personality.** **Three sem hours**
An analysis of the manner in which group and cultural factors influence the growth and change of personality. Some attention is given to the impact of personality types on group life.
Prereq: 105 Introductory Sociology or 135 Cultural Anthropology and 101 General Psychology.
- 310 Social Stratification.** **Three sem hours**
Analysis of the forms and conditions of social inequality. Consideration of the classical and modern theories of class structure and dynamics and their relevance to existing societies. The influence of stratification on the structure and function of groups in a society is studied.
Prereq: Two courses in sociology.
- 311 Social Gerontology.** **Three sem hours**
Analysis of the demographic and socio-cultural factors in aging, the aging individual as a person, older people as groups and aggregates within the culture and structure of a changing society, the manner in which society attempts to meet the needs of aging people and the aged.
Prereq: 105 Introductory Sociology.
- 312 Medical Sociology.** **Three sem hours**
The examination of social behavior and social organization as factors in disease distribution. The sociological analysis of medical care, organization and practitioners.
Prereq: 105 Introductory Sociology and sophomore standing.
- 320 Sociology of Religion.** **Three sem hours**
A sociological analysis of religious organizations and the institution of religion. Emphasis is upon the interaction between religious organizations and other institutions and associations. The role of religion in social movements and social change is stressed.
Prereq: 105 Introductory Sociology or 135 Cultural Anthropology.
- 334 Population.** **Three sem hours**
Population size and composition and their dynamics as basic social science data. Vital phenomena and migration. The relationship between human numbers and resources and its

politico-economic implications. Population theories and policies of population control.

Prereq: 105 *Introductory Sociology* or permission of the department.

354 Juvenile Delinquency. Three sem hours
(See Education)

362 Social Organization. Three sem hours
The study of selected areas of social organization, including social classes, bureaucracy, the professions and social movements. Theories and empirical studies of stratification, power and decision-making will be considered.

Prereq: 105 *Introductory Sociology*.

402 Group Dynamics. Two sem hours
A study of the structure and interaction processes of small groups. Cohesiveness, group standards, conformity and deviance, leadership, group emotion, communication, group roles and sociometrics are discussed. Particular emphasis is given to classroom application.

Prereq: 105 *Introductory Sociology* or 101 *General Psychology*.

403 Modern Sociological Theory. Three sem hours
The rise and development of sociological thought from Comte to the present. The works of various European and American schools are analyzed and critically appraised in terms of their value in empirical research.

Prereq: Three courses in sociology and junior standing.

404 Methods in Sociological Research. Three sem hours
An examination of the methods currently employed in sociological research as well as a review of the many types of application now being made. Laboratory work includes participation in the conduct of a survey.

Prereq: Three courses in sociology and junior standing.

405 Social Theory and Social Structure. Three sem hours
A seminar in which selected monographic materials on modern societies and societies in process of modernization will serve as a medium for a synthesis of the field of sociology.

Prereq: Three courses in sociology at the 300 level or above and senior standing.

448 Collective Dynamics. Three sem hours
A study of spontaneous, transitory and volatile collective behavior, as contrasted with the relatively stable, institutionalized patterns of interaction. Includes analysis of rumor transmission, crowd behavior, mass behavior and the emergence of organized social movements.

Prereq: Twelve hours of sociology.

450 The Family. Three sem hours
Study of the family as a basic social institution. Examination of various types of family systems throughout the world with special emphasis on the American family.

Prereq: Junior standing and either 105 *Introductory Sociology* or 135 *Cultural Anthropology*.

451 The Sociology of Occupations and Professions. Three sem hours

Social significance of work. Stressing the process of professionalization, career selection and colleague and client relationships. Social organization of occupational groups.

Prereq: Twelve hours in sociology.

497, 498, 499 Independent Study.

One, two and three sem hours each
Independent study, under the supervision of a department member, in areas for which the department does not offer a course. Normally such work is restricted to advanced proficient students.

Prereq: Permission of the department.

Minor in Anthropology (20 semester hours) (This is a non-teaching minor)

	Semester Hours
Required Courses	20
135 Cultural Anthropology	3
One anthropology course at the 200 level	3
Electives	14

(In addition to courses in anthropology, a student may choose the following as part of his electives: one sociology course at the 200 level or above, Biology 306 Physical Anthropology, or BIO 511 Physical Anthropology, English 320 Introduction to Linguistic Science.)

ANTHROPOLOGY COURSES

135 Cultural Anthropology. Three sem hours
Technology, social structure, political institutions, warfare, kinship and the family, religion and magic, art, recreation and education in the cultures of non-literate peoples. Cultural dynamics, applied anthropology.

236 Peoples of Africa. Three sem hours
A study of the social and cultural legacy of pre-colonial Black Africa and its transformation and diffusion in the modern world. Includes a survey of major ethnic groupings, social institutions—the family economy, religion, education and political structures, the impact of Islam and the West; emergent nationalism, current problems in African politics and social life, the dialogue between Black America and Black Africa.

Prereq: 135 *Cultural Anthropology*.

237 Indians of North America. Three sem hours
A regional, historical and topical survey of Aboriginal North American cultures.

Prereq: 135 *Cultural Anthropology* or permission of the department.

238, 239, 241 Ethnographic Survey. Three sem hours each time
An ethnographic survey of major culture areas of the world—e.g. the Pacific, Latin America, etc. Each semester it is taught one cultural area will be covered. Students may elect the course several times as long as different cultural areas are studied.

Prereq: 135 *Cultural Anthropology*.

248 Peoples and Cultures of the Pacific. Three sem hours
A regional, historical and topical survey of aboriginal Pacific cultures.

Prereq: 135 *Cultural Anthropology*.

249 Peoples and Cultures of the Caribbean. Three sem hours
A regional, historical and topical survey of Caribbean cultures.

Prereq: 135 *Cultural Anthropology*.

309 Culture and Personality. Three sem hours

An analysis of the manner in which group and cultural factors influence the growth and change of personality. Some attention is given to the impact of personality types on group life.

Prereq: 105 Introductory Sociology or 135 Cultural Anthropology and 101 General Psychology.

335 Anthropology and Non-Primitive Societies.**Three sem hours**

An analysis of the studies and problems which anthropology has investigated in non-primitive societies. Topics to be covered will include problems of analysis in complex societies, national character, folk-urban continuum, peasants and colonialism.

Prereq: 135 Cultural Anthropology or equivalent and sophomore standing.

336 Social and Cultural Change. Three sem hours

A survey of the theories and problems of change in primitive and advanced societies.

Prereq: 135 Cultural Anthropology or equivalent and sophomore standing.

337 Social Anthropology. Three sem hours

Comparative analysis of the structure and function of primitive societies with an emphasis upon systems of kinship.

Prereq: Three courses in anthropology and junior standing.

338 Anthropology of Religion. Three sem hours

The anthropological study of religious belief and ritual in primitive and peasant societies.

Prereq: 135 Cultural Anthropology and sophomore standing.

339 Economic Anthropology. Three sem hours

The comparative study of social mechanisms by which primitive societies are organized to provision themselves at various levels of socio-political organizations.

Prereq: 135 Cultural Anthropology and sophomore standing.

340 Language and Culture. Three sem hours

A study of the relation of language to social behavior and modes of thought in unilingual and multilingual speech communities.

Prereq: 135 Cultural Anthropology and sophomore standing. English 320 Introduction to Linguistic Science suggested.

435 Cultural Ecology. Three sem hours

A comparative study of the patterns and processes of adaptation in primitive societies at various levels of socio-political organization.

Prereq: Three courses in anthropology and junior standing.

439 Anthropological Theory. Three sem hours

The study of various theoretical approaches within the field of cultural anthropology. The theoretical perspectives of a number of European and American schools will be discussed from analytical and historical view-points.

Prereq: Three courses in anthropology and junior standing.

440 Individual Reading and Research in Anthropology.**Two sem hours**

Directed reading and research on problems within the field of anthropology.

Prereq: 135 Cultural Anthropology and permission of the instructor.

441 Seminar in Anthropology. Three sem hours

An intensive study of a problem of current research interest in anthropology. The topic will vary from semester to semester.

Prereq: Four courses in anthropology and permission of the instructor.

SOCIAL WORK COURSES

212 Social Welfare. Three sem hours

The historical and analytical study of American welfare services as related to the economic, political and socio-cultural conditions and prevailing ideologies in significant periods of their development.

Prereq: Sophomore standing.

213 Field Observation. Two sem hours

An introduction to the various settings in which social welfare is practiced, the programs of social agencies and social welfare services. The student is familiarized with the social agencies and their operation through observational experiences and a weekly two hour seminar.

Prereq: Sophomore standing. Must be taken concurrently with 212 Social Welfare.

314 Social Work I. Three sem hours

A study of the professional criteria of social work, the role, significance and place of the social work profession in modern society and an analysis of the culture of social work in terms of its ideologies, social values, norms, occupational roles and symbols with relationship to other helping professions.

Prereq: 212 Social Welfare, 213 Field Observation and junior standing.

315 Social Work II. Three sem hours

A continuation of 314. This course is designed to incorporate the student's previous knowledge of social welfare, the humanities and social sciences in understanding the need for social work services, the function and components of social work, its methods and the settings within which it is practiced.

Prereq: 314 Social Work I and junior standing. Must be taken concurrently with 317 Community Service Experience.

317 Community Service Experience. Two sem hours

Students are assigned to community organizations approved by the instructor for a period of eight hours per week. This will give the students an awareness and an appreciation of human need. It will introduce them to the various kinds of community social service programs and give them first hand exposure to the organizational structures they will be a part of in the advanced 410-411 Field Experience placements. A two-hour weekly seminar is part of this course. *To be taken concurrently with 315.*

408 Social Work III. Three sem hours

This course is designed to give the student an introduction to the social work techniques of interpersonal intervention—case work, group work, community organization and aspects of social treatment.

Prereq: 212 Social Welfare, 213 Field Observation, 314 Social Work I, 315 Social Work II, 317 Community Service Experience. Must be taken concurrently with 410 Field Experience.

409 Social Work IV. Three sem hours

A continuation of 408 Social Work III.

Prereq: 408 Social Work III. Must be taken concurrently with 411 Field Experience.

410 Field Experience I. Two sem hours

The students are assigned to a specific agency for the semester for a period of four to eight hours weekly. The agency, in agreement with the school, provides learning experiences and supervision that are appropriate to the objectives of the undergraduate program and to the level of the student's knowledge

and capacity. A weekly two hour seminar relating field learning to classroom content is an integral part of this course.

Prereq: 212 *Social Welfare*, 213 *Field Observation*, 314 *Social Work I*, 315 *Social Work II*, 317 *Community Service Experience*. Senior. 408 *Social Work III* must be taken concurrently.

411 Field Experience II. Two sem hours
A continuation of 410 *Field Experience*. Must be taken concurrently with 409 *Social Work IV*.

SPEECH AND DRAMATIC ARTS

Department Head: Thomas J. Murray

Professors: George P. Bird, James W. Gousseff, Thomas J. Murray, John W. Sattler, Parker R. Zellers

Associate Professors: Harry W. Bowen, Gail W. Compton, Alvin S. Kaufman, Virginia G. Koste, Mitchell R. McEly, Annette Martin, William V. Swisher

Assistant Professors: Gary L. Evans, Sally R. McCracken, Thelma L. McDaniel, Willie B. Morgan, Dennis A. Parker, Arthur J. Yahrmatter

Instructors: Dennis M. Beagen, H. Greydon Hyde, George McCloud, Joseph Misiewicz, Kenneth Paulin, Elma Schmidt

SPEECH MAJOR AND SPEECH MINOR

(For those on either the teaching or non-teaching curriculum)

I. Summary of Credit Requirements for Major and Minor

	MAJOR	MINOR
A. Total Credit Requirements	30 hours	20 hours
B. Distribution of Credit Requirements		
1. Foundation Courses	5-6 hours	5-6 hours
2. Application Courses	9 hours	6 hours
3. Theory Courses	9 hours	3 hours
4. Electives	5-6 hours	5-6 hours

Semester Hours

II. Program Study

A. Foundation Courses	
1. 121 Fundamentals of Speech	2
2. 124 Fundamentals of Speech	3
3. 224 Advanced Public Speaking	3
4. 227 Introduction to Speech Theory	3
B. Application Courses	
1. 166-466 Forensics	1
2. 321 Parliamentary Procedure	2
3. 350 Persuasive Speaking	3
4. 356 Argumentation and Debate	3
5. 359 Discussion and Conference	3
C. Theory and Research Courses	
1. 440 Survey of Public Address	3
2. 460 Theory of Speech Criticism	
3. 475 Practicum in Speech Communication Behavior	3
4. 485 Theories of Speech Communication	3
D. Elective Courses	

Electives may be chosen from courses in the Department of Speech and Dramatic Arts

III. Optional Concentration in Broadcasting or Interpretative Reading

With department permission, ten (10) hours of course work in broadcasting or interpretative reading may be substituted to fulfill the credit requirement for the major or minor in speech.

A. Interpretation Concentration

132: One of the following: 203, 310, 314; 324 and either 411 or 414 and one activity hour in interpretative reading

B. Broadcasting Concentration

140; Two of the following: 240, 331, 332, 344; and either 431 or 432 or 446

Dramatic Arts Major (30 semester hours)

Required Courses	Semester Hours
100 Introduction to Theatre	3
135 Play Production	3
234 Stagecraft	3
One of the following	3
242 Fundamentals of Acting	
370 Scene Design	
335 Play Direction	3
406 History of the Theatre	3
499 Seminar in Theatre	2
167, 267 Theatre Practice	2
Electives	8

Electives may be chosen from courses in dramatic arts (excepting 100, 133, 501, 502 and 503) and the following: ENGLISH 210 Shakespeare, 240 Great Drama, 305 Shakespearean Comedy, 340 English Drama 1558-1642, 341 English Drama 1660-1779, 403 Modern Drama; SPEECH 314 Interpretation of Drama.

Dramatic Arts Minor (20 semester hours)

Required Courses	Semester Hours
100 Introduction to Theatre	3
135 Play Production	3
234 Stagecraft	3
335 Play Direction	3
406 History of the Theatre	3
167 Theatre Practice	1
Electives	4

Dramatic Arts for Children Minor (20 semester hours)

	Semester Hours
121 Fundamentals of Speech or 124 Fundamentals of Speech	2-3
207 Introduction to Children's Literature or 240 Great Dramas	3-2
222 The Child and Drama	3
323 Improvisation	3
Electives from the following:	9
100 Introduction to Theatre or 106 Introduction to Performing Arts	3
133 Theatre Crafts	2
167 Theatre Practice	1
267 Theatre Practice	1
242 Fundamentals of Acting	3
322 Theatre for Children	3
324 Interpretation of Children's Literature	3
385 Dramatic Composition or 386 Dramatic Writing	3-2

422 Independent Study in Dramatic Arts for Children	1
423 Independent Study in Dramatic Arts for Children	2
424 Independent Study in Dramatic Arts for Children	3

SPEECH

Fundamentals of Speech

Speech and Dramatic Arts Major (30 semester hours)

Semester Hours

*121 Fundamentals of Speech or 124 Fundamentals of Speech	2-3
140 Introduction to Broadcasting and Film or 446 Broadcasting in Society	3
*132 Interpretative Reading	3
*100 Introduction to Theatre	3
224 Advanced Public Speaking or 350 Persuasive Speaking	3
*135 Play Production	3
205 Voice and Articulation	3
*356 Argumentation and Debate or *359 Discussion and Conference	3
Electives in dramatic arts	3
Electives in speech or dramatic arts	3-4

Speech and Dramatic Arts Minor (20 semester hours)

Courses starred above, including both 359 Discussion and Conference and 356 Argumentation and Debate.

Speech Minor (For those on elementary, library science and special education curriculums only)—(20 semester hours)

One of the following:	2-3
121 Fundamentals of Speech or 124 Fundamentals of Speech	
One of the following:	3
132 Interpretative Reading 201 Speech Science 205 Voice and Articulation 301 Phonetics	
One of the following:	3
234 Stagecraft 222 The Child and Drama 135 Play Production 323 Improvisation	
One of the following:	3
224 Advanced Public Speaking 359 Discussion and Conference 350 Persuasive Speaking 356 Argumentation and Debate	
Electives from the above courses or the following:	9-8
166 Forensics 167 Theatre Practice 168 Interpretation 169 Broadcasting 140 Introduction to Broadcasting and Film 322 Theatre for Children 422 Independent Study in Dramatic Arts for Children 446 Broadcasting in Society	

Literature, Language, Speech and Dramatic Arts Group Major
(36 Semester hours)

See page 126.

121 Fundamentals of Speech. Two sem hours
Designed to provide the student with both theory and practice in the principles of effective speech composition and presentation. *Not open to students with credit in 124 Fundamentals of Speech.*

124 Fundamentals of Speech. Three sem hours
This course may be substituted for 121 Fundamentals of Speech. It provides more intensive theory and practice in the principles of effective speech composition and presentation. It is taught in part through the medium of closed-circuit TV. *Not open to students with credit in 121 Fundamentals of Speech.*

Communication and Public Address

224 Advanced Public Speaking. Three sem hours
A course designed to give the student understanding of the characteristics of various types of speeches and speech situations and practice in the preparation and delivery of speeches for various occasions.
Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech.

227 Introduction to Speech Theory. Three sem hours
A study of basic oral communication theory, including consideration of evidence, communication models, interpersonal communication, and theory building.

321 Parliamentary Procedure. Two sem hours
A study of the basic principles of parliamentary procedure, with special reference to the generally recognized rules governing the conduct of business in group meetings. Practice in chairing meetings, participating and in serving as parliamentarian.

350 Persuasive Speaking. Three sem hours
The study of the basic elements inherent in persuasion; the analysis of representative persuasive speeches; practice in securing the acceptance of ideas through psychological appeals as well as logical reasoning.
Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech.

356 Argumentation and Debate. Three sem hours
Emphasizes the principles of logical reasoning and oral presentation of reasoned discourse in group situations. Exercise in debate and in general argumentative speaking are included.
Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech.

359 Discussion and Conference. Three sem hours
Emphasizes the principles and practice of discussion as employed in committees, panels, symposia and forums. Students will plan and participate in discussions of contemporary problems.
Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech.

440 Survey of Public Address. Three sem hours
An historical and critical study of some of the more important speakers and their speeches from classical Greek and Roman times to the present with reference to social and political

movements in the world's history.

Prereq: Junior standing plus 10 hours of speech credit.

460 Theory of Speech Criticism. Three sem hours

A study of the theoretical and critical works of ancient, renaissance and modern rhetoricians.

Prereq: Junior standing plus 10 hours of speech credit.

475 Practicum in Speech Communication Behavior.

Three sem hours

An examination of methods currently employed in speech communication, as well as a review of the many types of application now being made. Course includes analysis of speech communication behavior.

Prereq: Three courses in speech, junior standing or permission of the department.

485 Theories of Speech Communication Behavior.

Three sem hours

Study of the theories which have made significant contributions to the understanding of speech communication behavior.

Prereq: Nine hours in the field of speech and dramatic arts or permission of the department.

166, 266, 366, 466 Forensics. One sem hour each

Students who participate in extracurricular activities may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities, and the credits may be earned in one activity or in several activities. Admission to the activity does not insure credit.

Prereq: Permission of the department.

Broadcasting

140 Introduction to Broadcasting and Film.

Three sem hours

A basic orientation to radio, television and film studios and equipment. Emphasis is placed on a study of the nature of broadcasting and development of effective microphone and camera technique.

Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech.

240 Broadcasting and Film Performance Techniques I.

Two sem hours

A study of the various types of radio, television and film non-dramatic speaking such as news, sports, commercials, continuity, narration, talks, interviews and discussions. Practice and evaluation of announcing types and styles.

Prereq: 140 Introduction to Broadcasting and Film or permission of the department.

331 Fundamentals of Radio Production and Direction.

Two sem hours

The basic fundamentals of preparation, production, direction and evaluation of both dramatic and non-dramatic radio programs.

Prereq: 240 Broadcasting and Film Performance Techniques I, 340 Broadcasting and Film Performance Techniques II or permission of the department.

332 Fundamentals of Television Production and Direction.

Two sem hours

The basic fundamentals of preparation, production, direction

and evaluation of both dramatic and non-dramatic television programs.

Prereq: 240 Broadcasting and Film Performance Techniques I, 340 Broadcasting and Film Performance Techniques II or permission of the department.

340 Broadcasting and Film Performance Techniques II.

Two sem hours

A study of types and styles of dramatic speaking for radio, television and film. Practice in the basic techniques of acting for the three media.

Prereq: 140 Introduction to Broadcasting and Film, 240 Broadcasting and Film Performance Techniques I or permission of the department.

344 Broadcast Continuity Writing. Two sem hours

A study of the forms of non-dramatic writing for radio and television including news, commercials, public service announcements, music continuity, feature stories, narrations, talks and short documentaries. Special attention is given to the writing of radio and television scripts.

Prereq: 140 Introduction to Broadcasting and Film or permission of the department.

431 Advanced Radio Production and Direction.

Three sem hours

A continuation of 331 Fundamentals of Radio Production and Direction. Advanced theory and practical experience in production of longer, more complex dramatic material for radio.

Prereq: 331 Fundamentals of Radio Production and Direction or permission of the department.

432 Advanced Television Production and Direction.

Three sem hours

A continuation of 332 Fundamentals of Television Production and Direction. Principles, practices and techniques of directing and producing dramatic material for television. Major television formats will be discussed and analyzed. Practical experience in depth will be provided for each student.

Prereq: 332 Fundamentals of Television Production and Direction or permission of the department.

446 Broadcasting in Society. Three sem hours

A study of the developmental growth of radio and television broadcasting, their role in society, governmental influences, programming at station and network levels and research in broadcasting.

Prereq: 121 Fundamentals of Speech or permission of the department.

165, 265, 365, 465 Broadcasting-TV. One sem hour each

Students who participate in extracurricular activities may, with approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities, and the credits may be earned in one activity or in several activities. Admission to the activity does not insure credit.

Prereq: 140 Introduction to Broadcasting and permission of the department.

169, 269, 369, 469 Broadcasting-Radio. One sem hour each

Students who participate in extracurricular activities may, with approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities, and the credits may be earned in one

activity or in several activities. Admission to the activity does not insure credit.

Prereq: 140 Introduction to Broadcasting and Film and permission of the department.

Interpretation

132 Interpretative Reading. **Three sem hours**
Deals with the fundamentals of oral interpretation; developing poise and ease before an audience, a clear forceful and flexible voice and discrimination in interpreting thought to others. Selections will be prepared and presented before the class.
Prereq: 121 or 124 Fundamentals of Speech.

203 Interpretation of Prose. **Three sem hours**
Deals with the application of the fundamentals of oral interpretation to the reading of prose with emphasis on the short story and excerpts from longer works of fiction. Special attention will be given to problems involved in the interpretation of prose.
Prereq: 132 Interpretative Reading.

310 Oral Interpretation of Poetry. **Three sem hours**
Deals with the application of the principles of oral interpretation to the reading of poetry, with emphasis on modern and contemporary poetry.
Prereq: 132 Interpretative Reading.

314 Interpretation of Drama. **Three sem hours**
Deals with specific problems involved in interpreting dramatic literature. Emphasis will be placed on selection of materials, cutting and arrangement of materials, dialogue, characterization and character placement. Students will work individually and collectively in interpreting scenes from plays.
Prereq: 132 Interpretative Reading or permission of the department.

324 Oral Interpretation of Children's Literature. **Three sem hour**
A study of the selection, understanding and oral interpretation of literature for children. Experience in reading to children of various ages is provided.
Prereq: 207 Literature for Elementary Grades or departmental major or minor.

411 Advanced Problems in Interpretation. **Three sem hours**
Deals with the presentation of programs of some length and difficulty in prose, poetry and drama. Emphasis will be placed on programming, styles of interpretation, choral reading, and experimental work. A public program will be presented by the class.
Prereq: Six hours of oral interpretation or permission of the department.

414 Development and Theory of Oral Interpretation. **Three sem hours**
Deals with the development of oral interpretation from ancient Greece to the present, including the study of modern theories in oral interpretation.
Prereq: Nine hours of oral interpretation or permission of the department.

168, 268, 368, 468 Interpretation. **One sem hour each**
Students who participate in extracurricular activities may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four

hours credit in such activities and the credits may be earned in one activity or in several activities. Admission to the activity does not insure credit.

Prereq: 132 Interpretative Reading or permission of the department.

SPEECH SCIENCE AND EDUCATION

205 Voice and Articulation. **Three sem hours**
A study of the physical production of speech and the characteristics of American speech sounds and intonation. Emphasis is placed on oral practice to improve individual voice and articulation skills for delivery and performance in the various areas of speech and dramatic arts. Recording and listening laboratory hours arranged.
Prereq: 121 Fundamentals of Speech or 124 Fundamentals of Speech, or permission of the department.

300 Phonetics. **Three sem hours**
A summary survey of the physiology and physics of speech sounds. Intensive study of the use of the International Phonetic Alphabet in dialectology and speech improvement. Comparative study of phonemic systems and the Initial Teaching Alphabet.
Prereq: 301 Speech Science, 205 Voice and Articulation or permission of the department.

301 Speech Science. **Three sem hours**
A survey of the physiological and psychological bases of speech and hearing. Emphasis is placed on understanding the physical characteristics of speech sounds and the human voice, as they are used in effective oral communication.
Prereq: One of the following: 205 Voice and Articulation, or 132 Interpretative Reading, or 240 Broadcasting and Film Performance Techniques I, or 242 Fundamentals of Acting, or permission of the department.

307 The Teaching of Speech. **Three sem hours**
Emphasizes the analysis and construction of courses of study, evaluation of textbooks and teaching materials, methods of directing extra-curricular speech activities and demonstrations of teaching methods. *Required of students majoring in speech in the junior or senior high school curriculum, but does not carry credit in any other curriculum.*
Prereq: Four courses in speech.

DRAMATIC ARTS

Theatre

100 Introduction to Theatre. **Three sem hours**
An introduction to the arts and crafts of the theatre including the legitimate stage, television and motion picture drama. The purpose of the course is to foster appreciation of theatre through an understanding of its historical development, its forms and styles and its production techniques. Attendance required at selected EMU Theatre productions. *Required of dramatic arts majors and minors.*

106 Introduction to Performing Arts. **Three sem hours**
The arts of dance, theatre and music are studied both individually and collectively with the objective of determining their respective elements and of arriving at a better understanding and appreciation of the great works of art in the three fields. The place of these arts in our present day environment and their contribution to a richer life receive special emphasis.

Attendance required at specified on-campus performances. (Music, Physical Education, Speech and Dramatic Arts Departments.)

133 Introduction to the Theatre Crafts. Two sem hours
The principles and practical techniques of planning, constructing and coordinating the behind-the-scenes elements of play production (set pieces, lighting, costuming, makeup, sound, properties). Emphasis is on simple materials and techniques usable by students and children in school and recreational situations. This course is designed for non-dramatic arts majors.

135 Play Production. Three sem hours
An introduction to the process of analyzing, directing and staging plays; demonstration and practice. Laboratory hours by arrangement.
Prereq: 100 *Introduction to Theatre* or permission of the department.

234 Stagecraft. Three sem hours
A study and application of the technical elements of play production with emphasis on stage mechanics, construction and scene painting. Laboratory hours will be arranged in order to insure adequate practical experience in the scenic arts and crafts.
Prereq: 135 *Play Production* or permission of the department.

242 Fundamentals of Acting. Three sem hours
A study of the fundamental theories and techniques of acting. Major emphasis will be placed on theatre acting, but consideration will also be given to radio and television acting. Laboratory hours by arrangement.
Prereq: *Sophomore standing.*

322 Theatre for Children. Three sem hours
A study of the development, philosophy and techniques of theatre for children with emphasis on dramatic literature for children and its staging.
Prereq: *One course in drama.*

323 Improvisation. Three sem hours
Explorations of spontaneous dramatic playing through intensive exercises and drama games meant to generate greater individual freedom and self-discipline, as well as to expand resources and techniques for teaching and directing. Opportunities to lead experimental small-group sessions are available.
Prereq: 222 *The Child and Drama* or departmental major or minor.

335 Play Direction. Three sem hours
An intensive study of the process of directing plays. Whenever possible, students in the course will direct a one-act play for public presentation. Laboratory hours by arrangement.
Prereq: 135 *Play Production* or permission of the department.

370 Scene Design. Three sem hours
Includes the history of design in terms of stage scenery, an investigation of current trends, techniques and media of scene design and the practical execution of models and sketches by the student.
Prereq: 234 *Stagecraft*, 135 *Play Production* or permission of the department.

375 Stage Makeup. One sem hour
The theory and techniques of theatrical makeup. Laboratory hours to be arranged.

376 Stage Lighting. Two sem hours
Stage lighting: historical development, basic electrical theory, switchboards and lighting instruments, color theory, principles and practices in stage lighting. Laboratory hours to be arranged.
Prereq: 234 *Stagecraft*, 135 *Play Production* or permission of the department.

377 Stage Costume: History and Theory. Three sem hours
A survey of the principles and practices of stage costuming from antiquity to the present.
Prereq: 135 *Play Production* or permission of the department.

378 Stage Costume: Design and Construction. Three sem hours
The fundamentals of designing theatrical costumes and a study of specific construction problems found in the making of period costumes.
Prereq: 377 *Stage Costume: History and Theory* or permission of the department.

385 Dramatic Composition. Three sem hours
An examination of the elements of dramatic structure through the analysis and composition of works of varying scope. (Emphasis on adult plays for the stage with the special problems of drama for children and for the various broadcast media also considered.)
Prereq: 135 *Play Production* or permission of the department.

386 Dramatic Writing. Two sem hours
Intensive concentration on the writing of a significant example of adult or children's drama for the stage or the broadcast media.
Prereq: 385 *Dramatic Composition* or permission of the department.

406 History of the Theatre. Three sem hours
A history of the physical theatre and the written drama from antiquity to the present. Emphasis on theatre architecture and stagecraft, including scenery, costumes and lighting.
Prereq: *Junior standing* or permission of the department.

425, 426, 427, 428 Honors Course in Theatre. One or two sem hours
Individual study and/or research in specialized areas of theatre. Open only to dramatic arts majors. *Regulations governing honors courses must be followed (see page 22).*

499 Seminar in Theatre. Two sem hours
This course is designed to provide the student with opportunities to explore areas in theatre not covered in the regular course offerings.
Prereq: *Open only to departmental seniors* or by permission of the department.

167, 267, 367, 467 Theatre Practice. One sem hour each
Students who participate in extracurricular activities may, by special permission of the department, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities and the credits may be earned in one activity or in several activities. Admission to the activity does not insure credit.
Prereq: *Permission of the department.*

Drama for the Child
and Adolescent

133 Introduction to Theatre Crafts. Two sem hours
The principles and practical techniques of planning,

constructing and coordinating the behind-the-scenes elements of play production (set pieces, lighting, costuming, makeup, sound, properties). Emphasis is on simple materials and techniques useable by students and children in school and recreational situations. This course is designed for non-dramatic arts majors.

222 The Child and Drama (formerly Dramatic Arts for Children). **Three sem hours**

A study of drama experience as intrinsic in human development. An introduction to spontaneous drama games and exercises as a way of sharpening imagination, deepening interpersonal relations, and strengthening individual identity. Interpretation of such experience in learning and growth is emphasized.

Prereq: Sophomore standing.

322 Theatre for Children. **Three sem hours**

A study of the development, philosophy and techniques of theatre for children, with emphasis on the relevant dramatic literature and its staging.

Prereq: One course in drama.

323 Improvisation. **Three sem hours**

Explorations of spontaneous dramatic playing through intensive exercises and dramatic games meant to generate greater individual freedom and self-discipline, as well as to expand resources and techniques for teaching and directing. Opportunities to lead experimental small-group sessions are available.

Prereq: 222 The Child and Drama or departmental major or minor.

324 Oral Interpretation of Children's Literature. **Three sem hours**

A study of the selection, understanding and oral interpretation of literature for children. Experience in reading to children of

various ages is provided.

Prereq: 207 Literature for Elementary Grades or departmental major or minor.

422 Independent Study in Dramatic Arts for Children.

One sem hour

Individual projects, research or advanced reading programs in dramatic arts for children. Designed for students prepared to go beyond available course work. *By permission of the department.*

423 Independent Study in Dramatic Arts for Children.

Two sem hours

Individual projects, research or advanced reading programs in dramatic arts for children. Designed for students prepared to go beyond available course work. *By permission of the department.*

424 Independent Study in Dramatic Arts for Children.

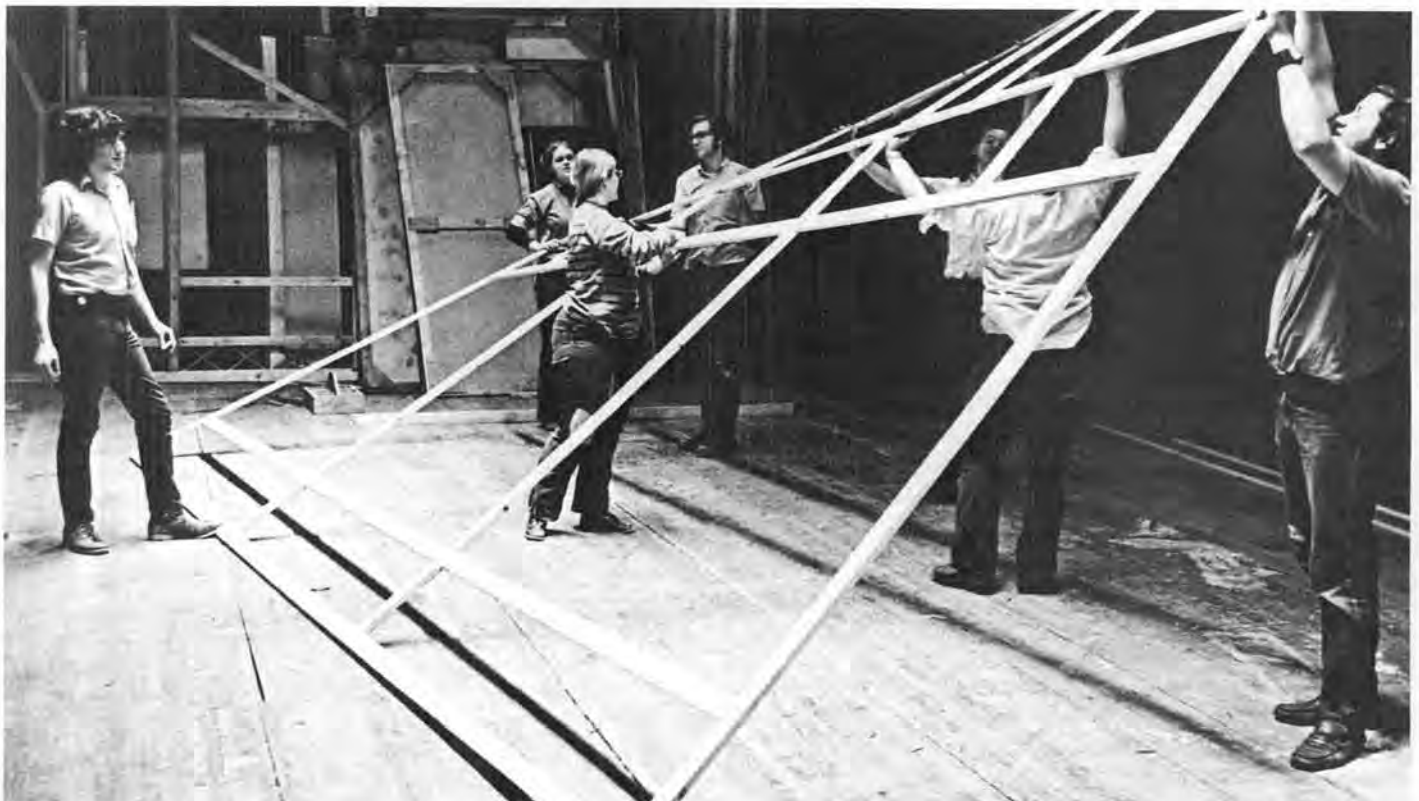
Three sem hours

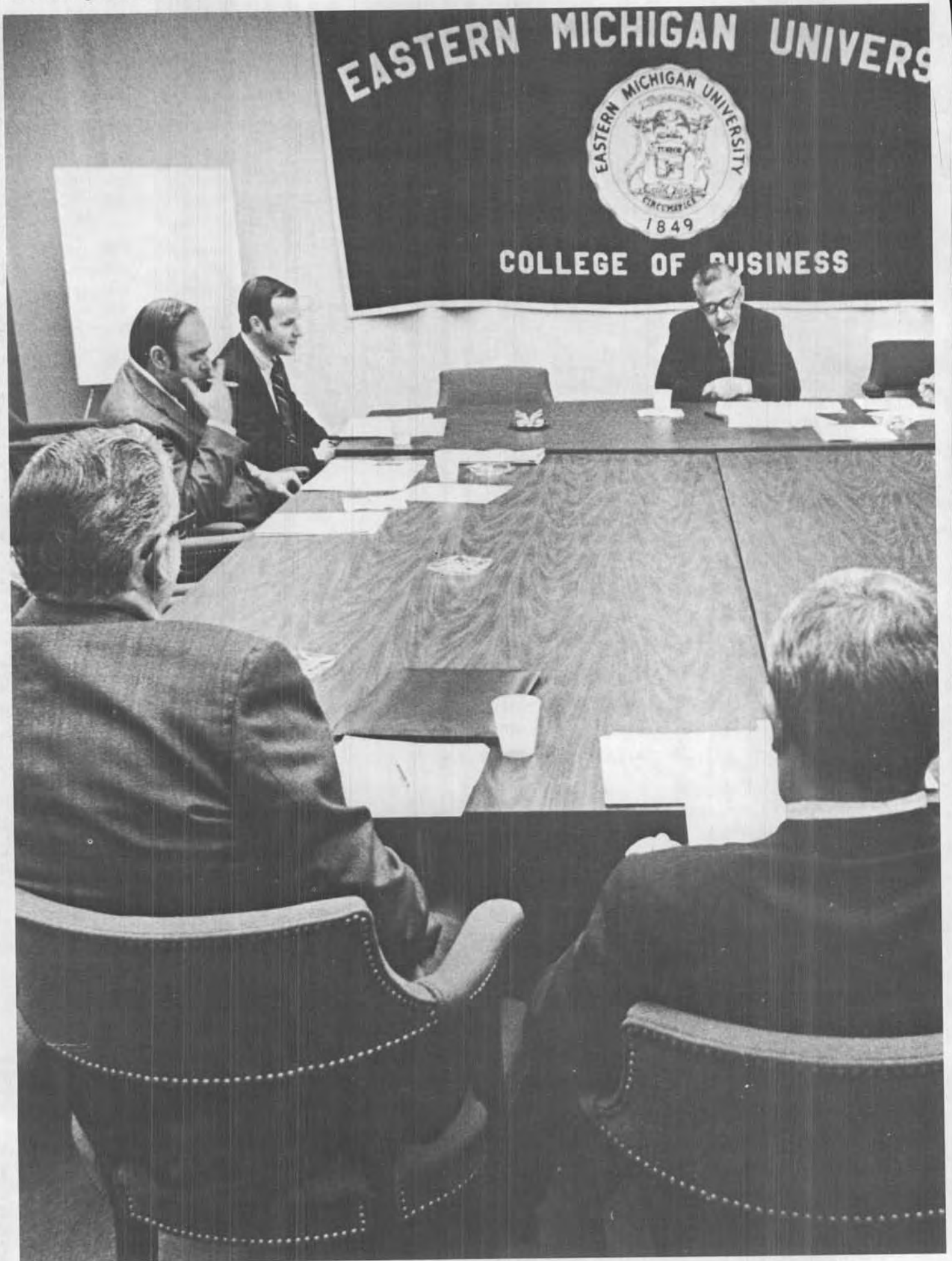
Individual projects, research or advanced reading programs in dramatic arts for children. Designed for students prepared to go beyond available course work. *By permission of the department.*

168, 268, 368, 468 Interpretation. **One sem hour**

(available with a focus on oral interpretation of literature for the child and adolescent). Students who participate in extracurricular activities may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities and the credits may be earned in one activity or in several activities. Admission to the activity does not insure credit.

Prereq: 132 Interpretative Reading or permission of the department.





COLLEGE OF BUSINESS

Dean: Earl A. Roth

DEPARTMENTS

Accounting and Finance

Business Education

General Business

Management

Marketing

Bureau of Business Services and Research

BUSINESS CURRICULUMS

The College of Business provides professional curriculums for students contemplating administrative careers in business, government agencies and public administration, or as business teachers in educational systems. Related public service and research activities are conducted.

Educational programs leading to both the bachelor's and master's degrees give special emphasis to the behavioral and quantitative sciences approach in the development of analytical skills and problem solving techniques which can be applied to management problems. In addition to acquiring academic specialization in business administration, those persons who wish to be teachers of business subjects must complete a prescribed sequence of professional courses in the field of education.

Instructional emphasis is given to mathematical model building, systems analysis, computer application, decision-making simulation and research methodology. A minimum of sixty semester hours must be completed in economics, psychology, sociology, mathematics and other related liberal arts areas.

Educational programs are accredited by the North Central Association of Colleges and Universities. The College holds memberships in the Assembly of the American Association of Collegiate Schools of Business and in the National Business Education Association.

A pre-professional business program is available for students planning to enter employment after two years of academic study. Enrollees receive a Certificate of Achievement upon the satisfactory completion of a program of study restricted to professional business courses. Students enrolled in this program may elect to complete all requirements for the bachelor's degree after completing their initial two years of study.

Information relative to graduate programs leading to master's degrees is presented in the graduate catalogue.

Transfer Credit from Community and Junior Colleges

Community and junior college students who plan to study at Eastern Michigan University are urged to enroll in courses equivalent to 100-200 level courses offered in this College of Business. Community and junior college students should not enroll in 300 and 400 University level courses since transfer credit in such courses cannot be assured.

Business Administration Curriculum

Bachelor of Business Administration Degree

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or a foreign language course (121 through 222)	

Group II Science	17-18
One laboratory course from the biology, chemistry, geography or physics departments	4-5
101 General Psychology	3
*164 Algebra	3
*166 Finite Mathematics for Business	4
**365 Business Statistics I	3
Group III Social Science	12
101 or 102 History of Civilization	3
Either of the following:	3
112 American Government or 202 State and Local Government	
201, 202 Principles of Economics	6
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A fine arts course in art, music or dramatic arts	2-3
Either of the following:	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Any one of the following:	3
180 Introduction to Logic 200 Types of Philosophy 201 The Comparative Study of Religion	
Group VI Practical Arts	50-51
Business Administration Core (Must be completed by all majors by end of junior year)	27
215 Computers in Business	3
240 Principles of Accounting	3
241 Principles of Accounting	3
302 Business Communication	3
303 Legal Environment of Business	3
353 Principles of Finance	3
360 Principles of Marketing	3
382 Introduction to Management	3
490 Business Policy	3
Academic Major (select one)	23-24
Accounting (see page 108)	
General Business (see page 113)	
Management (see page 115)	
Marketing (see page 117)	
Group VII Physical Education and Health	4
Physical education activity courses (8 act. hrs.)	
Men: May apply two semester hours of military science toward this requirement	
Electives	25-19
Total	124

Students completing the above curriculum have met the major and minor requirements for graduation. No outside minor is needed.

**An alternative advanced mathematics sequence may be required for students who have completed three or more years of high school mathematics of high quality achievement.*

***This course must be completed by the end of the junior year.*

Secretarial Administration Curriculum

Bachelor of Business Administration Degree

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
a foreign language course (121 through 222)	
Group II Science	17-18
One laboratory science course from the biology, chemistry, geography or physics departments	4-5
101 General Psychology	3
164 Algebra	3
166 Finite Mathematics for Business	4
365 Business Statistics I	3
Group III Social Science	12
101 or 102 History of Civilization	3
Either of the following	3
112 American Government or	
202 State and Local Government	
201, 202 Principles of Economics	6
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Any one of the following	3
180 Introduction to Logic	
200 Types of Philosophy	
201 The Comparative Study of Religion	
Group VI Practical Arts	50
Business Administration Core	27
215 Computers in Business	3
240 Principles of Accounting	3
241 Principles of Accounting	3
353 Principles of Finance	3
360 Principles of Marketing	3
382 Introduction to Management	3
302 Business Communication	3
303 Legal Environment of Business	3
490 Business Policy	3
Major Concentration	23
Required	19
222 Office Services	4
226 Shorthand Dictation	3
227 Shorthand Speedbuilding	3
325 Shorthand Transcription	3
326 Secretarial Procedures	3
395 Office Management	3
Electives	4
224 Office Machines	3

345 Unit Record Equipment	2
415 Records Administration	2
417 Business Internship	3
Group VII Physical Education and Health	4
Physical education activity courses (8 act. hrs.)	4
Men: May apply 2 semester hours of military science toward this requirement	
Women: Must include 101	
Electives	25-20
Total	124

Students completing the above curriculum have met the major and minor requirements for graduation. No outside minor is needed.

Pre-Professional Business Program
(Two-Year)

The pre-professional business program has been specifically designed as a course of studies for those students who must limit their initial higher education experience to two years. Sixty-two semester hours are required for the completion of this program. A minimum of thirty-seven hours in business subjects provides effective training for early employment in business and industry. Students interested in the two-year pre-professional business program of study are encouraged to discuss it with the adviser chairman before enrollment.

Concentrated study is possible in one of the optional areas listed below. Students who successfully complete the program with an academic point average of 2.00 ("C") receive a Certificate of Achievement.

	Semester Hours
Group I Drama, Language, Literature and Speech	5
121 English Composition	3
121 Fundamentals of Speech	2
Group III Social Science	3
201 Principles of Economics	3
Group VI Practical Arts	37-40
Business Technology Core	6
215 Computers in Business	3
240 Principles of Accounting	3
Major Concentration Areas (select one)	31-34

Secretarial

Required	24
*121 Typewriting Applications	2
222 Office Services	4
*226 Shorthand Dictation	3
302 Business Communication	3
227 Shorthand Speedbuilding	3
325 Shorthand Transcription	3
326 Secretarial Procedures	3
417 Business Internship	3
Electives	7-10

Accounting

Required	26
*121 Typewriting Applications	2
224 Office Machines	3
241 Principles of Accounting	3
302 Business Communication	3
303 Legal Environment of Business	3
340 Intermediate Accounting	3
342 Managerial Cost Accounting	3

395 Office Management	3
417 Business Internship	3
Electives in Business	5-8

Retailing

Required	21
360 Principles of Marketing	3
361 Professional Selling	3
363 Retailing	3
367 Consumer and Industrial Credit	3
369 Advertising	3
417 Business Internship	3
463 Retail Merchandise Management	3
Electives in Business	10-13
Group VII Physical Education and Health	2
**Non-veteran men: physical education activity courses (4 act. hrs.)	2
Women: physical education activity courses (4 act. hrs.)	2
Electives	18-12
Total	62

*Students having deficiencies in elementary typewriting and/or beginning shorthand may register for 120 Typewriting Techniques and 225 Shorthand Theory in partial fulfillment of general elective requirements. When students possess proficiency equivalent to course requirements in 121 Typewriting Applications and/or Shorthand Dictation, these courses will be waived and substitute courses will be included in the curriculum.

ACCOUNTING AND FINANCE

Department Head: William L. Kimball
Professors: William Underwood
Associate Professors: William C. Bryan, Charles A. Carroll, James P. Jennings, John W. Keros, Allen Schwadron
Assistant Professors: Fred T. Gilson, Herbert M. Kennedy, Geraldine Kruse, John Lafferty, Albert E. Rizkalla, Maurice E. Stark

ACCOUNTING

The program in accounting is designed for students preparing for careers in public, industrial or governmental accounting. Because of the increasing emphasis on quantitative methods in business, students majoring in the area are encouraged to elect courses in mathematics beyond the core requirements.

Accounting majors planning to take the Michigan Board of Accountancy administered uniform examination for professional recognition as a certified public accountant should elect 346 Governmental Accounting, 440 Advanced Accounting, 444 Advanced Tax Accounting and 304 Law of Business Enterprises in addition to the regular requirements.

Major in Accounting

(To be completed in conjunction with bachelor's degree requirements on page 32)

	Semester Hours
Total specialized hours required	23
Required	15
340 Intermediate Accounting	3

341 Intermediate Accounting	3
342 Managerial Cost Accounting	3
344 Tax Accounting	3
445 Auditing	3
Electives	8
304 Law of Business Enterprises	3
343 Advanced Cost Accounting	3
346 Governmental Accounting	3
440 Advanced Accounting	3
444 Advanced Tax Accounting	3
446 Financial Information Systems	3
452 Analysis of Financial Statements	3

Minor in Accounting (a non-teaching minor for non-business majors)

Students who are non-business majors may elect to minor in accounting. These students must complete the following program:

Total specialized hours required	21
Required	15
240 Principles of Accounting	3
241 Principles of Accounting	3
303 Legal Environment of Business	3
340 Intermediate Accounting	3
344 Tax Accounting	3
Electives	6
215 Computers in Business	3
341 Intermediate Accounting	3
342 Managerial Cost Accounting	3
343 Advanced Cost Accounting	3
346 Governmental Accounting	3
444 Advanced Tax Accounting	3
446 Financial Information Systems	3

FINANCE

The finance program is designed to prepare candidates for careers in banks and other financial institutions, corporation finance and the security markets. Finance majors interested in sitting for the Chartered Financial Analyst examinations should elect 452 Analysis of Financial Statements.

Students in finance are encouraged to elect additional hours of study in accounting, economics and mathematics.

Major in Finance

(To be completed in conjunction with bachelor's degree requirements on page 32)

	Semester Hours
Total specialized hours required	23-24
Required	9
340 Intermediate Accounting	3
355 Intermediate Financial Theory	3
450 Problems in Financial Management	3
Elect one course from each of the three groups below:	
Group I	2-3
342 Managerial Cost Accounting	3
344 Tax Accounting	3
452 Financial Statement Analysis	3
Group II	3
354 Investments	3
453 Commercial Banking	3
Group III	3
301 Intermediate Macroeconomic Analysis	3
302 Intermediate Microeconomic Analysis	3

341 Money and Banking	3
440 Business Cycles	3
Electives	6*
120 Calculus with Analytic Geometry I	4
121 Calculus with Analytic Geometry II	4
304 Law of Business Enterprises	3
306 General Insurance	3
490 Business Policy	3

Minor in Finance (A non-teaching minor for nonbusiness majors)

Non-business majors may elect to minor in finance. Students must complete 20-21 semester hours of credit per the following program:

	Semester Hours
Finance minor	21
Required	15
240 Principles of Accounting	3
241 Principles of Accounting	3
303 Legal Environment of Business	3
353 Principles of Finance	3
355 Intermediate Financial Theory	3
Electives	6
340 Intermediate Accounting	3
354 Investments	3
452 Analysis of Financial Statements	3
453 Commercial Banking	3

COURSES

Accounting

240 Principles of Accounting. Three sem hours

Thorough study of the accounting cycle. The course centers on the way accounting serves to develop useful information about economic organizations. Problems of valuation and statement presentation of selected assets and liabilities are considered. Problems of accounting for ownership equity.

241 Principles of Accounting. Three sem hours

Expense analysis and cost accounting; use of accounting data to achieve managerial goals; influence of taxes on business decisions is introduced. Special attention is given to the problems that arise in interpreting accounting data.

Prereq: 240 Principles of Accounting.

244 Personal Tax Accounting. Two sem hours

Introduction to federal and state income and social security tax problems of individuals. Practice on preparation of individual tax returns. (Credit toward a degree will not be permitted for both Accounting 244 and Accounting 344.) (Business Education majors may substitute this course for 344 Tax Accounting with permission of their department head.)

Prereq: 240 Principles of Accounting or junior standing.

340 Intermediate Accounting. Three sem hours

Review of recording and reporting procedures; accounting concepts and theories guiding the valuation and classification of current assets, plant assets, intangible assets and current liabilities.

Prereq: 241 Principles of Accounting.

341 Intermediate Accounting. Three sem hours

Covers capital stock, rights, options and retained earnings; long term liabilities; income tax allocation; long term investments; prior period adjustments; funds flow; price level accounting; consignments; installment sales.

Prereq: 340 Intermediate Accounting.

342 Managerial Cost Accounting. Three sem hours

Accounting information for use in planning objectives and in controlling operations. A framework for measuring managerial performance is developed through an analytic treatment of cost behavior under dynamic conditions by employing such devices as cost-volume-profit relationships, flexible budgeting and standards (variances).

Prereq: 241 Principles of Accounting.

343 Advanced Cost Accounting. Three sem hours

Covers some cost concepts on an advanced level such as standard costs and variance analysis; responsibility accounting, direct costing, overhead allocation, break-even; product pricing through return on investment methods; divisional income measurement; forecasting with statistical models; capital budgeting; and applications of mathematics to cost accounting problems.

Prereq: 342 Managerial Cost Accounting and 365 Introduction to Business Statistics.

344 Tax Accounting. Three sem hours

Covers history of the income tax; the tax legislative process; tax research; income and loss realization and recognition; capital gains and losses; exclusions; deductions; losses; exemptions; rates, personal tax returns.

Prereq: 340 Intermediate Accounting or 452 Analysis of Financial Statements.

346 Government Accounting. Three sem hours

Covers accounting philosophy for nonprofit organizations; principles of fund accounting; the budget process including program budgeting; institutional (college, hospitals, welfare agency) accounting; internal control; and data processing.

Prereq: 241 Principles of Accounting.

440 Advanced Accounting. Three sem hours

Covers partnership organization, change, and liquidation; consolidation accounting; fiduciary accounting; introduction to governmental accounting.

Prereq: 341 Intermediate Accounting.

444 Advanced Tax Accounting. Three sem hours

Covers tax law applicable to partnerships and corporations reorganization, operation, distributions, reorganization and liquidation.

Prereq: 344 Tax Accounting.

445 Auditing. Three sem hours

Covers audit standards, professional responsibility, ethics, internal control evaluation, statistical sampling and audit of EDP systems.

Prereq: 18 semester hours of accounting and senior standing.

446 Financial Information Systems. Three sem hours

Concepts of a responsive information system, including principles of design, profitability and responsibility accounting and control. Description of typical accounting systems and procedures within the business enterprise. Application of data processing in the accounting system.

*The student may select an additional course(s) from the elective groups to fulfill the elective requirements.

Prereq: General Business 215 Computers in Business and 342 Managerial Cost Accounting or permission of the department.

Finance

353 Principles of Finance. Three sem hours
 Financing and organizing business enterprises, interpreting financial statements, sources and uses of funds, financing and sale of securities, income disbursements and dividend policies.
Prereq: 241 Principles of Accounting and 105 Higher Algebra II or 164 Algebra.

354 Investments. Three sem hours
 Development and placement of investments in business and their relationship to economic, legal and social institutions. Topics include bonds, stocks, security markets, security market operation, new security issues, investment policies, U.S. Government, state and municipal obligations.
Prereq: 166 Finite Mathematics for Business and 353 Principles of Finance.

355 Intermediate Financial Theory. Three sem hours
 The course of study focuses on the theory of financial management, internal financial management and control and institutional relationships.
Prereq: 166 Finite Mathematics for Business and 353 Principles of Finance.

450 Problems in Financial Management. Three sem hours
 A study and discussion through the case method of contemporary developments in financial theory and practical applications. Students engage in research in the area of their choice.
Prereq: 355 Intermediate Financial Theory.

452 Analysis of Financial Statements. Three sem hours
 Analysis and interpretation of the financial statements and reports of various types of businesses and industries. Effect of price-level changes is emphasized.
Prereq: 341 Intermediate Accounting or 355 Intermediate Financial Theory.

453 Commercial Banking. Three sem hours
 Practices, policies and problems of commercial bank management and operation, capital adequacy, loan and investment policy, liquidity and profit maximization.
Prereq: 353 Principles of Finance.

BUSINESS EDUCATION

Department Head: Charles H. Duncan
Professors: Russell L. Ogden, Mary F. Robek, Rosemary DeLoach
Associate Professors: Normajean I. Anderson, Rosetta F. Wingo
Assistant Professors: Albert W. Belskus, Louis R. Graziano, William C. Joy

The Business Education Department offers three categories of course offerings:

- (1) The business teacher education program, a four-year course of specialized study leading to the Bachelor of Business Education degree.
- (2) The secretarial administration program, a four-year course of study leading to the Bachelor of Business Administration degree.

- (3) The business technology program, a two-year course of study leading to a certificate of graduation.

The various requirements for successfully completing these programs are given in the information that follows.

BUSINESS TEACHER EDUCATION

Major in Business Teacher Education

The business teacher education program prepares a student to teach business subjects in junior and senior high schools. Upon completion of the program, the student is granted his degree and a Michigan Secondary School Provisional Teacher's Certificate. In addition, a Provisional Vocational Certificate may be earned if work-experience requirements in the State Plan have been met. The study program in business teacher education consists of a broad background in business with specialization in two or more areas in which the student plans to teach: accounting, distributive education, general business, office administration and data processing and shorthand.

All majors in business teacher education must complete the general requirements for the Bachelor of Business Education degree as described on page 128 in addition to certain required courses and electives from major areas of concentration, as listed below.

Areas of Concentration	(Select two areas, or select one area plus one subject minor of 20 sem hours)	Semester Hours 9-18
Accounting		
340 Intermediate Accounting		3
341 Intermediate Accounting		3
344 Tax Accounting		3
Distributive Education		
363 Retailing		3
368 Marketing Strategy		3
461 Sales Management		3
General Business		
304 Law of Business Enterprises		3
306 General Insurance		3
308 Personal Finance		3
Office Administration and Data Processing		
345 Unit Record Equipment		2
395 Office Management		3
415 Records Administration		2
Shorthand		
*226 Shorthand Dictation		3
227 Shorthand Speedbuilding		3
325 Shorthand Transcription		3

Minor in Business Teacher Education
 (20 semester hours)

The business teacher education minor is designated for non-business students who have elected to major in some other

**Students having deficiencies in elementary typewriting and/or beginning shorthand may register for 120 Typewriting Techniques and/or 225 Shorthand Theory in partial fulfillment of general elective requirements. When students possess proficiency equivalent to course requirements in 121 Typewriting Applications and/or 226 Shorthand Dictation these courses will be waived and substitute courses will be included in the curriculum.*

area of education. Such students should add 364, 365 or 466 to their education course requirements.

Students majoring in business administration departments who wish to earn a teaching certificate must complete two of the minor area groups shown below in addition to the Group IV education courses required of business education majors.

Education students who choose to minor in business teacher education must specialize in one of the following groups:

	Semester Hours
Accounting	
240 Principles of Accounting	3
241 Principles of Accounting	3
303 Legal Environment of Business	3
340 Intermediate Accounting	3
341 Intermediate Accounting	3
344 Tax Accounting	3
Electives	2
	20

Distributive Education	
360 Principles of Marketing	3
363 Retailing	3
368 Marketing Strategy	3
369 Advertising	3
417 Business Internship	3
461 Sales Management	3
Electives	2
	20

General Business	
240 Principles of Accounting	3
303 Legal Environment of Business	3
304 Law of Business Enterprises	3
306 General Insurance	3
308 Personal Finance	3
382 Introduction to Management	3
Electives	2
	20

Office Administration	
215 Computers in Business	3
222 Office Services	4
240 Principles of Accounting	3
345 Unit Record Equipment	2
395 Office Management	3
415 Records Administration	2
Electives	3
	20

Secretarial	
*222 Office Services	4
224 Office Machines	3
240 Principles of Accounting	3
227 Shorthand Speedbuilding	3
325 Shorthand Transcription	3
326 Secretarial Procedures	3
Electives	1
	20

SECRETARIAL ADMINISTRATION

Major in Secretarial Administration

Majors in secretarial administration are required to complete the basic core in business administration outlined on

page 106 and, in addition, complete the area of concentration as given below.

	Semester Hours
Major Concentration	23
Required	19
*222 Office Services	4
*226 Shorthand Dictation	3
227 Shorthand Speedbuilding	3
325 Shorthand Transcription	3
326 Secretarial Procedures	3
395 Office Management	3
Electives	4
224 Office Machines	3
345 Unit Record Equipment	2
415 Records Administration	2
417 Business Internship	3

Minor in Secretarial Administration (A non-teaching minor)

Non-business majors may fulfill the requirements for a minor in secretarial administration by completing the following courses:

	Semester Hours
Secretarial Administration Minor (non-business majors)	
	21
*222 Office Services	4
*226 Shorthand Dictation	3
227 Shorthand Speedbuilding	3
240 Principles of Accounting	3
325 Shorthand Transcription	3
326 Secretarial Procedures	3
415 Records Administration	2

COURSES

Business Education

120 Typewriting Techniques. **Two sem hours**
Development of basic techniques and manipulative skill for efficient machine operation. Speed and control emphasized. Introduction to applications through centering, tabulating and structuring typewritten material for various purposes. *No credit is given to students who have received credit for one year of high school typewriting.* Lab fee required.

121 Typewriting Applications. **Two sem hours**
Continued emphasis on skill development. Application of skill to typing special communication forms, letters, manuscripts and tabulated reports. Attention is given to improving form and punctuation. Lab fee required.
Prereq: 120 Typewriting Techniques or one year of high school typewriting.

222 Office Services. **Four sem hours**
Using the typewriter as a technical tool in the preparation of

**Students having deficiencies in elementary typewriting and/or beginning shorthand may register for 120 Typewriting Techniques and 225 Shorthand Theory in partial fulfillment of general elective requirements. When students possess proficiency equivalent to course requirements in 121 Typewriting Applications and/or 226 Shorthand, these courses will be waived and substitute courses will be included in the curriculum.*

governmental, legal, medical and financial reports and stressing the use of such auxiliary equipment as ink, spirit and offset duplicators, voice transcribers and mimeoscopes. Lab fee required.

Prereq: 121 Typewriting Applications or equivalent.

224 Office Machines. Three sem hours

Application of office machines to the solution of mathematical problems encountered in business. Operational skill developed on rotary, printing and electronic calculators. Lab fee required.

225 Shorthand Theory. Three sem hours

An introduction to the alphabet, brief forms and theory through the reading and writing of Gregg shorthand. *No credit is given to students who have received credit for shorthand in high school.*

226 Shorthand Dictation. Three sem hours

Emphasis on the development of speed in taking dictation and the typewriting of transcripts. Thorough review of brief forms and theory principles.

Prereq: 225 Shorthand Theory or one year of high school shorthand.

227 Shorthand Speedbuilding. Three sem hours

Extended speed dictation including specialized business and professional vocabularies. Emphasis on a correct transcript including punctuation and spelling.

Prereq: 226 Shorthand Dictation or one and one-half years of high school shorthand and a typewriting speed of 50 net words per minute.

325 Shorthand Transcription. Three sem hours

Further development of transcription skills. Application of shorthand, typewriting and English skills to produce business communications neatly and accurately at an acceptable rate.

Prereq: 222 Office Services and 227 Shorthand Speedbuilding.

326 Secretarial Procedures. Three sem hours

Theory of secretarial procedures. Emphasis on office efficiency, human relations, executive thinking and secretarial ethics.

Prereq: 222 Office Services and 227 Shorthand Speedbuilding.

345 Unit Record Equipment. Two sem hours

The importance and scope of unit record equipment as an independent system is developed, including wiring a range of such equipment. Practical exercises offered will be typical of those performed in current electric accounting machine installations.

364 Methods of Teaching General Business Subjects. Two sem hours

Methods in teaching bookkeeping, general business and business law with application to classroom situations. Emphasis on objectives, lesson planning, techniques of teaching and sources of materials.

Prereq: 241 Principles of Accounting, 360 Principles of Marketing, 303 Law of Commercial Transactions, and 302 Educational Psychology. A "C" average in all business subjects taken at Eastern Michigan University is required before enrollment.

365 Methods of Teaching Secretarial Subjects. Two sem hours

Methods of teaching typewriting, shorthand or office practice

with applications to classroom situations. Emphasis on objectives, lesson planning, techniques of teaching and sources of materials.

Prereq: 222 Office Services, 224 Office Machines, 227 Shorthand Speedbuilding (non-secretarial students are exempt from 227), and 302 Educational Psychology. A "C" average in all business subjects taken at Eastern Michigan University is required before enrollment.

395 Office Management. Three sem hours

Office problems from the point of view of the administrator. Consideration given to office organization, physical facilities, nature of office work, personnel relations and control of office output.

Prereq: 382 Introduction to Management.

415 Records Administration. Two sem hours

A study of management methodology in records, control, costs, protection, retention, retrieval and disposal. Emphasizes records administration as a management tool.

Prereq: 395 Office Management.

417 Business Internship. Three sem hours

On-the-job experience in performing operational activities or in executing managerial and supervisory functions in the fields of accounting, management, marketing or secretarial. At least nine hours of weekly practical work experience must be gained with attendance at a one-hour weekly seminar. *Required for business technology students; other business students by permission of the department.*

466 Methods and Materials in Teaching Distributive Education. Two sem hours

Techniques and practices utilized in teaching distributive education in secondary schools, community colleges and in adult evening schools.

Prereq: 241 Principles of Accounting, 360 Principles of Marketing, 363 Retailing, 368 Marketing Strategy and 302 Educational Psychology. A "C" average in all business subjects taken at Eastern Michigan University is required before enrolling.

GENERAL BUSINESS

Department Head: Roger E. Hawkins

Professors: Leland Brown, W. Oscar Collins, Robert I. Hislop

Associate Professors: James H. Conley, Thomas M. Johnson, Robert L. Minter, Jack N. Thornhill

Assistant Professors: Sergio Antiochia, Kenneth K. Cassell, Dixon R. Doll, John A. Fisher, John D. Hurd, Lawrence D. Mattice, John C. Meeske, Luis F. Rodriguez, James R. Wrixon

The General Business Department teaches a variety of courses that provide students a view of the business entity and how it operates. General Business students are exposed to the fundamentals of business and the technological tools of business.

Specifically, the general business program is designed to fit the needs of three different groups of students.

A General Business Major:

For those students who do not wish to specialize in a particular academic area, the General Business Major provides a broad background in business administration that

will equip them for a variety of positions in business and industry. In addition to the basic courses in business administration required of all business majors, each student selects representative courses in accounting, finance, management, marketing and general business that will contribute to his or her educational and vocational objectives.

Business Computer Systems:

The General Business Department offers a major in business computer systems for those students who are interested in the field of business information and computer systems and related quantitative methods. This major provides the student with a comprehensive study of computers, quantitative methods, systems analysis and their application to the functional areas of business. This major course of study includes such topics as applied computer science analysis and design, designing computer based information systems and programming of computer systems.

Public Administration:

Students interested in public administration should pursue a general business major and contact the department head for developing a course of study.

General Business Major (23 Semester Hours)

(To be completed in conjunction with bachelor's degree requirements on page 32.)

	Semester Hours
General Business Area of Concentration	23
Required	12
304 Law of Business Enterprises	3
306 General Insurance	3
354 Investments	3
A 300 or 400 Course in General Business	3
Restricted Electives	9
(Elect at least one course from three of the following four areas)	
Accounting and Finance	
340 Intermediate Accounting	3
341 Intermediate Accounting	3
343 Managerial Cost Accounting	3
344 Tax Accounting	3
355 Intermediate Financial Theory	3
453 Commercial Banking	3
General Business	
316 Programming of Business Information Systems	3
402 Business Report Writing	3
403 Labor Law	3
406 Life and Health Insurance	3
407 Property and Liability Insurance	3
415 Design of Computer-Based Information Systems	3
465 Business Statistics II	3
Management	
384 Personnel Administration	3
386 Organization Theory	3
390 Management Systems	3
394 Production Management	3
399 Small Business Management	3
480 Management Responsibility in Society	3
Marketing	
368 Marketing Strategy	3
369 Advertising	3
374 Industrial Marketing	3

378 International Marketing	3
470 Marketing Research	3
475 Marketing Management	3
Free Electives in Business Administration	2

General Business Minor (20 semester hours)

(a non-teaching minor for non-business majors)

	Semester Hours
Required Courses	9
240 Principles of Accounting	3
241 Principles of Accounting	3
303 Legal Environment of Business	3
Electives from the following	11
215 Computers in Business	3
302 Business Communication	3
304 Law of Business Enterprises	3
306 General Insurance	3
316 Programming of Business Information Systems	3
353 Principles of Finance	3
354 Investments	3
360 Principles of Marketing	3
382 Introduction to Management	3
402 Business Report Writing	3

Business Computer Systems Major (23-24 Semester Hours)
(To be completed in conjunction with bachelor's degree requirements on page 32.)

	Semester Hours
Required:	23-24
316 Programming Business Information Systems	15
317 Simulation and Systems Analysis	3
415 Design of Computer-Based Information Systems	3
417 Administration of Computer-Based Information Systems	3
418 Computers in Business Decision-Making	3
Restricted Electives:	3
337 (Mathematics) Computer Programming Languages	3
446 (Accounting) Financial Information Systems	3
Other electives in business administration and mathematics	5-6

Business Computer Systems Minor (21 Semester Hours)

	Semester Hours
Required:	21
215 Computers in Business	15
240 Principles of Accounting I	3
316 Programming Business Information Systems	3
382 Principles of Management	3
415 Design of Computer-Based Information Systems	3
or	
418 Computers in Business Decision Making	3

Electives from the following:	6
317 Simulation and Systems Analysis	3
337 (Mathematics) Computer Programming Languages	3
417 Administration of Computer-Based Information Systems	3
415 Design of Computer-Based Information Systems	
<i>or</i>	
418 Computers in Business Decision-Making .	3
446 (Accounting) Financial Information Systems	3

COURSES

100 Business Enterprise: Theory and Practice.

Three sem hours

This course is designed to examine the business enterprise system as illustrated by the American corporation. It identifies specific principles and practices essential for making various forms of business enterprises successful economic and social phenomena. It assists the individual student in determining whether business enterprise represents an attractive career opportunity and way of life. *Open to all freshmen and sophomores and non-business upperclassmen.*

166 Finite Mathematics for Business. Four sem hours
(See Department of Mathematics).

215 Computers in Business. Three sem hours
Basic elements of computer hardware, software and programming and the use of the computer in business data processing and decision making. Students will develop and execute a number of programs using the Fortran programming language.
Prereq: 164 Algebra or equivalent.

302 Business Communication. Three sem hours
Study of basic principles, elements and practices underlying all communication. Particular attention given to the thinking and creative processes involved in problem solving and effective writing. Emphasis on the psychology, planning and writing of business letters, reports and memos.
Prereq: Junior standing or permission of the department.

303 Legal Environment of Business. Three sem hours
Enforceability of contractual arrangements, sanctions for their breach, justifiable excuses for non-performance. Basic ideas of the law or torts. Sales of goods and other transactions under the Uniform Commercial Code. Problems of legal procedure. Problems of statutory interpretation and policy in reconciling the interests of parties to business transactions—consumers, manufacturers, dealers and the government.
Prereq: Junior standing or permission of the department.

304 Law of Business Enterprises. Three sem hours
Examines the legal principles concerning association in business by agency, partnership, other unincorporated firms and corporations. Special emphasis is placed on the structure and characteristics of the modern corporation, including institutions ranging from the large, public-held enterprise to the small, closed group of venturers; the promotion and organization of corporations; the financing of the business enterprise; the evolving federal law of corporation in the areas of fraud and civil liabilities; management-shareholder relations; the

concept of accountability as applied to corporate activities; the bankruptcy law; selected legal and economic aspects of direct regulation of business by administrative agencies.
Prereq: 303 Legal Environment of Business.

306 General Insurance. Three sem hours
An introduction to the basic principles, concepts and understandings of the major types of insurance property and allied lines, casualty, life, health and social insurance. Emphasis is given to the identification and methods of handling personal and business risks.
Prereq: Junior standing or permission of the department.

308 Personal Finance. Three sem hours
Money management, including budgeting, consumer credit and banking facilities, investments, including savings, insurance securities and real estate; wills and trusts; federal income taxes. Designed for teachers of high school general business courses, but of value to others, especially to married students. Does not apply toward accounting and finance major.
Prereq: Junior standing or permission of the department.

316 Programming of Business Information Systems. Three sem hours
Programming languages and techniques typically encountered in computer-based business information systems. Includes a detailed study of the COBOL business-oriented programming language, data file organization and processing methods.
Prereq: 215 Computers in Business or permission of the department.

317 Simulation and Systems Analysis. Three sem hours
Computer-based models and simulation techniques for business analysis and decision-making. Includes analytical development and computer implementation of simulation models of various types of business processes and systems. Each student will use the computer to construct and process models of various degrees of sophistication, including a term project related to the student's major area of interest.
Prereq: 215 Computers in Business and 365 Business Statistics I.

365 Business Statistics I. Three sem hours
Elementary statistics with emphasis on business, economic and sociological applications. Averages, dispersion, sampling, time series and correlation. (May be used to satisfy the Group II requirements.)
Prereq: Junior standing and 166 Finite Mathematics for Business.

402 Business Report Writing. Three sem hours
Study of principles and practices of business report writing required of men and women in their professional careers in business, industry, education and government. Emphasis is on concepts, their illustrations and applications. Attention given to the creative and functional aspects in understanding the problem, gathering and organizing data and presenting reports for management, employees and the public.
Prereq: 302 Business Communication.

403 Labor Law. Three sem hours
Designed to present the legal framework within which the business (or public) manager must make personnel and labor relations decisions; primary emphasis on labor relations, showing historical development of government policies and outlining major problem areas; limited coverage of labor standards and related matters.
Prereq: 303 Legal Environment of Business.

406 Life and Health Insurance. Three sem hours
 A study of the purposes, uses and role of life insurance in our society. Major topics covered are nature and uses, legal aspects, types of policies, contract provisions, rate-making company organization and operation, underwriting practices and regulation.

Prereq: 306 General Insurance or permission of the department.

407 Property and Liability Insurance. Three sem hours
 A study of the principles and practices of property and liability insurance. Primary emphasis is on developing an understanding of the various property and liability insurance contracts and their uses. Role of risk manager in handling personal and business risks is stressed.

Prereq: 306 General Insurance or permission of the department.

415 Design of Computer-Based Information Systems. Three sem hours
 Analysis and design of computer-based business information systems. Analysis of information system requirements, design approaches, processing methods and data management.

Prereq: 316 Programming of Business Information Systems or permission of the department.

417 Administration of Computer-Based Information Systems. Three sem hours
 Study of the overall development of information systems with emphasis on integrated systems which support management planning and control; the flows and networks of information in organizations within a total systems framework technology.

Prereq: 215 Computers in Business.

418 Computer Systems in Business Decision-Making. Three sem hours
 This course presents computers and information systems as a decision making resource. Software packages, computer based decision models, peripheral equipment and computer system configurations suited for decision making are considered. Concepts such as decision trees, mathematical programming, CPM-PERT and management simulation games are presented within an integrated systems framework.

Prereq: 215 Computers in Business and 365 Business Statistics I.

465 Business Statistics II. Three sem hours
 Testing of hypotheses, power functions and Bayesian inference. Chi squares, F and t distributions; analysis of variance. Index numbers and time series analysis. Simple and multiple regression and multiple correlation.

Prereq: 365 Business Statistics I.

MANAGEMENT

Department Head: Claude I. Shell, Jr.
Professors: Lincoln W. Deihl, Floyd A. Patrick
Associate Professors: Jagdish T. Danak, Lawrence A. Klatt, Donald W. Magoon
Assistant Professors: Nicholas J. Beltsos, Douglas D. Cantrell, K. Tim Hostiuck, Alfred H. Jantz, Fat-hi F. Sokkar

Management's primary concern is with organization and maximization of efficiency in organized activities. The man-

agement curriculum is designed to provide the student with the necessary foundation to acquire an understanding of the problems of organizing human resources and activities. This will enable him to lend intelligent support and guidance to the enterprise system.

The management program seeks to demonstrate causal relationships in policy formulation, decision-making and productivity through utilization of the scientific method in the initiation and evaluation of various aspects of organizational practice and behavior. Embodied in the management approach to the solution of business problems is the study of organization theory and administration and a concern for the relevance of social and psychological elements which impinge upon the policy-making process.

Management majors will choose a concentration in either personnel-industrial relations or production-operations research. Because of the nature of the field of management, students are strongly urged to elect as many courses as possible in the supportive areas of sociology, psychology, economics and mathematics.

Management Major (24 Semester hours)

(To be completed in conjunction with bachelor's degree requirements on page 32.)

	Semester Hours
Required:	9
386 Organization Theory	3
394 Production Management	3
or	
491 Operations Research and Analysis	3
480 Management Responsibility in Society	3

Concentrations (the student should select one of the two following concentrations)

Personnel-Industrial Relations	9
384 Personnel Administration	3
482 Wage and Salary Administration	3
487 Problems in Personnel Administration	3
General electives	6
Production-Operations Research	9
491 Operations Research and Analysis	3
494 Quantitative Techniques in Production	3
317 Simulation and Systems Analysis	3
or	
466 Marketing Models	3
General Electives	6

General Electives (Any of the following courses not taken as part of the core or area of concentration)

342 Managerial Cost Accounting	3
384 Personnel Administration	3
390 Management Systems	3
394 Production Management	3
396 Materials Procurement and Inventory Control	3
399 Small Business Management	3
403 Labor Law	3
482 Wage and Salary Administration	3
487 Problems in Personnel Administration	3
491 Operations Research and Analysis	3
494 Quantitative Techniques in Production	3

Management Minor

	Semester Hours
Management Minor (for non-business majors)	21
Required	9
240 Principles of Accounting	3
360 Principles of Marketing	3
382 Introduction to Management	3
Electives	12
215 Computers in Business	3
384 Personnel Administration	3
386 Organization Theory	3
390 Management Systems	3
394 Production Management	3
396 Materials Procurement and Inventory Control	3
399 Small Business Management	3
480 Management Responsibility in Society	3
482 Wage and Salary Administration	3
487 Problems in Personnel Administration	3
491 Operations Research and Analysis	3
494 Quantitative Techniques in Production	3

COURSES

382 Introduction to Management. Three sem hours

An analysis of the basic managerial functions and the principles which guide their proper execution at the administrative, staff and operational levels. Designed to aid students in developing a philosophy of management and in acquiring administrative techniques. The course is taught with emphasis on the production concepts as illustrative of management practices generally applicable to all managerial or administrative activities.

Prereq: 201 Principles of Economics.

384 Personnel Administration. Three sem hours

Industrial relations functions in business organization. Recruitment, selection, placement, training, motivation and appraisal of personnel; emphasizing the scientific approach to the solution of practical problems of industrial manpower utilization.

Prereq: 382 Introduction to Management or permission of the department.

386 Organization Theory. Three sem hours

The study of behavioral problems in administration. Individual, group, intergroup and organizational behavior under dynamic environment conditions. Theory and case analyses.

Prereq: 382 Introduction to Management.

390 Management Systems. Three sem hours

Various concepts of systems theory and application. Methods of establishing, analyzing, standardizing and controlling administrative systems. Work simplification, workflow charting and systems control applications to organizational units.

Prereq: 382 Introduction to Management.

394 Production Management. Three sem hours

An introduction to the production function in business and industry through an acquaintance with the managerial aspects of manufacturing operations. Topics include manufacturing policy, product and design, manufacturing processes, plant location and layout, operational analysis, performance standards, inventory and production control. Implications of automation and technological change are discussed.

Prereq: 382 Introduction to Management; *prereq or coreq:* 365 Business Statistics I.

396 Materials Procurement and Inventory Control.

Three sem hours

Materials procurement and management viewed as an essential adjunct to the production function in business and materials procurement, storage and production activity. Principles and practices conducive to effective production management through quantitative and qualitative controls in relation to the factors of time, place, and price are presented from an administrative policy viewpoint.

Prereq: 394 Production Management or permission of the department.

399 Small Business Management. Three sem hours

A study of the major concepts and fundamental principles involved in the management of a small business enterprise. Emphasis will be placed on the role of the small firm in the national economy, the managerial considerations involved in establishing such a venture and the managerial problems confronting the entrepreneur.

Prereq: 382 Introduction to Management, 353 Principles of Finance and 360 Principles of Marketing.

480 Management Responsibility in Society. Three sem hours

Deals with social, legal and moral pressures of external and community groups on business operations, including management's role of responsibility and leadership in interacting with these forces and reducing and resolving conflicts with them.

Prereq: Senior standing or permission of the department.

482 Wage and Salary Administration. Three sem hours

Basic concepts of design and methodology for wage and salary administration in an organization. Fundamental considerations in evaluating jobs and positions. Compensation methods and wage incentive systems.

Prereq: 384 Personnel Administration and 386 Organization Theory or permission of the department.

487 Problems in Personnel Administration. Three sem hours

Cases in the major functional areas of personnel administration are used to develop skill in analysis and solution or resolution to operating problems.

Prereq: 384 Personnel Administration and 386 Organization Theory or permission of the department.

490 Business Policy. Three sem hours

Integration and analytical application of functional areas of business to case problems. Emphasis on policy issues in the identification and resolution of problem situations.

Prereq: Senior standing in business administration or permission of department (senior standing implies completion of the College of Business core).

491 Operations Research and Analysis.

Three sem hours

Introduction to operations research techniques used in solving management problems. Emphasis is on formulation and solution of some deterministic and stochastic models.

Prereq: 382 Introduction to Management and 365 Business Statistics I or equivalent.

494 Quantitative Techniques in Production.

Three sem hours

An advanced course in the application of operations research techniques to production problems.

Prereq: 394 Production Management and 491 Operations Research or permission of the department.

MARKETING

Department Head: Robert J. Williams

Professor: Earl A. Roth

Associate Professors: Raymond J. Drake, David L. Kurtz,
A. Edward Spitz

Assistant Professors: Charles R. Ashton, Joseph L. Braden,
James D. Goodnow, James E. Hansz, Colin F. Neuhaus,
Edith G. Phillips

Marketing's primary concern is with developing marketing programs and systems which maximize the economic and social goals of the business firm. The marketing curriculum is designed to provide the student with the necessary background and decision-making tools so that he can effectively develop and execute marketing strategy. Considerable time is devoted to analyzing the consumer, his characteristics and motivations, and developing a "mix" of the various tools which the marketing manager has at his disposal—product attributes, personal selling, advertising, distribution and pricing—to meet the desires of consumers. With considerable emphasis on the consumer, marketing draws upon many of the contributions made by the behavioral sciences—economics, psychology and sociology—to the field of marketing. When appropriate, case studies, computer simulations and games are used to provide a dynamic decision-making environment.

Major in Marketing

Students in the field of marketing are required to complete the following major area of concentration in addition to the general requirements for the bachelor's degree in business administration indicated on page 106.

	Semester Hours
Marketing Area of Concentration	24
Required	12
365 Buyer Behavior	3
368 Marketing Strategy	3
*470 Marketing Research	3
475 Marketing Management	3
Restricted Electives	12
363 Retailing	3
364 Distribution Systems	3
369 Advertising	3
374 Industrial Marketing	3
461 Sales Management	3
466 Marketing Models	3
472 International Business	3
478 Practicum in Marketing	3
479 Senior Honors Program	3

Minor in Marketing (A non-teaching minor)

Students who are not majors in the College of Business may elect to minor in marketing. Twenty-one semester hours as indicated below constitute a minor in this academic field.

*365 Introduction to Business Statistics is a prerequisite and should be completed by the end of the junior year.

	Semester Hours
Marketing Minor (for non-business majors)	21
Required	9
240 Principles of Accounting	3
360 Principles of Marketing	3
382 Introduction to Management	3
Restricted Electives	12
215 Computers in Business	3
363 Retailing	3
364 Distribution Systems	3
365 Buyer Behavior	3
368 Marketing Strategy	3
369 Advertising	3
374 Industrial Marketing	3
461 Sales Management	3
466 Marketing Models	3
470 Marketing Research	3
472 International Business	3
475 Marketing Management	3
478 Practicum in Marketing	3
479 Senior Honors Program	3

COURSES

360 Principles of Marketing. Three sem hours
Marketing as a basic function in the firm and in the economy. Emphasis is placed on the relationship between marketing activities and the consumer. Includes both functional and institutional aspects of marketing.

Prereq: 201 Principles of Economics.

363 Retailing. Three sem hours
Principles of retail store management. Attention is given to store location, layout, personnel, organization, buying, inventory, sales promotion, customer services and operating expenses. Cases and outside speakers.

Prereq: 360 Principles of Marketing.

364 Distribution Systems. Three sem hours
Marketing organization through alternative channels of distribution. Emphasis is given to distribution system design, distribution costs, decision theory in channel choice and relations between microunits within the system.

Prereq: 360 Principles of Marketing.

365 Buyer Behavior. Three sem hours
Concepts and research related to consumer and industrial buyer behavior. Attention given to sociological and psychological aspects of consumer and industrial buyer behavior, product adoption and diffusion, fashion and fad theory, household decision making, industrial buying decision making and other behavioral models.

Prereq: 360 Principles of Marketing and 101 General Psychology.

368 Marketing Strategy. Three sem hours
Advanced policies and practices in marketing. Emphasis is on case analysis of marketing problems pertinent to product, price, promotion and channels of distribution policies. Quantitative data relevant to a marketing decision will be stressed.

Prereq: 360 Principles of Marketing.

369 Advertising. Three sem hours
Principles of advertising. Includes the role of advertising in the consumer and industrial sectors of our economy, advertising

research, media and copy strategy, reseller helps and the importance of creativity and promotional campaigns in the marketing mix.

Prereq: 360 Principles of Marketing.

374 Industrial Marketing. **Three sem hours**
Marketing problems of manufacturers of industrial goods—goods such as machinery and equipment, raw and semifabricated materials, industrial supplies and component parts. The course emphasizes market planning, relationship between purchasing and marketing, industrial buyer behavior, pricing and negotiation and industrial procurement policies. Case problems and outside speakers used.

Prereq: 360 Principles of Marketing.

461 Sales Management. **Three sem hours**
Planning, organizing, directing and controlling the sales force. Includes recruiting, selecting, training, evaluating, compensating and supervising salesmen.

Prereq: 360 Principles of Marketing.

466 Marketing Models. **Three sem hours**
Introduction to quantitative methods in marketing. The application of inventory models, linear programming models, sales forecasting models, gaming and simulation of marketing decisions.

Prereq: 365 Business Statistics I and 368 Marketing Strategy.

470 Marketing Research. **Three sem hours**
Types of research techniques used by business to coordinate marketing activities with consumer demand. Includes planning

the research project, collecting data, analysis of data and preparation of the research report.

Prereq: 365 Business Statistics I and 368 Marketing Strategy.

472 International Business. **Three sem hours**
Analysis of the global economic, political, cultural and geographic environments and their impact on market entry. Strategies of multinational firms; and survey of changes in marketing, finance, personnel and production policies resulting from international environmental differences.

Prereq: 360 Principles of Marketing, 382 Introduction to Management and 353 Principles of Finance.

475 Marketing Management. **Three sem hours**
Integration of marketing activities and planning the marketing program. Attention given to the contribution of economics, behavioral sciences, statistics and mathematics to the field of marketing. Case analysis used.

Prereq: 470 Marketing Research and senior standing.

478 Practicum in Marketing. **Three sem hours**
The purpose of this practicum will be to select a marketing topic and study it in depth emphasizing related disciplines and appropriate decision-making tools.

Prereq: Permission of the department.

479 Senior Honors Program. **Three sem hours**
A research and reading course for students majoring in marketing with senior standing.

Prereq: 470 Marketing Research cumulative grade-point average of 3.0 and permission of the department.



COLLEGE OF EDUCATION

DEAN: Allen Myers

Assistant Dean: Francis M. Daly

DEPARTMENTS

Curriculum and Instruction

Education

Educational Leadership

Educational Psychology

Guidance and Counseling

Health, Physical Education and Recreation

Special Education and Occupational Therapy

CURRICULUMS FOR TEACHERS

The College of Education is comprised of the departments of educational leadership, educational psychology, curriculum and instruction, guidance and counseling, health, physical education and recreation, special education and occupational therapy, the divisions of educational media and social foundations, and the offices of student teaching, pre-student teaching and admissions. The College of Education:

1. supervises selection, advisement and retention of students who are preparing for teaching certificates.
2. provides instruction in professional course work for students preparing for teaching certificates.
3. places and supervises pre-student teachers.
4. places and supervises student teachers.
5. provides service courses for other colleges and departments of the University.
6. provides specialized course work for students in curriculums other than teacher education.

A student seeking the bachelor's degree and a teacher's certificate may select from twelve curriculums the one which will allow him an opportunity to develop competency in the teaching field of his choice.

The twelve curriculums are:

Curriculums for Elementary Teachers

1. Early Elementary
2. Later Elementary

Curriculum for Secondary Teachers

1. Junior-Senior High School

Curriculums for Teachers of Specialized Subjects

1. Art
2. Business Education
3. Home Economics
4. Industrial Education
5. Library (Librarians in elementary, junior and senior high schools)
6. Music
7. Physical Education
8. Recreation
9. Special Education

TEACHING CURRICULUMS REQUIREMENTS

Admissions and Pre-Student Teaching
Vernon H. Jones, Coordinator

In addition to general University curricular requirements, there are certain requirements common to all teaching curriculums. They are as follows:

1. Admission to the College of Education curriculums

Admission to the College of Education curriculums is not automatic. Students apply for admission at the time they decide to pursue teaching as a career, usually in their first or freshman year. Application forms may be obtained in the Admissions and Pre-Student Teaching Office located in Boone Hall.

2. Admission and continuance in professional education courses

Admission to and continuance in professional education courses (Group IV courses) is based upon the following requirements:

1. Scholarship—minimum average "C"
2. Acceptable standing in the departments of instruction in which the major and/or minor curriculum is being pursued
3. Demonstrated competence in:
 - a. Speaking effectiveness as determined by test
 - b. Effective reading ability
 - c. Written expression
 - d. Arithmetical computation
4. Satisfactory health status certified by the University Health Service
5. Social and emotional adjustment: account will be taken of standards of conduct expected on this campus, the degree to which the student meets his academic, financial, moral, social and other obligations, and the extent to which he practices good citizenship among his fellow students
6. Freedom from any kind of probation—administrative, academic or social. While on academic probation, no student may register for, remain in, or receive credit for a Group IV Professional Education course offered by the following departments or divisions within the College of Education: Curriculum and Instruction; Educational Media and Library Science; Social Foundations; Student Teaching; Educational Psychology; Guidance and Counseling; and Special Education (but not Occupational Therapy). This includes all strictly Group IV methods classes listed by cross-reference in these departments, even though the courses are also listed by and taught in other departments. It does not include the following introductory courses: 100 Introduction to Education, 241 Introduction to Speech Correction, and 251 Education of Exceptional Children.

No credit may be earned in any graduate level course (500 and above) on-campus or off-campus, while an undergraduate student is on academic probation.

3. Pre-Student Teaching Requirement

Two twenty-four hour laboratory experiences (pre-student teaching) are required of all candidates for a teaching certificate.

The primary purpose for requiring such experiences is to enable students to understand college course work dealing with human growth and development, the nature of the learning-teaching process and the societal context within which the school operates. Though it is not always possible, the experiences are most valuable when they are an integral part of certain education courses and are supervised either directly or indirectly by class instructors.

These experiences also help the student to better understand himself—if he is really capable of working with children or youth, in what specialty and at what teaching level he can best function, and what knowledge skills and attitudes he needs to develop before beginning student teaching.

There are opportunities available for pre-student teaching through school noon-hour and after school recreation programs, for assisting in Boy's Clubs, Boy Scouts, Girl Scouts, YMCA and YWCA, for assisting in hospitals, community centers, church youth groups, in classrooms in public schools, in day care centers and in nursery schools. Other activities include tutoring, working with culturally deprived children in enrichment programs after school and on Saturdays and the school camping program.

Activities must be approved by the coordinator of pre-student teaching. Students usually engage in such activities several hours per week. A record of participation is

required at the beginning and end of each semester. It is the responsibility of each student to keep an up-to-date record of pre-student teaching experiences. Records are filed in the office of the coordinator in Boone Hall, where information and assignment in pre-student teaching experiences may be obtained.

Speech correction majors may use Clinical Practice II to satisfy the pre-student teaching requirement. Majors in the area of the Emotionally Disturbed may use 240 Pre-Clinical Experience to satisfy the pre-student teaching requirement.

Student Teaching Kenneth W. Stanley, Coordinator

All candidates for teaching certificates are required to engage in student teaching, for which eight semester hours of credit may be earned. The sequence of student teaching courses will be determined by the curriculum pursued.

Students in the special education curriculum are required to devote one semester to teaching in a regular classroom and another semester to teaching a class in special education.

Students in education for the deaf are required to complete four semester hours of student teaching with normal children and eight semester hours with the deaf and hard of hearing.

Students specializing in education for the visually handicapped (blind and partially seeing) are required to complete four semester hours of student teaching with normal children and six semester hours of student teaching with visually handicapped children.

Students specializing in education for the mentally retarded are required to complete four semester hours of student teaching with normal children and six semester hours of student teaching with mentally retarded children.

Students specializing in education for the physically handicapped are required to complete four semester hours of student teaching with normal children and six semester hours of student teaching with the physically handicapped.

Students specializing in speech correction are required to complete four semester hours of student teaching with normal children at the undergraduate level and four semester hours of student teaching in speech correction during the fifth year of study.

Students specializing in the teaching of emotionally disturbed children are required to complete four semester hours of student teaching with normal children and six semester hours with emotionally disturbed children.

All students preparing to teach junior and senior high school academic subjects or in the special fields of art, music, home economics, industrial education and physical education are required to engage in student teaching for a total of eight semester hours credit.

Persons who have completed satisfactorily one year of preparation in a Michigan country normal school are given credit for three semester hours of student teaching. They are required to take such additional units as are specified on the particular curriculum pursued.

1. A student must have fulfilled the requirements of pre-student teaching in order to be placed in a student teaching assignment.
2. No student will be assigned to student teaching whose scholarship index is less than 2.0 (below "C" average).
3. After having received this assignment, the student must enroll in the appropriate student teaching course. See page 139 in this catalog for a description of these courses.

4. Priority in summer session student teaching is given those students who hold a regular special certificate and who are experienced teachers.
5. Students who are pursuing a four-year curriculum should not begin their student teaching before the first semester of the senior year.
6. The standard class load for student teachers is fifteen semester hours. To be considered by the coordinator of student teaching for more than fifteen semester hours, the student must have a 3.0 cumulative index and be recommended by his major department and the dean of students.
7. Students are expected to take work on campus prior to student teaching. Students applying for student teaching who have had no work on campus will be required to submit a record showing satisfactory completion of an approved program leading to student teaching. Recommendations from suitable officials at the applicant's former institution and/or from employers must be received at Eastern Michigan University prior to August 1 for fall semester and November 1 for winter semester student teaching.
8. During the time that the student is doing his teaching, he should so arrange his daily schedule that his teaching will take precedence over other interests and duties.
9. Conferences are designed for the assistance of student teachers. The student is expected to attend student teacher assemblies as called. He is expected to have conferences with his cooperating teachers and university supervisor.
10. The following prerequisites are to be completed prior to student teaching:
 - a. 302 Educational Psychology and 303 Principles of Teaching or 320 Human Growth and Development and 326 School and Society
 - b. Early Elementary: Two of the specific methods courses (310 Teaching of Reading, 381 Teaching of Mathematics or 402 Science for Elementary Grades)
 - c. Later Elementary: Two of the specific methods courses (310 Teaching of Reading, 381 Teaching of Mathematics, 402 Science for Elementary Grades or 348 Teaching Social Studies in the Elementary School).
 - d. Junior-Senior High School: A special methods course in the major or minor field.
 - e. Specialized fields: The appropriate special methods courses in the major field. Students who teach in their minor specialized field must complete the methods course in that field.

Applications for student teaching may be obtained from the Student Teaching Office in Boone Hall. Applications should be completed and returned to the Student Teaching Office prior to the appropriate deadline date of January 15, for placement in the following fall semester and April 15, for the winter semester. Applications for student teaching in the summer session are to be completed and returned by the previous March 15. Assignments are made one week prior to advance registration of students for the subsequent semester.

Coordinating Council on Professional Education

Continuous integration of the teacher education program

is the objective of the Coordinating Council on Professional Education, which is composed of representatives of the College of Education, a representative of the Division of Field Services and a representative from the Division of Student Affairs. The Council recommends requirements for admission to professional course work, passes upon applications for student teaching, advises on relevant matters concerned with the operation of the teacher education program and plans the further development of the program.

CURRICULUMS FOR ELEMENTARY TEACHERS

EARLY ELEMENTARY CURRICULUM

Bachelor of Science Degree

State Elementary Provisional Certificate Kindergarten, Grades 1, 2 and 3

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	8-11
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
207 Introduction to Children's Literature	3
Group II Science	14
101 Functional Mathematics	3
101 General Psychology	3
Any two of the following	8
108 Earth Science	4
105 Biological Science	4
110 Physical Science	4
119 Fundamentals of Chemistry	4
(Or more advanced lab courses in the same departments)	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (Group V courses below automatically meet this requirement)	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	

Group IV Education	31
*310 The Teaching of Reading	3
320 Human Growth and Development	4
326 School and Society	6
344 Audio-Visual Methods in Teaching	2
*381 Teaching of Mathematics K-6	3
*402 Science for Elementary Grades	3
418 Seminar in Education	2
492 Student Teaching	8
Group V Fine Arts	11
101, 300 Art	6
104, 320 Music	5
Group VI Practical Arts	5
253, 354 Industrial Arts for Elementary Grades	5
Group VII Physical Education and Health	6
320 Health Education in Elementary Grades	2
Physical education activity courses (eight act. hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Women: Must include 157	
Additional Required Work	2
241 Introduction to Speech Correction	
Electives	27-20
Total	124

Students who have credit for 303 Principles of Teaching, or 340 Evaluation of Pupils should continue to satisfy those requirements. Prior to student teaching, 326 School and Society and two starred methods courses must be completed.

The student must complete:

1. A major of at least 30 semester hours or a group major of 36 semester hours, and a planned program, which may consist of courses required on the Curriculum for Teachers in the Elementary Grades, of 20 semester hours in other substantive fields deemed appropriate to elementary education, or
 2. Three minors each of at least 20 semester hours, two of which shall be in substantive fields which could include a group minor of 24 semester hours, and one of which may be a planned program, which may consist of courses required on the Curriculum for Teachers in the Elementary Grades, of 20 semester hours in a combination of methods and content appropriate to elementary education.
- Majors and minors may be chosen from the following list where available and appropriate. See department requirements for details.

Art, Arts Group, Astronomy, Biology, Conservation, Dance, Dramatic Arts, Earth Science, Elementary Science, English Speech and Dramatic Arts, English Language, English Language and Literature, English Literature, French, General Science, Geography, Geology, German, Health, History, Home Economics, Industrial Education, Library Science, Mathematics, Music Education, Occupational Therapy, Physical Education, Physical Science, Political Science, Recreation, Science Group, Social Science Group, Spanish, Special Education, Speech, Speech and Dramatic Arts, Dramatic Arts for Children.

A person who fulfills the curriculum requirements for an elementary provisional certificate will have automatically

completed the minimum requirements for a planned program minor of 20 semester hours. In cooperation with an academic adviser, the student will select appropriate electives to strengthen this program.

Specific curricular patterns by semester are provided for each student by the College of Education upon enrollment. Students are assigned to a faculty adviser who assists them in planning all programs of classes. The normal academic load per semester is 15 to 16 semester hours, until student teaching is undertaken in the senior year. Activity hours to satisfy physical education requirements are taken in addition to the normal academic load of 15 to 16 semester hours.

The following pattern of subjects by year is suggested in meeting the requirements of the early elementary curriculum:

First Year*

	Semester Hours
121 or 124 Fundamentals of Speech	2-3
121 English Composition or A foreign language course (121 through 222)	3-6
101, 102 Reading of Literature or 221, 222 Foreign Language	6
101, 102 History of Civilization or one of these plus a course in sociology, geography or economics	6
101 Functional Mathematics	3
101 Introduction to Art	3
104 Elements of Music	2
112 American Government	3
Men: physical education activity	(2)
Women: Electives in physical education activity	(4)
Major, minor or elective courses	

Second Year

	Semester Hours
101 General Psychology	3
Two of the following	8
105 Biological Science	
108 Earth Science	
110 Physical Science	
119 Fundamentals of Chemistry	
207 Introduction to Children's Literature	3
A course in philosophy or religion	3
253 Industrial Arts for Elementary Grades	3
241 Speech Correction	2
320 Health Education	2
Men: physical education activity	(2)
Women: 157 physical education activity	(4)
Major, minor or elective courses	

Third Year

320 Human Growth and Development	4
<i>(Prereq: 101 General Psychology and no Child Psychology)</i>	
326 School and Society	6
<i>(Prereq: 320 Human Growth and Development)</i>	

Two of the following	5-6
310 Teaching of Reading	
381 Teaching of Mathematics K-6	
402 Science for Elementary Grades	
300 Creative Arts	3
320 Early Elementary Music Education	3
354 Industrial Arts for Elementary Grades	2
Women: physical education activity	(1)
Major, minor or elective courses	

Fourth Year

492 Student Teaching	8
Remaining methods courses	2-3
344 Audio-Visual Methods	2
418 Seminar in Education	2
Major, minor or elective courses	

LATER ELEMENTARY CURRICULUM

Bachelor of Science Degree

**State Elementary Provisional Certificate
Grades 4, 5, 6**

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	8-11
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
207 Introduction to Children's Literature	3
Group II Science	14
101 Functional Mathematics	3
101 General Psychology	3
Any two of the following	8
108 Earth Science	4
105 Biological Science	4
110 Physical Science	4
119 Fundamentals of Chemistry	4
Group III Social Science	12
101 or 102 History of Civilization	3
110 World Regions	3
Continental Geography Course	3
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (Group V courses below automatically meet this requirement)	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	32
302 Educational Psychology	3

*Freshman students should plan with their advisers a program totaling 30-32 semester hours for the first year and defer other required courses listed here until second and third years.

303 Principles of Teaching	3
310 Teaching of Reading	3
340 Evaluation of Pupils	2
344 Audio-Visual Methods in Teaching	2
348 Teaching Social Studies in Elementary Schools	3
381 Teaching of Mathematics K-6	3
402 Science for Elementary Grades	3
418 Seminar in Education	2
492 Student Teaching	8
Group V Fine Arts	11
101, 300 Art	6
104, 321 Music	5
Group VI Practical Arts	5
253, 254 Industrial Arts for Elementary Grades	5
Group VII Physical Education and Health	6
320 Health Education in Elementary Grades	2
Physical education activity courses (eight act. hr.)	4
Men: May apply two semester hours of mili- tary science toward this requirement	
Women: Must include 157	
Electives	25-21
Total	124

In addition to the above requirements, students must complete one of the following options:

The student must complete:

1. A major of at least 30 semester hours or a group major of 36 semester hours, and a planned program, which may consist of courses required on the Curriculum for Teachers in the Elementary Grades, of 20 semester hours in other substantive fields deemed appropriate to elementary education, or
2. Three minors each of at least 20 semester hours, two of which shall be in substantive fields which could include a group minor of 24 semester hours, and one of which may be a planned program, which may consist of courses required on the Curriculum for Teachers in the Elementary Grades, of 20 semester hours in a combination of methods and content appropriate to elementary education.

Majors and minors may be chosen from the following list where available and appropriate. See department requirements for details.

Art., Arts Group, Astronomy, Biology, Conservation, Dance, Dramatic Arts, Earth Science, Elementary Science, English Speech and Dramatic Arts, English Language, English Language and Literature, English Literature, French, General Science, Geography, Geology, German, Health, History, Home Economics, Industrial Education, Library Science, Mathematics, Music Education, Occupational Therapy, Physical Education, Physical Science, Political Science, Recreation, Science Group, Social Science Group, Spanish, Special Education, Speech, Speech and Dramatic Arts, Dramatic Arts for Children.

A person who fulfills the curriculum requirements for an elementary provisional certificate will have automatically completed the minimum requirements for a planned program minor of 20 semester hours. In cooperation with an academic adviser, the student will select appropriate electives to strengthen this program.

Specific curricular patterns by semester are provided for each student by the College of Education upon enrollment. Students are assigned to a faculty adviser who assists them in planning all programs of classes. The normal academic load per semester is 15 to 16 semester hours, until student teaching is undertaken in the senior year. Activity hours to satisfy physical education requirements are taken in addition to the normal academic load of 15 to 16 semester hours.

The following pattern of subjects by year is suggested in meeting the above requirements:

First Year*

	Semester Hours
121 or 124 Fundamentals of Speech	2-3
121 English Composition or A foreign language course (121 through 222)	3-5
101, 102 Reading of Literature or 221, 222 Foreign Language	6
101 or 102 History of Civilization	3
110 World Regions	3
101 Functional Mathematics	3
112 American Government	3
101 Introduction to Art	3
Men: physical education activity	(2)
Women: Electives in physical education activity	(4)

Second Year

	Semester Hours
101 General Psychology	3
253 Industrial Arts for Elementary Grades	3
207 Introduction to Children's Literature	3
Two of the following	8
105 Biological Science	
108 Earth Science	
110 Physical Science	
119 Fundamentals of Chemistry	
A course in philosophy or religion	3
104 Elements of Music	2
320 Health Education in Elementary Grades	2
Men: physical education activity	(2)
Women: 157 Physical Education Activity	(4)
Major, minor or elective courses	

Third Year

	Semester Hours
302 Educational Psychology	3
303 Principles of Teaching	3
Three of the following methods courses	9
310 Teaching of Reading	
348 Teaching of Social Studies—Elementary	
381 Teaching of Mathematics K-6	
402 Science for Elementary Grades	
354 Industrial Arts for Elementary Grades	2
321 Later Elementary Music Education	3
Continental geography course	3
Women: physical education activity	(1)
Major, minor or elective courses	

**Freshman students should plan with their advisers a program totaling 30-32 semester hours for the first year and defer other required courses listed here until second and third years.*

Fourth Year

	Semester Hours
492 Student Teaching	8
Remaining methods course	3
418 Seminar in Education	2
340 Evaluation of Pupils	2
344 Audio-Visual Methods	2
300 Creative Arts	3
Major, minor or elective courses	

**Group Majors and Minors
for Early and Later
Elementary Teachers**

The available options for satisfying the major subject and minor subject requirements of the elementary teaching curriculums are stated above. Students may use either the regular departmental major and minor sequences appearing under departmental headings earlier in this catalog, or the group majors and minors outlined below. The group minors are also acceptable on the special education curriculum.

Arts Group Major (36 Semester Hours)

	Semester Hours
101 Introduction to Art	3
104 Elements of Music	2
354 Industrial Arts for Elementary Grades	2
300 Creative Arts	3
222 The Child and Drama	3
253 Industrial Arts for Elementary Grades	3
320 Early Elementary Music Education or	
321 Later Elementary Music Education	3
Electives to complete major from courses in the following:	
Fine arts, industrial education, music or dramatic arts	17
Total	36

Arts Group Minor (24 Semester Hours)

All courses listed above under arts group major except 222. Add electives to complete the minor from courses in the following: fine arts, industrial education, music or dramatic arts.

Total	24
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Electives for the arts group major and minor may be drawn from, but not limited to the following recommended courses: Fine Arts: 115, 212, 213 or 421 History of Art; 122 Two-Dimensional Design, 305 Graphics, 307 Ceramics and Art Workshops offered during the summer semester.

Industrial Education: 102 Woodwork, 104 Graphic Arts, 121 Graphic Communication, 152 Arts and Crafts, 205 Printing and 255 Art Metalwork.

Music: 106 Introduction to the Performing Arts, 107 Music Appreciation, 207 and 208 Class Piano, 232 Voice Class, Applied Music Lessons, 131 University Choir, 134 University Women's Chorus, 135 University Men's Glee Club, 249 University Band, 248 University Orchestra and 322 Music Literature for Children.

Dramatic Arts: 222 The Child and Drama, 322 Theatre for Children, 323 Improvisation, 324 Oral Interpretation of

Children's Literature, 100 Introduction to Theatre, 106 Introduction to the Performing Arts, 133 Introduction to Theatre Crafts and 422, 423 and 424 Independent Study in Dramatic Arts for Children.

Elementary Science Group Major (36 Semester Hours)

	Semester Hours
Required Courses:	
*105 Biological Science (if exempt by test, substitute 205 Field Biology	4
*108 Earth Science	4
*110 Physical Science	4
119 Fundamentals of Chemistry	4
*102 or 101 General Psychology	4-3
Restricted electives in science from courses listed below	16-17

Elementary Science Group Minor (24 Semester Hours)

	Semester Hours
Courses starred above	15-16
Restricted electives from the courses listed below and may include 119 Fundamentals of Chemistry	9-8

Courses from the following list may be elected to complete a major or minor in science for the elementary curriculum. Of the total of 36 hours required on the major, not more than 12 hours may be taken in any one department.

Biology

205 Field Biology, 207 Elements of Ecology, 209 Ornamental Plants, 215 Economic Botany, 224 Principles of Conservation, 232 Nature Interpretation and 405 Organic Evolution. 208 Local Flora, 209 Insects and 210 Birds are to be available only to students having credit in one or more of them.

Chemistry

118 Contemporary Materials, 120 Fundamentals of Chemistry, 131 General Chemistry I, 180 Chemistry Laboratory Techniques, 219 Elementary Organic Chemistry, 220 Elementary Organic Chemistry Laboratory, 451 Biochemistry and 452 Biochemistry Laboratory.

Geography and Geology

114 Geography of National Parks, 223 Weather and Climate, 266 The Oceans, 227 Topographic Maps, 229 Rocks of Michigan, 230 Historical Geology, 301 Introduction to Cartography, 303 Field Geography, 461 Geomorphology.

Physics and Astronomy

112 Physical Science II, 211 Elementary Physical Science, 303 Introduction to Astronomy, 221 Mechanics, Sound and Heat and 222 Electricity and Light.

**Advanced courses to be selected in consultation with the adviser.*

Foreign Language Minors (20 Semester Hours)

	Semester Hours
French:	
343, 344 French Conversation and French Composition	5
412 Methods of Teaching Foreign Language in the Elementary Grades	2
Electives in French, any level	15
Total	22
German:	
343, 344 German Composition and German Conversation	5
412 Methods of Teaching Foreign Language in the Elementary Grades	2
Electives in German, any level	15
Total	22
Spanish:	
343, 344 Spanish Composition and Spanish Conversation	5
412 Methods of Teaching Foreign Language in the Elementary Grades	2
Electives in Spanish, any level	15
Total	22

Library Science Minor (20 Semester Hours)

207 Introduction to Children's Literature	3
314 Literature for Young Adults	3
320 The Media Center in the School	3
402 General Reference	3
404 Selection and Use of Materials	3
405 Organization of Materials	3
406 Storytelling or	
409 History of Books and Libraries	2
Total	20

Also required is 496 Student Teaching (Library Practice), 4 semester hours, as part of the student teaching work.

Literature, Language, Speech and Dramatic Arts Group Major

Students may elect a group major consisting of 36 semester hours:

	Semester Hours
Literature:	
101 Reading of Literature	3
102 Reading of Literature	3
207 Introduction to Children's Literature	3
210 Shakespeare	3
Language:	
121 English Composition	3
Nine hours to be chosen from the following, three of which must be either 222 Expository Writing or 223 Narrative Writing	9
222 Expository Writing	
223 Narrative Writing	
221 History of the English Language	
302 Modern English Syntax	
320 Introduction to Linguistics	

Speech and Dramatic Arts:

121 or 124 Fundamentals of Speech	2-3
132 Interpretative Reading	3
222 Dramatic Arts for Children	3
Elective in speech or dramatic arts	4-3
Total	36

The courses listed above under the literature and the language sections (using 121 English Composition) constitute an English language and literature minor for a student in elementary or special education.

See also the minors in dramatic arts for children and a special speech minor for students in elementary or special education offered by the Speech and Dramatic Arts Department on page 98.

Social Science Group Major for Elementary Education (36 Semester Hours)

At least twelve semester hours, but no more than eighteen semester hours, in one of the five social science areas, and at least three semester hours in each of the remaining areas must be elected. The five social science areas are: economics, geography (Group III), history, political science and sociology.

Geography and geology courses in science (Group II) and philosophy courses do NOT count on a social science group major or minor.

Social Science Group Minor for Elementary Education (24 Semester Hours)

Elementary education and special education students may elect the following group minor:

105 Introductory Sociology	3
123 Evolution of American Democracy or two history courses	3-6
110 World Regions	3
200 American Economy (or 201 Economics)	3
112 American Government	3
Social science electives	6-9
Total	24

Geography and geology courses in science (Group II courses) and philosophy courses do NOT count on this minor.

CURRICULUM FOR SECONDARY TEACHERS**JUNIOR-SENIOR HIGH SCHOOL CURRICULUM****Bachelor of Arts or Bachelor of Science Degree*****State Secondary Provisional Certificate**

(Students intending to teach the following specialized subjects in junior-senior high—art, business education, home economics, industrial education, library science, music, physical education, dance and recreation—should follow the curriculum.)

***Degree desired**

B.A.: Completion of curriculum with 75 hours in Groups I, II, III and one year of college credit in one foreign language.

B.S.: Completion of curriculum.

ulums listed in the next section, not the one listed on this page.)

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	10-12
101 General Psychology	3
Either of the following	7-9
Two laboratory science courses from the biology, chemistry, geography or physics departments (Both may be in the same department) or	
One laboratory science course from the above departments and one mathematics course	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or	
202 State and Local Government	
Humanities Area Requirements	11-12
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	24-25
320 Human Growth and Development	4
326 School and Society	6
Methods course	2-3
405 Guidance Function of Secondary School Teacher	2
418 Seminar in Education	2
492 Student Teaching	8
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hrs.)	3-4
Men: May apply two semester hours of military science toward this requirement	
Electives	61-51
Total	124

All students are required to complete a major subject of at least 30 semester hours, or a group major of 36 semester hours, and a minor of 20 semester hours or a group minor of 24 semester hours in subjects appropriate for teaching in secondary schools.

Specific curricular patterns by semester are provided for each student by the department in which the student is majoring. Students are assigned to a faculty adviser who is a member of the department that offers his major. This adviser

assists students in planning all programs of classes. The normal academic load per semester is 15 to 16 hours until student teaching is undertaken in the senior year. Activity hours to satisfy physical education requirements are taken in addition to the normal academic load of 15 or 16 semester hours.

The following pattern of subjects by year is suggested in meeting the above requirement:

First Year

	Semester Hours
121 or 124 Fundamentals of Speech	2-3
121 English Composition or	
A foreign language course (121 through 222)	3-5
101, 102 Reading of Literature or	
221, 222 Foreign Language	6
Two laboratory science courses or	
One laboratory science course and	
A mathematics course	6-8
101, 102 History of Civilization or	
One of these plus a course in economics, geography or sociology	6
A fine arts course in art, music or dramatic arts	2-3
Men: Physical Education (2)	1
Women: Electives in physical education activity (4)	
Courses in major per adviser	

Note: Some courses above may be deferred to the second year, if patterned to enable work in major subject to begin.

Second Year

	Semester Hours
101 General Psychology	3
112 American Government or	
202 State and Local Government	3
One sociology, geography or economics course (if needed)	3
Men: physical education activity(4)	2
Women: physical education activity	
Major, minor or elective courses	

Third Year

	Semester Hours
320 Human Growth and Development	4
<i>(Prereq: 101 Psychology)</i>	
326 School and Society	6
<i>(Prereq: 320 Human Growth and Development)</i>	
Methods course in major subject	2-3
A course in philosophy or religion	3
Major, minor or elective courses	

Fourth Year

	Semester Hours
492 Student Teaching	8
418 Seminar in Education	2
405 Guidance Function of Secondary Teacher	2
Major, minor or elective courses	

CURRICULUMS FOR TEACHERS OF SPECIALIZED SUBJECTS

CURRICULUM FOR TEACHERS OF ART

Bachelor of Art Education Degree

*Elementary, Secondary Provisional Certificate

Adviser Chairman, Kingsley Calkins

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	10-12
101 General Psychology	3
Either of the following	7-9
Two laboratory science courses from the biology, chemistry, geography or physics departments (both may be in the same department) or One laboratory science course from the above departments and one mathematics course	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (automatically completed in Group V courses below)	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	20
302, 303 Education	6
418 Seminar in Education	2
416, 417 Teaching of Art	4
492 or 495, 496 Student Teaching	8

**If elementary provisional certificate is desired, consult with the dean of Records and Teacher Certification regarding special requirements. Include 101 Functional Mathematics in Group II courses.*

Group V Fine Arts	54
107 Art Survey I	3
108 Art Survey II	3
122 Two Dimensional Design	3
123 Drawing I	3
124 Drawing II	3
210 Life Drawing	3
216 History of Contemporary Art	3
231 Three Dimensional Design	3
235 Design in Materials	3
301 Commercial Design	2
305 Graphics	3
307 Ceramics	3
310 Sculpture	3
313 Oil Painting	3
314 Water Color	2
320 Jewelry	3
Electives	8
Group VII Physical Education and Health	4
Physical education activity courses (eight act. hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	11-2
Total	124

Students completing the above curriculum will have satisfied all major and minor requirements for graduation.

A maximum of 60 semester hours in Group V fine arts courses is allowed.

BUSINESS TEACHER EDUCATION CURRICULUM

Bachelor of Business Education Degree

Secondary Provisional Certificate
Vocational Distributive Education Certificate
Vocational Office Education Certificate

Adviser Chairman, Charles H. Duncan

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	10
One laboratory science course from the biology, chemistry, geography or physics departments	4
101 General Psychology	3
164 Algebra	3
Group III Social Science	12
101 or 102 History of Civilization	3
220, 221 Elements of Economics	6
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected	

courses below from Group I, III and V must be taken to complete the Basic Studies.

A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Any of the following	3
180 Introduction to Logic	
200 Types of Philosophy	
201 The Comparative Study of Religion	
Group IV Education	22
302 Educational Psychology	3
303 Principles of Teaching	3
340 Evaluation of Pupils	2
Methods in business subjects (select two)	4
364 Methods of Teaching General Business Subjects	2
365 Methods of Teaching Secretarial Subjects	2
466 Methods and Materials in Teaching Distributive Education	2
418 Seminar in Education	2
492 Student Teaching	8
Group VI Practical Arts	40-50
Business Education Core	32
(Required of all Majors)	
215 Computers in Business	3
*121 Typewriting Applications	2
***224 Office Machines	3
240 Principles of Accounting	3
241 Principles of Accounting	3
302 Business Communications	3
303 Legal Environment of Business	3
353 Principles of Finance	3
360 Principles of Marketing	3
382 Introduction to Management	3
**417 Business Internship	3
Areas of Concentration	8-18
(Select two areas plus other business electives to total 18 semester hours, or select one area plus one subject minor of 20 semester hours).	
Shorthand	
226 Shorthand Dictation	3
227 Shorthand Speedbuilding	3
325 Shorthand Transcription	3
Office Administration and Data Processing	
345 Unit Record Equipment	2
395 Office Management	3
415 Records Administration	2
Accounting	
340 Intermediate Accounting	3
341 Intermediate Accounting	3
344 Tax Accounting	3

General Business	
304 Law of Business Enterprises	3
306 General Insurance	3
308 Personal Finance	3
Distributive Education	
361 Professional Selling	3
363 Retailing	3
368 Marketing Strategy	3
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	20-6
Total	124

Students completing the above curriculum will have satisfied all major and minor requirements for graduation.

Students who have successfully completed the accounting, distributive education, office administration and data processing, or shorthand areas of concentration may qualify for vocational endorsement of their Provisional Secondary Certificate. Such endorsement can be obtained for either office or distributive education if 2,000 hours of actual, related, recent work experience can be shown. A student interested in such endorsement should discuss with his adviser the possibility of enrollment in certain elective courses.

CURRICULUM FOR TEACHERS OF HOME ECONOMICS

Bachelor of Science Degree

Secondary Provisional Certificate Vocational Homemaking Certificate

Adviser Chairman, **Anita Fielder**

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	15-16
101 or 102 General Psychology	3-4
105 Biological Science	4
119 or 131 General Chemistry	4
120 Fundamentals of Chemistry	4
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History or	
A two course sequence in sociology or economics	
Either of the following	3
112 American Government or	
202 State and Local Government	

**May be waived if two years of typewriting instruction have been completed. To be certified to teach typewriting, students must complete 222 Office Services.*

***May be waived upon proof of one year of work experience related to area of specialization.*

****A machine rental fee is charged for each course in which specialized equipment is required.*

Humanities Area Requirements	12
In addition to the courses above, the selected courses below from Group I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
105 Integrated Arts	3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	23
320 Human Growth and Development	4
326 School and Society	6
418 Seminar in Education	2
371 Methods and Materials in Homemaking Education	3
492 Student Teaching	8
Group VI Practical Arts	44
Home Economics Core	20
106 Orientation to Home Economics	1
114 Clothing for Consumers	3
116 Food for the Family	4
117 Clothing Principles Lecture	1
204 Home Management and Family Economics	4
206 Contemporary Family Relations	4
208 Aesthetics of the Home and Family	3
Specialization	24
235 Textiles for Consumers	3
201 Nutrition for the Family	3
211 Advanced Foods	3
213 Family Health Care	1
302 Experimental Clothing	3
269 Housing the Family	2
271 Household Equipment	2
309 Home Furnishings	3
406 Seminar in Home Economics	1
410 Home Management Seminar	3
Physical education activity courses (eight act. hrs.)	4
Electives toward minor	6-5
Total	124

Through electives, a minor must be earned in area of student preference or in group minors as follows:
Literature and language arts,
Science or Social Science
Completion of above program earns a Provisional Vocational Homemaking Certificate.

CURRICULUM FOR TEACHERS OF INDUSTRIAL EDUCATION

Bachelor of Science Degree

**Secondary Provisional Certificate
Vocational Trade and Industrial Certificate***

Adviser Chairman, Gerald Jennings

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	13
**107 Trigonometry	2
Two courses in physics, chemistry or mathematics that are consistent with the requirements for the area of concentration	
101 General Psychology	3
8-10	
Group III Social Science	12
101 or 102 History of Civilization	3
A two-course sequence in 200-level or higher courses in economics, geography, history, political science or sociology	
6-9	
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	
2-3	
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	22
320 Human Growth and Development	4
326 School and Society	6
461 The Teaching of Industrial Education	2
418 Seminar in Education	2
492 Student Teaching	8
Group VI Practical Arts	50
Basic Sequence	30
150 Introduction to Industrial Education	2
116 Elements of Production	3
121 Graphic Communication	3
123 Metal Processes	3
200 Electricity and Electronics	3
202 Wood and Plastics Technology	3
218 Energy Systems	3
250 Foundations of Industrial Education	2
317 Structure of Industry	2
350 Curriculum in Industrial Education	2
460 Practicum in Industrial Education	2
Electives (Must relate to the area of concentration. See adviser)	
2	
Area of Concentration	20

*May be recommended upon completion of the requirements stated by The Michigan Plan for Vocational Trade and Industrial Teacher Education, as adopted, 1969.

**Students who have had high school trigonometry should enroll in 120 Analytic Geometry and Calculus I.

In addition to the basic sequence, each industrial education major will complete a 20 hour concentration in any one of the following areas: materials processing, graphic communication or energy systems. Courses for the concentration will be determined by consultation with a department adviser.

Group VII Physical Education and Health	4
Physical education activity courses (eight activity hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	7-3
Total	124

Students completing the above curriculum will have satisfied all major and minor requirements for graduation.

CURRICULUM FOR LIBRARY SCIENCE

Bachelor of Science or Bachelor of Arts Degree

*Elementary or Secondary Provisional Certificate

Adviser Chairman, Francis M. Daly, Jr.

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	22-25
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
**207 Introduction to Children's Literature	3
**314 Literature for Young Adults	3
**406 Storytelling	2
**402 General Reference	3
Electives	6
Group II Science	10-12
101 General Psychology	3
Either of the following	7-9
Two laboratory science courses from the biology, chemistry, geography or physics departments (both may be in the same de- partment) or One laboratory science course from the above departments and one mathematics course	

**If Elementary Provisional Certificate is desired, consult with the dean of Records and Teacher Certification regarding special requirements. In Group II election of 101 Functional Mathematics is recommended.*

***In addition to the courses designated**, an additional six hours of electives from Groups I, II and III must be selected with the approval of the adviser chairman. The 30-hour major requires the addition of a 20-hour minor or a 24-hour group minor in Groups I, II or III. The minor must be in an appropriate teaching area if the student is to secure a Provisional Teaching Certificate.*

See page 140 for the 20-hour minor in library science.

Group III Social Science	11
101, 102 History of Civilization	6
Either of the following	3
112 American Government or 202 State and Local Government	
**409 History of Books and Libraries	2
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (automatically met by Group V Courses below)	2-3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	22
302, 303, 418 Education	8
310 Teaching of Reading	3
**344 Audio-Visual Methods	2
495 Student Teaching	4
498 Student Teaching (Library Practice)	5
Group V Fine Arts	5-6
Electives	5-6
Group VI Practical Arts	9
**320 Media Center in the School	3
**404 Selection and Use of Materials	3
**405 Organization of Materials	3
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hrs.)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	30-23
Total	124

Because some graduate schools of library science require one year of a foreign language, it is recommended that it be taken at the undergraduate level (10 to 12 semester hours). Students in library science need to have a reasonable skill in typing.

CURRICULUM FOR TEACHERS OF INSTRUMENTAL MUSIC*

Bachelor of Music Education Degree

Elementary or Secondary Provisional Certificate

Adviser Chairman, William D. Fitch

A minimum total of 40 semester hours in the Basic Studies area—Groups I, II, III and the Humanities—is required of all students.

**The instrumental music education curriculum includes all courses needed to award a Secondary Provisional Certificate. If an Elementary Provisional Certificate is desired, consult with the registrar regarding special requirements.*

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	11-13
101 General Psychology	3
210 Musical Acoustics	2
Either of the following	6-8
Two laboratory science courses from the biology, chemistry, geography or physics departments (both may be in the same department) or	
One laboratory science course from the above departments and one mathematics course	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or	
202 State and Local Government	
Humanities Area Requirements	9
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (automatically met by Group V music courses)	
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	22
302, 303, 418 Education	8
332 Instrumental Music in Public Schools	4
333 Orchestral Methods or	
334 Band Methods	2
495, 496 Student Teaching	8
Group V Fine Arts	69
Basic Courses	33
101, 102 Music Theory-Literature I, II	8
201, 202 Music Theory-Literature III, IV	8
232 Voice Class	1
301, 302 History of Music	6
413 Orchestration	2
414 Band Arranging	2
Six of the following courses	6
211 Basic Brass Class	
212 Brass Class	
241 Basic Percussion Class	
242 Percussion Class	
261 Basic String Class	
262 String Class	
263 String Class	
281 Basic Woodwind Class	
282 Woodwind Class	
283 Woodwind Class	

Music Performances	32
Applied Music	
251, 252, 253, 254 Functional Piano (if secondary instrument)	4
1X1 and 1X5 series Applied Music (principal instrument)	16
Conducting	
326 Conducting	2
327 Instrumental Conducting	2
Ensembles	8
Electives	4
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hours)	
Men: May apply two semester hours of military science or two semesters of Marching Band toward this requirement	
Total	129-137

CURRICULUM FOR TEACHERS OF VOCAL MUSIC*

Bachelor of Music Education Degree

Elementary or Secondary Provisional Certificate

Adviser Chairman, William D. Fitch

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	11-13
101 General Psychology	3
210 Musical Acoustics	2
Either of the following	6-8
Two laboratory science courses from the biology, chemistry, geography or physics departments (both may be in the same department) or	
One laboratory science course from the above departments and one mathematics course.	
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology, economics or geography	

**Students in this curriculum elect either organ, piano or voice as their principal instrument. In addition to their private lessons, all students meet with their instructor for a weekly class session.*

The vocal music education curriculum includes all courses needed to award a Secondary Provisional Certificate. If an Elementary Provisional Certificate is desired, consult with the registrar regarding special requirements.

Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	9
In addition to the courses above, the selected courses below from Groups I, III, and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course (automatically met by Group V music courses)	
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	22
302, 303, 418 Education	8
330 Music Education in the Elementary School	3
331 Music Education in the Secondary School	3
495, 496 Student Teaching	8
Group V Fine Arts	64
Basic Courses	26
101, 102 Music Theory-Literature I, II	8
201, 202 Music Theory-Literature III, IV	8
301, 302 History of Music	6
413 Orchestration	2
Two of the following courses	2
211 Basic Brass Class	
241 Basic Percussion Class	
261 Basic String Class	
281 Basic Woodwind Class	
Music Performance	34
Applied Music	
1X1 and 1X5 series Applied Music (principal instrument)	16
251-4, 051-2 Applied Music, if keyboard is secondary instrument	6
071-6 Applied Music (voice), if secondary instrument	

Conducting	
326 Conducting	2
328 Choral Conducting	2
Ensembles	8
Electives	4
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hours)	
Men: may apply two semester hours of military science toward this requirement	
Total	124-132

Students completing the above curriculum will have satisfied all major and minor requirements for graduation.

CURRICULUM FOR TEACHERS OF PHYSICAL EDUCATION

(Men)

Bachelor of Science Degree

***Elementary or Secondary Provisional Certificate**

Adviser Chairman, John E. Sheard

**If an elementary provisional certificate is desired, consult with the dean of Records and Teacher Certification or director of Academic Advising regarding special requirements. In Group II, 101 Functional Math is recommended for those seeking elementary certification.*

The student will complete as a minimum: a major in physical education as listed above and one minor of 20 semester hours or a group minor of 24 semester hours in a subject field which the student expects to teach.



A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	10-12
101 General Psychology	3
105 Biological Science	4
One mathematics course or another laboratory science course from the biology, chemistry, geography or physics departments	3-5
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or	
202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts (automatically met by all dance majors)	2-3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	21
302 Educational Psychology	3
303 Principles of Teaching	3
367 Methods and Materials in Physical Education	3
418 Seminar in Education	2
440 Test and Measurements in Physical Education	2
492 Student Teaching	8
Group VII Physical Education and Health	30
120 Healthful Living	3
200 Anatomy and Physiology	5
203 Kinesiology	2
240 History and Philosophy of Physical Education	2
263 Theory and Practice of Football	1
265 Theory and Practice of Baseball	1
267 Theory and Practice of Basketball	1
269 Theory and Practice of Track	1
300 Physiology of Exercise	3
310 Physiology of Nutrition	2
311 First Aid and Athletic Training	2
330 Health Work in the Schools	2
333 Adapted Physical Education	2
441 Organization and Administration of Physical Education	3
Physical education activity courses (see page 146)	4

Physical education major activity courses (26-27 activity hours)	
Electives	34-25
Total	124

CURRICULUM FOR TEACHERS OF PHYSICAL EDUCATION

(Women)

Bachelor of Science Degree

*Elementary or Secondary Provisional Certificate

Adviser Chairman, Peggy Steig

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	10-12
101 General Psychology	3
105 Biological Science	4
One mathematics course or another laboratory science course from the biology, chemistry, geography or physics departments	3-5
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or	
202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	

**If an elementary provisional certificate is desired, consult with the dean of Records and Teacher Certification or director of Academic Advising regarding special requirements. In Group II, 101 Functional Math is recommended for those seeking elementary certification.*

The student will complete as a minimum: major in physical education as listed above and one minor of 20 semester hours or a group minor of 24 semester hours in a subject field which the student expects to teach.

Group IV Education	21
252 Methods and Materials in Physical Education	3
302, 303, 418 Education	8
440 Tests and Measurements in Physical Education	2
492 Student Teaching	8
Group VII Physical Education and Health Physical Education Major	30
120 Healthful Living	3
200 Anatomy and Physiology	5
204 Kinesiology	2
240 History and Philosophy of Physical Education	2
242 Organization and Administration of Physical Education	3
264 Theory of Coaching Individual Sports	2
266 Theory of Coaching Team Sports	2
300 Physiology of Exercise	3
310 Physiology of Nutrition	2
312 First Aid, Athletic Training and Physiotherapy	2
330 Health Work in the Schools	2
334 Adapted Physical Education	2
Physical education major activity courses (43-45 activity hours, see page 146)	4
Electives	21-30
Total	124

Group II Science	10-12
101 General Psychology	3
Either of the following	7-9
Two laboratory science courses from the biology, chemistry, geography or physics departments (both may be in the same department) or	
One laboratory science course from the above departments and one mathematics course	
Group III Social Science	12
101 or 102 History of Civilization	3
105 Introductory Sociology	3
Either of the following	3
112 American Government or	
202 State and Local Government	
354 Juvenile Delinquency	3
Humanities Area Requirements	12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
One of the following	3
100 Introduction to the Theatre,	
106 Introduction to the Performing Arts or	
222 Dramatic Arts for Children	
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education*	21
252 (Women), 367 (Men) Methods and Materials in Physical Education	3
302, 303, 418 Education	8
495 Student Teaching in Major (Recreation)	4
496 Student Teaching in Minor or Physical Education	4
Elective	2
Group VI Practical Arts	6
**152 Arts and Crafts	3
**A general course in business	3
Group VII Physical Education, Health and Recreation	34
**106 Introduction to the Performing Arts	3
**120 Healthful Living	3
**210 American Standard Red Cross	2
**252 (Women) 367 (Men) Methods and Materials in Physical Education	3
**270 Organization and Administration of Community Recreation	3

CURRICULUM FOR TEACHERS OF DANCE

(See page 154)

CURRICULUM FOR DIRECTORS AND TEACHERS OF RECREATION

Bachelor of Science Degree

***Elementary or Secondary Provisional Certificate**

Adviser Chairman, **Ronald J. Saunders**

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	

**If an Elementary Provisional Certificate is desired, consult with the dean of Records and Teacher Certification regarding special requirements.*

**These courses are optional; required only if desiring a teaching certificate.*

**280 Camping	2
**370 Youth Organizations	2
**380 Community Recreation Leadership	3
**470 Field Work in Recreation	4
(for those not on the education curriculum)	
**480 Recreation Therapy	2
**Electives to total 30 semester hours	
Men: physical education activity courses	
(25 activity hours)	4
Women: physical education activity courses	
(30 activity hours)	4
Electives	36-31
Total	124

Students are required to have one playground and one camp experience.

CURRICULUM FOR TEACHERS OF SPECIAL EDUCATION

Bachelor of Science Degree

Elementary Provisional Certificate

Adviser Chairman, Frank J. Wawrzaszek

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	8-11
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
207 Introduction to Children's Literature	3
Group II Science	15
***101 Functional Mathematics	3
Any one of the following	4
105 Biological Science	4
108 Earth Science	4
110 Physical Science	4
*101 General Psychology	3
*206 Mental Hygiene	2
*360 Abnormal Psychology	3
Group III Social Science	12
101 or 102 History of Civilization	3
105 Introductory Sociology	3
Either of the following	3
112 American Government or	
202 State and Local Government	
*202 Social Problems	3
Humanities Area Requirements	11-12
In addition to the courses above, the selected	
courses below from Groups I, III and V must	
be taken to complete the Basic Studies.	
A course in philosophy or religion	3

A fine arts course (automatically met by	
Group V courses below)	2-3
Either of the following	6
101, 102 Reading of Literature or	
Foreign language (by advisement only)	
Group IV Education	29-33
*251 Education of Exceptional Child	2
303 Principles of Teaching	3
310 Teaching of Reading	3
*320 Human Growth and Development	4
344 Audio Visual Methods in Teaching	2
381 Teaching Math K-12	3
(suggested but not required for speech	
correction majors)	
*390 Measurement and Diagnosis in Special	
Education (or approved substitute)	2
***418 Seminar in Education	2
Student Teaching	8-12
Deaf and hard of hearing majors take 492	
and 495 for 12 hours credit.	
Emotionally disturbed, mentally handi-	
capped, physically handicapped and vi-	
sually handicapped majors take 495 and	
499 for 10 hours credit.	
Speech correction majors take 495 and	
SPA 594 for eight hours credit.	
Group V Fine Arts	5
101 Introduction to Art	3
104 Elements of Music	2
Group VI Practical Arts	5
*253 Industrial Arts for Elementary Grades	3
354 Industrial Arts for Elementary Grades	2
(not required for speech correction majors)	
Group VII Physical Education and Health	6
*320 Health Education in Public Schools	2
(not required of speech correction majors)	
Physical education activity courses (eight	
activity hours)	4
Men: May apply two semester hours of	
military science toward this requirement.	
Women: physical education activity (eight	
activity hours) Courses must include	
157.	
Electives (to complete 124 hours)	
Total	124

Major Concentration

A. Deaf and Hard of Hearing	24
228 Survey of Education and	
Guidance of the Deaf	2
326 Introductory Practicum with the Deaf I	1

Each student must complete a special education major of at least 36 hours consisting of the courses starred () above, plus a major concentration selected from the areas listed.

***Required as a prerequisite (unless exempt by test) for 381 Teaching Math K-6. (Speech correction majors will substitute a second laboratory course for 101 Functional Math and Speech Correction Methods I for 381 Teaching Math K-6. See Adviser).

****Special Education Seminars 440, 442, 444, 446, 448, 450 may be used for fulfilling this requirement.

**The student will complete as a minimum: a major in recreation consisting of above courses marked with two asterisks and a minor subject of 20 semester hours or a group minor of 24 semester hours.

327 Introductory Practicum With the Deaf II	1	241 Introduction to Speech Correction	2
336 Anatomy and Physiology of the Speech and Hearing Mechanisms	2	364 Methods of Teaching the Blind	3
378 Introduction to Audiology	2	365 Braille	3
391 Language for the Deaf	4	366 Hygiene and Anatomy of the Eye	2
394 Auditory Training and Speech Reading for the Deaf	2	367 Education of Children With Impaired Vision	2
395 Speech for the Deaf I	2	368 Mobility Training for the Blind	2
396 Speech for the Deaf II	2	(Students in the area of the visually handicapped should be able to demonstrate reasonable proficiency in typing.)	
397 School Subjects for the Deaf	4		
442 Deaf Education Seminar	2		
B. Emotionally Disturbed	17	Students will complete as a minimum a major concentration of 30 semester hours and one minor subject of 20 semester hours or a group minor of 24 hours.	
240 Pre-Clinical Training in Special Education	2	Group minors are acceptable on the special education curriculum. (See pages 125 to 126).	
241 Introduction to Speech Correction	2	Specific curricular patterns by semester are provided each student by the College of Education upon enrollment. Students are assigned to a faculty adviser who assists them in planning programs of classes. The normal academic load per semester is 15-16 semester hours, until student teaching is undertaken in the senior year. Activity hours to satisfy physical education requirements are taken in addition to the normal academic load.	
301 Emotionally Disturbed Children	4	Students in the area of the visually handicapped may do their student teaching at either the Michigan School for the Blind (usually during the seventh semester) or at other public school resident centers. When residence is required in off- campus center programs, early planning will be to the student's advantage. Off-campus centers are also available for students who plan to take campus courses concurrently with the student teaching experience.	
354 Juvenile Delinquency (or approved substitute)	3	Students in the area of the emotionally disturbed may elect to do their student teaching in one of the off-campus psychiatric centers, or, if interested primarily in socially maladjusted children, may request a student teaching assign- ment in one of the off-campus centers such as the Boys Vocational School in Lansing, or the Girls' Training School in Adrian. Prerequisites for the student teaching in the area of the Emotionally Disturbed include 240 Pre-Clinical Training, 301 Emotionally Disturbed Child and 360 Abnormal Psychol- ogy.	
401 Methods and Curriculum for the Emotionally Disturbed	2		
402 Education and Organization of Programs for the Emotionally Disturbed	2		
448 Seminar in Emotionally Disturbed	2		
C. Mentally handicapped	12		
241 Introduction to Speech Correction	2		
350 Mental Deficiency	2		
357 Education of the Mentally Handicapped I	2		
358 Education of the Mentally handicapped II	2		
444 Seminar in Mental Retardation	2		
468 Children with Learning Disabilities	2		
D. Physically Handicapped	19		
241 Introduction to Speech Correction	2		
310 Developmental Aspects of Teaching Physically Handicapped Children (laboratory required)	5		
312 Applied Aspects of Teaching Physically Handicapped Children (lab. required)	6		
350 Mental Deficiency	2		
446 Seminar in Physically Handicapped	2		
468 Children With Learning Disabilities	2		
E. Speech Handicapped (see remarks at end of this section)	34		
241 Introduction to Speech Correction	2		
243 Applied Phonetics	2		
301 Introduction to English Language (English Department)	3		
336 Anatomy and Physiology of the Speech and Hearing Mechanism (lab required)	2	Speech Handicapped. This is a five-year program, reflecting the requirements of The American Speech and Hearing Association. Students may acquire a bachelor's degree during the first four years, but will not be recommended for dual certification (in speech correction and classroom teaching) until completion of the fifth year master's sequence. Student teaching in speech correction to satisfy the State Department of Education certification requirements will be done as a graduate practicum internship.	
338 Speech Pathology (laboratory required)	3	A speaking performance test must be taken during the sophomore year or while enrolled in 338 Speech Pathology (whichever occurs first). The purpose of this test is to determine if there is any speech disorder present that would interfere with a successful career in speech pathology and audiology. This speaking performance test is beyond the scope of the screening test administered to incoming freshmen and transfer students.	
340 Speech Correction Methods I	3		
341 Directed Observation in Speech Correction	1		
342 Speech Correction Methods II	2		
343 Clinical Practice in Speech Correction I	2		
344 Clinical Practice in Speech Correction II	2		
345 Clinical Practice in Speech Correction III (elective)	2		
378 Introduction to Audiology	2		
394 Auditory Training and Speech Reading for the Deaf	2		
437 Psychology of Speech and Hearing	2		
SPA 596 Seminar in Speech Correction	2		
478 Audiometric Testing	2		
F. Visually Handicapped	14		

DEPARTMENTS

Assistant Dean: Francis M. Daly

Unless otherwise designated, the courses in these departments are classified in Group IV. The Group IV courses listed in the 300 and 400 series are open only to students of junior standing or above who have a scholarship average of "C" or better, and who have made application and have been admitted to professional education. The courses 206 Mental Hygiene, 320 Human Growth and Development, and 321 Child Psychology may be taken by students of sophomore standing.

CURRICULUM AND INSTRUCTION

Department Head: W. Scott Westerman

Professors: Ranjit S. Bajwa, Barbara Borusch, Gordon Fielder, Robert Fisher, Bert I. Green, Louis Poretta, Wilma Russell, Scott Street

Associate Professors: Clifford Birlerson, Robert Hoexter, Martha Irwin, Hebert Jones, Robert Krebs, Noel S. Moore, Jerome Weiser, Ingrid Ylisto, Stephen Zambito

Assistant Professors: Leah Adams, Irene Allen, Norma Bartin, Gordon Belt, Victor Cocco, William Goldsmith, Emile Gosseau, Imogene Jones, Ben Koepke, Alister MacDonald, Leon Neeb, Jean O. Scott, Robert Tibbals, Juanita Wilmoth

COURSES

100 Introduction to Education. Two sem hours

Provides an opportunity to study the work of the teacher, the advantages and disadvantages of teaching and the requirements of the teacher education program. Group observations in laboratory and public schools and work with children, which will meet one of the present requirements for admission to the education courses at the junior level, are included. One class hour and two laboratory hours per week.

207 Literature for the Elementary Grades. Three sem hours
(For description see Department of English Language and Literature.)**252 (Women) Methods and Materials in Physical Education.** Three sem hours

A study of the methods and the use of materials used in the teaching of indoor activities. Opportunity is given to do practice teaching and to receive constructive criticism. Observations and reports of the work carried on in the laboratory schools are required.

303 Principles of Teaching. Three sem hours
To be taken in the semester immediately preceding teaching. Deals with the application of the principles of psychology and teaching to the classroom. Diagnosing, planning, teaching and maintaining favorable working conditions in teaching will be considered.

Prereq: 302 Educational Psychology, 321 Child Psychology or 320 Human Growth and Development. Not open to students on early elementary or junior-senior high school curriculums.

306 Teaching of High School Mathematics. Three sem hours
(For description see Department of Mathematics.)**307 The Teaching of Speech.** Three sem hours
(For description see Department of Speech and Dramatic Arts.)**308 High School English.** Three sem hours
(For description see Department of English Language and Literature.)**310 The Teaching of Reading.** Three sem hours
Required of all students in the early elementary and later elementary curriculums, the course deals with the developmental sequence of reading skills and with methods for teaching this sequence. The range is from the pre-reading period through the sixth grade.**311 Teaching Secondary Reading.** Three sem hours
The developmental sequence for reading skills at the junior and senior high school levels and methods for teaching the sequence. Teaching programs are considered at both the normal and retarded reader at this level. Particular attention is given to providing reading instruction within the context of the various areas.
*Prereq: Junior or senior standing.***325 Methods in Science Teaching.** Two sem hours
(For description see Physics and Astronomy Department.)**326 School and Society.** Six sem hours
The school in relationship to the society and the community in which it exists, the principles of effective learning, the foundations of curriculum, the school as a social institution, and the classroom as an effective group. Supervised observation and experience with children required. *Not open to students who have had 303 Principles of Teaching.*
*Prereq: 320 Human Growth and Development.***330 Music Education in the Elementary School.** Three sem hours
(For description see Department of Music.)**331 Music Education in the Secondary School.** Three sem hours
(For description see Department of Music.)**332 Instrumental Materials and Methods.** Four sem hours
(For description see Department of Music.)**333 Orchestral Methods.** Two sem hours
(For description see Department of Music.)**334 Band Methods.** Two sem hours
(For description see Department of Music.)**347 Teaching of Earth Science.** Three sem hours
(For description see Department of Geography and Geology.)**348 Teaching Social Studies in Elementary Schools.** Three sem hours
(For description see Department of Geography and Geology.)**361 The Teaching of Industrial Education.** Two sem hours
(For description see Department of Industrial Education.)**364 Methods of Teaching General Business Subjects.** Two sem hours
(For description see Department of Business Education.)**365 Methods of Teaching Secretarial Subjects.** Two sem hours
(For description see Department of Business Education.)

367 (Men) Methods and Materials in Physical Education.**Three sem hours**

A study of the techniques and aids used in teaching physical education activities in the elementary and secondary grades.

371 Methods and Materials in Homemaking Education.**Three sem hours**

(For description see Department of Home Economics.)

375 Methods and Materials in Family Life.**Three sem hours**

(For description see Department of Home Economics.)

381 The Teaching of Mathematics K-6.**Three sem hours**

(For description see Department of Mathematics.)

402 Science for Elementary Grades.**Three sem hours**

(For description see Department of Biology.)

403 Current Research in Elementary School Mathematics.**Three sem hours**

(For description see Department of Mathematics.)

403 Methods and Materials for Teaching Biology.**Two sem hours**

(For description see Department of Biology.)

411 Methods of Teaching Modern Languages.**Two sem hours**

(For description see Department of Foreign Languages and Literature.)

412 Methods of Teaching Modern Languages in the Elementary Grades.**Two sem hours**

(For description see Department of Foreign Languages and Literature.)

415 Directed Observation.**Two sem hours**

Summer session on demand.

416 Art Methods and Materials.**Two sem hours**

(For description see Department of Art.)

417 Teaching of Art.**Two sem hours**

(For description see Department of Art.)

418 Seminar in Education.**Two sem hours**

An opportunity to continue the development of a professional philosophy of education through the exploration of problems arising from (a) placement and professional activity, (b) the student teaching experience, and (c) the alternative solutions proposed for persistent, professional problems.

Prereq or coreq: Student teaching.

419 Instructor's Course in Driver Education.**Two sem hours**

Introduction to driver education. Background, development, legislation. Course content for secondary schools. Orientation to and practice in the dual control car.

420 Advanced Instructor's Course in Driver Education.**Two sem hours**

Methods and materials used in driver education. Organization, scheduling, administration, records, etc. Student teaching with a beginning driver. *Effective July 1, 1972, eight hours of courses in driver education and traffic safety required to be approved initially to teach driver education.*

Prereq: 419 Instructor's Course in Driver Education.

421 Seminar in Driver Education.**Two sem hours**

Advanced study in methods and techniques of teaching driver

education with emphasis on the psychological aspects of driving.

Prereq: 419 Instructor's Course in Driver Education.

440 Tests and Measurements in Physical Education.**Two sem hours**

To prepare students for the discriminating selection, administration, interpretation and use of standardized tests and measurements in physical education.

Prereq: 302 Educational Psychology

481 The Teaching of Social Studies.**Three sem hours**

(For description see the Department of History and Social Sciences.)

490-491 Special Work (Honors Courses).**Two sem hours each**

Designed to provide additional experiences for exceptionally promising students who are seeking certification. Work based on problem or research interest with written and/or oral report.

Prereq: Senior standing, 3.5 average and all regulations regarding honors courses stated on page 22. Permission of the department head is required.

492 Student Teaching.**Eight sem hours**

Practical experience under guidance of supervising teachers in planning for teaching, in managing the classroom, in directing the learning activities of pupils. The student teacher is expected to assume increasing responsibility for directing the activities of the classroom group to the point that during the semester he will be expected to assume full responsibility. For eight semester hours of student teaching the student teacher is required to spend 20 clock hours per week in the student teaching center.

Prereq: 326 School and Society or 303 Principles of Teaching requirements for student teaching (see page 120) requirements for admission to courses in education (see pages 120 to 121), plus prerequisites as follows in designated curriculums.

a. Early Elementary: Two of the methods courses. (310 Teaching of Reading, 381 Teaching of Mathematics or 402 Science for Elementary Grades.)

b. Later Elementary: Three of the methods courses. (310 Teaching of Reading, 381 Teaching of Mathematics, 402 Science for Elementary Grades or 348 Teaching Social Studies in the Elementary School.)

c. Junior-Senior High School: A special methods course in major and minor field.

d. Specialized fields: The appropriate special methods course or courses in the major field. Students who student teach in their minor specialized field must complete the methods course in that field.

493 Student Teaching.**Two sem hours**

For experienced teachers attending the summer session. *Permission of coordinator of student teaching is required.*

494 Student Teaching.**Three sem hours**

For experienced teachers attending summer session. *Permission of coordinator of student teaching is required.* Also for special education majors in deaf and hard of hearing and speech.

495 Student Teaching.**Four sem hours**

Permission of coordinator of student teaching required.

496 Student Teaching. Four sem hours
Prereq: 495 Student Teaching and permission of coordinator of student teaching.

497 Student Teaching. Four sem hours
Prereq: Credit toward certification in either 495 or 496 Student Teaching.

498 Student Teaching. Five sem hours
 Approval of Coordinating Council on Professional Education required.

499 Student Teaching. Six sem hours
 Approval of Coordinating Council on Professional Education required.

EDUCATION

Department Head: Francis M. Daly

Professors: R. Stanley Gex, Roger Leatherman, Calvin Michael, Thomas Monahan, Erma Muckenhirn, Quirico Samonte, Phillip Wells

Associate Professors: Thomas Gwaltney, Ralph G. Peterson, Wilfred Smith

Assistant Professors: Arthur Carpenter, Frances Cook, Alan Jones, Robert Robinson

EDUCATIONAL MEDIA

(Library Science)

This curriculum is offered to meet the increased demands for school librarians in the elementary and secondary schools. Election may be made with the approval of the adviser.

All courses listed as library science count toward certification for school library work. With the exception of 344 Audio-Visual Methods, none of the courses may be taken for professional education credit.

All courses, except 405 Organization of Materials, are open as electives to all students in the University.

Degree only students take either minor or major without 496 Student Teaching (Library Practice).

Major

For required courses for a major in library science, see the curriculum for library science planned for specializing students on page 131.

At least nine semester hours must be taken at Eastern from courses on pages 140 to 141 from Group VI.

Minor (20 semester hours)

Semester Hours

Required courses:

207 Introduction to Children's Literature	3
314 Literature for Young Adults	3
320 The Media Center in the School	3
402 General Reference	3
404 Selection and Use of Materials	3
405 Organization of Materials	3
Elect one of the following:	
406 Storytelling	2
409 History of Books and Libraries	2
430 Special Problems of the School Library	2
*496 Student Teaching (Library Practice)	4

For physical science majors electing a library science minor, 471 History of Chemistry will be substituted for 314 Literature for Young Adults. Degree-only students take the minor without library practice.

At least six semester hours must be taken at Eastern from courses in Group VI.

Courses

100 Library Orientation. One sem hour
 A study of the resources of the University library, including basic reference tools, such as the card catalog, periodical indexes and yearbooks. *For non-library science majors and minors only.*

101 Use of Books and Libraries. Two sem hours (Group I)
 Open to any student who wants practical instruction in the use of the library's tools and materials. May not be taken by students who plan to major or minor in library science. *On demand.*

314 Literature for Young Adults. Three sem hours (Group I)
 Intensive study of the literature for young adults, grades 7-12; the techniques of reading guidance and an understanding of adolescents' interests and abilities in accordance with their developmental growth.
Prereq: 207 Introduction to Children's Literature.

320 The Media Center in the School. Three sem hours (Group VI)
 Introduction to the philosophy, objectives, functions, standards, programs and services of the school library as a media center in relation to the curriculum and educational goals of the school, with emphasis on the role of the media specialist.

344 Audio-Visual Methods in Teaching. Two sem hours (Group IV)
 A methods course in which instructional materials are considered in their relationship to the why of their use, what the materials are and how to use them in the classroom. Provision is made for students to gain experience in the selection, utilization and evaluation of teaching materials.
Prereq: 303 Principles of Teaching or equivalent.

402 General Reference. Three sem hours (Group I)
 The emphasis is on the selection, critical examination, evaluation and use of general reference materials, and the techniques of reference service.

404 Selection and Use of Materials. Three sem hours (Group VI)
 Sources and criteria for selection of all types of book and non-book materials for grades K-12; study of selection policies and censorship. Two hour lab required.

405 Organization of materials. Three sem hours (Group VI)
 Theory and methods of organizing book and non-book materials in school media centers, with emphasis on classification and cataloging. Two hour lab required.
Prereq: 320 The Media Center in the School and 404 Selection and Use of Materials.

406 Storytelling. Two sem hours (Group I)
 Survey of folk and contemporary literature appropriate for oral interpretation; techniques and practice in the art of storytelling.

*These are four of the eight hours of student teaching.

409 History of Books and Libraries.**Two sem hours (Group III)**

The evolution of books and printing from earliest times to the present day; the rise and development of libraries.

410 School Library Problems. Two sem hours (Group VI)

Deals with problems common to all school libraries.

Prereq: School library or teaching experience. In-Service Education.

411 School Library Problems. Two sem hours (Group VI)

School librarians work on individual library problems under professional guidance. Special arrangements must be made with the instructor before taking this course. It is possible to enroll in 410 and 411 at the same time. In-Service Education.

430 Special Problems of the School Library.**Two sem hours (Group VI)**

Seminar restricted to advanced students making a more detailed study of some phase of library work.

Prereq: 404 Selection and Use of Materials, 405 Organization of Materials and the permission of the instructor.

(Social Foundations)**326 School and Society.****Six sem hours**

The school in relationship to the society and the community in which it exists, the principles of effective learning, the foundations of curriculum, the school as a social institution, and the classroom as an effective group. Supervised observation and experience with children required. *Not open to students who have had 303 Principles of Teaching.*

Prereq: 320 Human Growth and Development.

354 Juvenile Delinquency. Three sem hours (Group III)

Factors contributing to personal and social maladjustment, symptoms of behavior disorders, work of agencies which serve children, constructive community programs to prevent and control delinquency. Laboratory experiences in school and community agencies.

Prereq: 101 or 102 General Psychology. Not open to freshmen or sophomores.

See graduate catalog for further course listings.

EDUCATIONAL LEADERSHIP**Department Head: George Brower****Professors: Francis M. Daly, Elven Duvall, Kenneth Grinstead, Bruce K. Nelson****Associate Professors: Donald Fox, Jack Minzey****Assistant Professors: Clyde E. LeTarte, Doris Kilanski, William Kromer, Earl Studt**

See graduate catalog for course listings.

EDUCATIONAL PSYCHOLOGY**Department Head: Wilbur Williams****Professors: Anton Brenner, Eugene Haddan, Everett L. Marshall, Israel Woronoff****Associate Professors: Wallace LaBenne, John Metler, Kishor Wahi****Assistant Professors: John Blair, Thomas Bushey, Marie Dellas, Frederick Howe, Mildred Kaminsky, Edward Lederman, Judith McKee, Darlene Mood, Louise Podojil, Marvin Skore, Marilyn Skully, John Walker, Warren Williams****206 Mental Hygiene.****Two sem hours (Group II)**

Understanding the basic factors which contribute to adequate or inadequate adjustment. Consideration is given to kinds of conflicts which may cause maladjustment; nature, prevention and control of mental disorders. Laboratory experiences in schools and local agencies.

Prereq: 101 or 102 General Psychology. Not open to freshmen.

302 Educational Psychology. Three sem hours (Group IV)

Applies the general psychological principles to learning and to the development of personality. The laws of learning, conditions of learning, efficient learning; improving study habits, measuring the nature of the learner and his improvement in school subjects and other aspects of personal development are stressed.

Prereq: 101 or 102 General Psychology. Not open to students in early elementary or junior-senior high school curriculums.

320 Human Growth and Development.**Four sem hours**

The mental, physical, social and emotional aspects of human development are studied. Considers the child and adolescent as an individual and group member and seeks recognition and understanding of desirable behavior patterns. The period of study is from conception to maturity. Supervised observation and experience with children required. *Not open to students who have had 302 Educational Psychology or 321 Child Psychology.*

Prereq: 101 or 102 General Psychology.

340 Evaluation of Pupils.**Two sem hours**

Includes an opportunity to examine published tests designed for use in elementary and secondary schools. The student is expected to become familiar with administration, scoring and interpreting procedures and tools for evaluation. Suggestions and opportunity to prepare teacher-made worksheets are provided. Tools of evaluation studied include school achievement, mental ability and personality tests, as well as the rating scales, sociometric tests and questionnaires.

Prereq or coreq: 326 School and Society or 303 Principles of Teaching.

446 Advanced Educational Psychology. Two sem hours

Designed to supplement and intensify educational psychology by involving both a broader and more detailed application of the facts of psychology to the problems of learning in the schools. These problems involve both the elementary school and the high school. The most important experimental studies of the learning process are examined and discussed. Individual and class experiments in learning are performed.

Prereq: 302 Educational Psychology.

GUIDANCE AND COUNSELING

Department Head: John G. Pappas

Professors: Winton A. Kloosterman, Herbert Tothill

Associate Professors: Paul A. Nau, Kenneth Stanley, B. W. Van Riper

Assistant Professors: Kent D. Beeler, Hugh P. Gaston, Gary M. Miller, Louis Thayer, John W. Waidley

405 Guidance Function of the Secondary School Teacher.

Two sem hours

Designed to give the student of secondary education an orientation to the practices of guidance at the secondary school level with emphasis placed on the guidance responsibilities of the teacher in the classroom. *Open only to seniors or juniors taking student teaching.*

Prereq: 303 Principles of Teaching or 326 School and Society.

See graduate catalog for further course listings.

HEALTH, PHYSICAL EDUCATION AND RECREATION

Department Head: Patric L. Cavanaugh

Professors: F. L. Ferzacca, Betty Menzi, *John Sheard, **Peggy Steig

Associate Professors: J. R. Adams, Mary Irene Bell, Marguerite Grills, Marvin Johnson, Fred Trosko, Robert Willoughby

Assistant Professors: Lillian Avner, Gary Banks, Geraldine Barnes, Dan Boisture, Russell Bush, Jean Cione, Sanford Dornbos, Mary Drake, Thelma R. Faulkner, Allan Freund, Jeannine Galetti, Michael Jones, Marilyn E. LaVigne, Donald F. Lutz, Susan Madley, William P. Milne, Valerie Moffett, Ronald Oestrike, Robert Parks, Erik Pedersen, Albert Pingel, Joyce Ridgway, Ronald Saunders, Ronald Venis, Claudia Wasik, Roger Williams, Charles Witten, Charlotte Wixom, Myrna Yeakle

Instructors: Margaret Bell, Nick Coso, Robert England, Penny Hackett, Carole J. Huston, Penny I. Kimmey, Patricia A. Knowles, Judith Leffler, Gloria Neve, Janet C. Schmitt, Harold Simons, Gary Strickland

HEALTH

Minor (20 semester hours)

	Semester Hours
Required courses	20
Biological Science	
150 Scientific Foundations of Health Education	3
Behavioral Science	
105 Introductory Sociology	3
204 Marriage and Family	3
321 Child Psychology or	
322 Psychology of Adolescence	3
Professional Health Education	
250 Psychosocial Concepts of Health	2
320 Health Education for Elementary Grades or	
330 Health Work in the Schools	2
430 Community Health Resources	2
Electives as approved by health education advisers.	

*Chairman, Men's Division

**Chairman, Women's Division

Courses

110 Introduction to Safety Education. Two sem hours
Stress is placed on the scope and methods of safety education, along with securing and evaluating up-to-date information on the safety needs of students, parents and the community. Materials to be utilized in the various areas of safety education will be presented.

120 Healthful Living. Three sem hours
Should develop in each student the responsibility for guiding and evaluating his own health. It promotes the acquisition of attitudes, habits, skills and ideas favorable to efficient and healthful living. It includes material and information concerning mental, physical and social well-being. Presented and developed through group discussion, lectures, instructional aids.

150 Scientific Foundations in Health. Three sem hours
Basic instruction in the physiological and anatomical concepts related to the health of the human organism. Laboratory work included.

250 Psychosocial Concepts of Health. Two sem hours
Investigation of the mental and social factors as they affect the health of the human being. The course explores all health concepts and correlates the mental and social phenomena with the physiological principles presented in the scientific foundations course.

Prereq: 150 Scientific Foundations in Health.

320 Health Education in the Elementary Grades. Two sem hours
For students preparing to teach primary and intermediate grades. Health observation of school children, survey of environmental conditions and other methods of determining the health needs of the child are taught. A study is made of the application of educational principles in health instruction. Practice is given in evaluating the newer courses in health education.

330 Health Work in the Schools. Two sem hours
The content of this course is based upon student objectives, scientific facts and current practices and trends in school health education on the secondary level. An attempt is made to solve problems of instruction, curriculum content, health service, health environment and various vital topics such as: safety emergency care, teaching materials, methods, school safety emergency care, hygiene, social hygiene, school examinations and records. Here the student becomes acquainted with the dynamic role he will have in secondary education as a health educator.

360 Concepts in School Sex Education. Two sem hours
A study of the concepts of sex education as they apply to the school setting. Included in the course is a study of the biological, sociological and psychological foundations of sex education and the methods and materials for use in presenting sex education in the schools.

Prereq: 101 or 102 General Psychology.

430 Community Health Resources. Two sem hours
Exploration and study of community health programs and resources as they apply to the school health program.
Prereq: 320 Health Education in the Elementary Grades or 330 Health Work in Schools.

PHYSICAL EDUCATION

Major

For required courses for a major in physical education, see curriculum for teachers of physical education, for specializing students only, pages 133 or 134.

Minor (men) (20 semester hours) Designed for those who want to coach but not teach physical education.

	Semester Hours
Required courses	20
200 Anatomy and Physiology	5
203 Kinesiology	2
Three of the following four courses:	3
263 Theory and Practice of Football	1
265 Theory and Practice of Baseball	1
267 Theory and Practice of Basketball	1
269 Theory and Practice of Track	1
311 Athletic Training	2
367 Methods and Materials in Physical Education	3
441 Organization and Administration of Physical Education	3
*Electives from Group VII	2
	Activity Hours
Required courses	15-16
Four of the following six courses:	11-12
P 15 Gymnastics	3
P 17 Rhythms and Games	3
P 21 Individual and Team Sports	3
P 22 Couple, Square and Ballroom Dancing	3
P 23 Wrestling	2
P 29 Aquatics	3
The following service teaching courses:	
P 31 Service Teaching	2
P 33 Service Teaching	2

RECREATION

Major

For required courses for a major in recreation, see curriculum for directors and teacher of recreation, page 135.

Minor

	Semester Hours
Required Courses	20
270 Organization and Administration of Community Recreation	3
252 or 367 Methods and Materials in Physical Education	3
280 Camping	2
380 Community Recreation Leadership	3
480 Recreation Therapy	2
*Electives	7

**Electives to be chosen from 106 Introduction to the Performing Arts, 152 Arts and Crafts, 210 American Red Cross First Aid, 263 Theory and Practice of Football, 265 Theory and Practice of Baseball, 267 Theory and Practice of Basketball, 269 Theory and Practice of Track, 264-266 Coaching for Women, 240 History and Philosophy of Physical Education, 370 Youth Organizations.*

	Activity Hours
Physical Education Activity Courses:	14
P 31 or P 34 Service Teaching	2
Major elective classes	12

DANCE

Major

For required courses for a major in dance: see curriculum for teachers of dance, page 154.

Minor (20 semester hours)

	Semester Hours
Required academic courses:	
106 Introduction to the Performing Arts	3
107 Rhythmic Analysis as Related to Dance	2
200 Art Appreciation	3
350 History of Dance	3
377 Stage Costume History and Theory	3
450 Theory of Dance Composition and Production	3
**Electives	3
	Activity Hours
P 22 Couple, Square and Ballroom Dancing	3
P 24 Teaching Methods in Folk Dance	2
P 20 Modern Dance II	3
P 32 Modern Dance III	3
P 50 Modern Dance IV	2
160 Ballet I	2

***Electives to be chosen in the areas of art, music, drama and related subjects.*



260 Ballet II	2
P 36 Service Teaching in Dance	2
P46 Service Teaching in Dance	2

Courses

106 Introduction to the Performing Arts. Three sem hours

The arts of dance, theatre and music are studied both individually and collectively with the objective of determining their respective elements and of arriving at a better understanding and appreciation of the great works of art in the three fields. The place of these arts in our present day environment and their contribution to a richer life receive special emphasis. Labs to be arranged. Attendance required at specified on-campus performances. (Music, Physical Education, Speech and Dramatic Arts Departments).

107 Rhythmic Analysis and Dance Accompaniment. Three sem hours

The study of rhythm, sound, and music literature as related to the teaching and performing of dance. The course will be supplemented by assigned listening experiences and designated explorations of pertinent elements of music.

200 Anatomy and Physiology. Five sem hours

A textbook course, supplemented by lectures and demonstrations, on the structure and functions of the bones, joints and muscles and the organs of digestion, respiration and excretion.

203 (Men), 204 (Women) Kinesiology (Mechanics of Exercise). Two sem hours

A textbook course in the mechanism of bodily movements. The separate movements of the upper limbs, lower limbs and trunk are studied first, and then those of the body as a whole, as it is used in gymnastics, games and sports and the various occupations of life.

Prereq: 200 Anatomy and Physiology.

210 Standard American Red Cross First Aid. Two sem hours

Outlined by the American Red Cross, this course consists of lectures, textbooks and practice work in first aid. A certificate is awarded to each student completing the course. *Persons enrolling in this course may not take 311 or 312 First Aid, Athletic Training and Physiotherapy.*

240 History and Philosophy of Physical Education. Two sem hours

A lecture and reference course covering the history and philosophy of physical education and play and how they have influenced the social structure of the various countries and their educational implications.

242 (Women) Organization and Administration of Physical Education. Three sem hours

The study of principles and objectives in physical education in the light of the needs, interests and characteristics of public school students. Principles of organization and administration of programs in departments, classes, clubs, intramurals, athletics and leadership are studied. Functional construction of gymnasiums, swimming pools, athletic fields and various facilities are reviewed and discussed.

245 Elements of Dance Composition. Three sem hours

An introduction to the fundamentals of choreography, including the use of improvisation and the development of

compositions. Emphasis will be placed on the exploration and manipulation of the elements of dance.

Prereq: P16 Modern Dance I.

252 (Women) Methods and Materials in Physical Education and Recreation. Three sem hours

(See Education)

255 Dance Production. Three sem hours

A study of the fundamentals of dance production including publicity, planning and organization, set design and construction, stage lighting, sound effects and recording, costuming and stage make-up. Laboratory projects will be coordinated with dance productions.

261 (Men) Techniques of Officiating. Two sem hours

A study of the rules and techniques of officiating several interscholastic sports.

262 (Women) Techniques of Officiating. Two sem hours

The following activities are covered: field hockey, basketball, volleyball, softball. In volleyball and basketball, national ratings are given. One hour theory, two hours practice.

263 (Men) Theory and Practice of Football. One sem hour

Lectures, demonstrations, use of motion pictures and practice in teaching the fundamentals and various styles of offensive and defensive play. The course is designed for those expecting to coach this sport. Includes laboratory periods.

264 Theory of Coaching Individual Sports for Women. Two sem hours

Includes the following activities: badminton, golf, tennis, archery. It is designed to coordinate, correlate and supplement the skills and information already conveyed in activity classes through the following methods: survey of D.G.W.S. policies concerning participation and competition, place of individual sports in the school intramural and inter-school programs, lesson plans, unit plans, panel discussions, discussion of techniques and strategems of advanced play, organization of a large class, evaluation of current literature pertinent to each activity.

265 (Men) Theory and Practice of Baseball. One sem hour

Consists of lectures, use of motion pictures, demonstrations and field work in teaching the skills involved in this sport. The course is for those expecting to coach this activity. Includes laboratory periods.

266 Theory of Coaching and Teaching Team Sports. Two sem hours

Designed to coordinate, correlate and supplement skills and coaching techniques introduced in activity courses. Field Sports, volleyball and basketball are covered.

267 (Men) Theory and Practice of Basketball. One sem hour

Lectures, demonstrations, use of motion pictures and practice in teaching the fundamentals and various styles of offensive and defensive play. The course is designed for those expecting to coach this sport. Includes laboratory periods.

269 (Men) Theory and Practice of Track. One sem hour

Consists of a study of the organization, administration and field work in teaching the skills involved in this sport. The course is for those expecting to coach this activity. Includes laboratory periods.

270 Organization and Administration of Community Recreation. **Three sem hours**

Consists of a study of the organization, administration and financing of community recreation as well as a study of recreation areas and facilities, various types of programs, public relations, program planning and personnel.

280 Camping. **Two sem hours**

A study is made of the various kinds of organized camps. The course includes the methods of planning and managing camps, how to choose a camp site, kinds of camp shelters, both permanent and temporary, sanitation, survival techniques, safety provisions, leadership and woodcraft. This course is planned to meet the demand for trained leaders for private, semi-public and school camps.

300 Physiology of Exercise. **Three sem hours**

A comprehensive course involving lectures and laboratory work on the physiology of muscle, nerve circulation, and respiration, with special relation to the effects of bodily exercise.

Prereq: 200 Anatomy and Physiology (for physical education majors).

310 Physiology of Nutrition. **Two sem hours**

A study of the processes of digestion, metabolism and the fundamentals of diet. A textbook is used, supplemented by lectures, assigned readings and studies of the personal diet of students.

311 (Men), 312 (Women) First Aid, Athletic Training and Physiotherapy. **Two sem hours**

The principles of first aid, athletic training and physiotherapy are studied. In addition to lectures, special attention is given to demonstration and practice of massaging, bandaging, taping and therapeutic measures as applied in athletic activities and injuries. *Persons enrolling in this course may not take 210 First Aid.*

Prereq: 200 Anatomy and Physiology (for physical education majors).

333 (Men), 334 (Women) Adapted Physical Education. **Two sem hours**

A lecture and participation course covering the philosophy and goals of adapted physical education: the relationship of adapted physical education to the general program in physical education, the needs of the exceptional student, the organization of such a program, the public relations involved, body mechanics, body conditioning, posture, physical examinations and exercises for defects.

350 History of Dance. **Three sem hours**

A lecture and reference course designed to cover the history, philosophy and theory of dance from primitive man to modern man, including the social and educational implications of dance today.

355 Labanotation. **Three sem hours**

A study of the basic elements of Labanotation with special emphasis on the analysis of dance movements. The course will also include the development of skills necessary to record movement and read notation.

Prereq: 245 Elements of Dance Composition, P16, P20.

367 (Men) Methods and Materials in Physical Education and Recreation. **Three sem hours**

(See Education)

370 Youth Organizations. **Two sem hours**

Includes a short history, aims and objectives of the programs sponsored by various organizations serving youth on a local and national level. Special emphasis will be placed on the need for trained leadership of youth and youth serving organizations.

380 Community Recreation Leadership. **Three sem hours**

Designed to give students an opportunity to study the problems of leadership. The following areas will be considered: summer playgrounds, social recreation, music, arts, dramatics, senior citizens, community center programs and industrial groups.

390 Sports Summary. **Two sem hours**

Study of rules and administration of both men's and women's individual and team sports.

440 Tests and Measurements in Physical Education. **Two sem hours**

(See Education)

441 (Men) Organization and Administration of Physical Education. **Three sem hours**

The study of principles and objectives in physical education in the light of the needs, interests and characteristics of public school students. Principles of organization and administration of programs in departments, classes, clubs, intramurals, athletics and leadership are studied. Functional construction of gymnasiums, swimming pools, athletic fields and various facilities are reviewed and discussed.

450 Advanced Dance Composition. **Four sem hours**

An extension of the principles explored in the Elements of Composition with emphasis on structural development and experiences in the use of thematic materials selected dance idioms, multi-media resources and group choreography. A choreographic work will be required of students majoring in dance.

Prereq: 107 Rhythmic Analysis and Dance Accompaniment and P50 Modern Dance IV.

455 Seminar in Dance. **Two sem hours**

A lecture-discussion course designed for the review of current literature and dance research, the study of trends in dance education and the analysis of developments in contemporary concert dance.

Prereq: 350 History of Dance, 450 Advanced Dance Composition or permission of the department.

470 Field Work in Recreation. **Four sem hours**

Practical experience under supervision in a recreation program directing activities and learning about the administration and supervision of programs. The student would be required to spend at least 10 clock hours per week in the recreation center. *Not open to students seeking a teaching certificate.*

480 Recreation Therapy. **Two sem hours**

Designed to assist occupational therapists and majors in recreation in the performance of recreational skills required in hospital programs. The following areas are given attention: music as recreation and recreation through games and sports. Field trips to nearby hospitals.

490 Organization and Planning of School and Community Programs. **Two sem hours**

A study of the problems involved in organizing and program planning for school assemblies, playdays, carnivals, circuses,

demonstrations, swimming pageants and community pageants. Deals with the selection of themes, costuming, musical accompaniment and other factors involved in such programs.

Major Activity Courses

The importance of physical education activity classes lies in their contribution to such educational objectives as organic development, neuromuscular coordination, social efficiency, and the preparation of teachers and athletic coaches in the elementary and secondary fields of public schools.

Activity Courses for Women Majoring in Physical Education and Recreation

Women students majoring in physical education or recreation must complete the following activity courses and are required to do six hours service teaching.

First Year First Semester

	Activity Hours
P 10 Fundamentals of Movement	3
P 12 Hockey and Volleyball	3

Second Semester

P18 Activities for the Elementary Grades ...	3
P24 Folk Dancing	2
P26 Beginning Swimming	3

Third Semester

P14 Badminton and Tennis	2
P56 Swimming-Analysis and Life Saving ...	3
P40 Basketball and Softball	2
P34 Service Teaching	2

Fourth Semester

P22 Couple, Square and Ballroom Dancing .	3
P28 Gymnastics	2
P36 Service Teaching	2
P48 Swimming Instructors' Course	3
(Optional dependent on proficiency)	

Fifth Semester

P32 Beginning Modern Dance	3
P42 Golf and Bowling	2
P46 Service Teaching	2

Sixth Semester

P 50 Advanced Technique and Composition of Modern Dance	2
P 52 Track and Field and Field Sports (Soccer, Speedball, Speedway)	3
P 30 Synchronized Swimming (Optional dependent on proficiency)	3

Fourth Year

Seventh Semester

P 54 Senior Seminar (fall and spring)	2
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Activity Courses for Students Majoring in Dance

Students majoring in dance must complete the following

activity courses and are required to do six hours of service teaching.

P16 Modern Dance I	3
160 Ballet I	2
P20 Modern Dance II	3
260 Ballet II	2
P22 Couple, Square and Ballroom Dancing .	3
P24 Folk Dance Methods	2
P32 Modern Dance III	3
P50 Modern Dance IV	2

Activity Courses for Men Majoring in Physical Education and Recreation

Men students majoring in physical education must complete a minimum of 16 hours of selected major activities plus 10 hours of service teaching. The activity classes may be taken in any sequence but should be completed during the freshman and sophomore years. Service teaching is an out-growth of these classes and should be taken during the junior and senior years, but prior to student teaching. Major students are required to wear the regulation uniform.

Required Major Activity Classes:

P 15 Gymnastics	3
P 17 Rhythms and Games	3
P 21 Individual and Team Sports	3
P 23 Wrestling	2
P 29 Aquatics	3
Elective Major Activity Classes (select one)	
P 22 Couple, Square and Ballroom Dancing ..	3
P 35 Advanced Gymnastics	2
*P 39 Water Safety Instructor's Course	2

Required Service Teaching:

P 31 Service Teaching	2
P 33 Service Teaching	2
P 41 Service Teaching	2
P 43 Service Teaching	2

Activity Courses for General Students—Women

On the four-year curriculum, eight activity hours of physical activity are required of all women students. Activity hours are not counted in determining the student's honor point average.

A student judged physically unable to carry activity courses must consult with the chairman of the women's division of the department.

Students are required to wear regulation gymnasium uniforms. They must be purchased at the University Bookstore.

**Open to card carrying Red Cross WSI's whose appointments have lapsed and persons holding current Senior Life Saving certificates. ARC W.S.I. cards will be issued to those completing course satisfactorily.*

Students using the gymnasium will pay a deposit for a towel and locker. Deposit should be paid at the time the student pays her tuition.

Where appropriate some of the following courses are offered co-educationally.

- 101 Fundamentals of Activity. Four activity hours
- 109 Basketball. Two activity hours
- 111 Volleyball. Two activity hours
- 117 Synchronized Swimming. Two activity hours
- 119 Gymnastics. Two activity hours
- *123 Couple, Square and Ballroom Dancing. Two activity hours
- 141 Adapted Activities. Two activity hours
- 143 Fencing. Two activity hours
- 144 Trap and Skeet Shooting. Two activity hours
- 145 Judo. Two activity hours
- 146 Snow Skiing. Two activity hours
- 147 Archery. Two activity hours
- 148 Elementary Tennis. Two activity hours
- 149 Badminton. Two activity hours
- 150 Golf. Two activity hours
- 151 Bowling. Two activity hours
- 152 Sailing. Two activity hours
- 153 Elementary Swimming. Two activity hours
- 154 Life Saving. Two activity hours
- 157 Rhythmic Games and Dance. Physical Education for the Elementary Classroom Teacher. Two activity hours
- 158 Elementary Folk Dance. Two activity hours
- 159 Elementary Tap Dance. Two activity hours
- 160 Beginning Ballet. Two activity hours
- 161 Beginning Modern Dance. Two activity hours
- 219 Intermediate Apparatus. Two activity hours
- 242 Intermediate Tumbling and Free Exercise. Two activity hours
- 243 Intermediate Fencing. Two activity hours
- 244 Recreational Shooting and Hunting Safety. Two activity hours
- 248 Intermediate Tennis. Two activity hours
- 253 Intermediate Swimming. Two activity hours
- 254 Competitive Swimming and Diving. Two activity hours
- 256 Instructors Course American Red Cross. Two activity hours
- 258 Intermediate Folk Dance. Two activity hours.
- 260 Intermediate Ballet. Two activity hours
- 261 Intermediate Modern Dance. Two activity hours

*Not elective. Students found by the physical examination to be in need of this course are assigned to it by the University physician, and chairman of the women's division.

Recreation for Women

In addition to regular activity classes in various sports, the department sponsors through its Women's Recreation Association a widely varied program of team sports, individual sports and co-recreational activities. All women students on campus are automatically members of the WRA and eligible for all activities offered, some of these being: volleyball, basketball, badminton, archery, golf, tennis, softball, field hockey, bowling, swimming, modern dance, square dancing, weekend camping trips and co-recreational nights.

Activity Courses for General Students—Men

On the four-year curriculums, four semester hours (eight activity hours) in physical education activity courses are required of all men students. Each student must pass the department swimming test or take a beginning swimming course as a part of his requirement. Two semester hours of military science may, at the option of the student, be counted toward the physical education requirements. Students successfully completing the advanced ROTC program are deemed to have satisfied the entire physical education requirement. It is recommended that physical education activity courses be taken in consecutive semesters beginning with the first semester the student enrolls at Eastern Michigan University. Activity hours are not counted in determining the student's honor point average. Students may not repeat activity courses for activity hour credit unless approved by the head of the department.

The requirement of eight activity hours shall be modified or waived if, for reason of age or physical disability, the student is unable to participate in physical education courses. Physical disability shall be determined by the Health Service and in conference with representatives of the Health, Physical Education and Recreation Department a determination will be made of whether or not courses suitable to the student's capacities exist. Appropriate modification or waiver of the requirement will then be made to insure maximum benefit to the student.

Students using the gymnasium will pay a deposit for a towel and locker. Deposit should be paid at the time the student pays his tuition.

General students are required to wear the regulation uniform for activity classes.

Where appropriate some of the following courses are offered co-educationally.

- 120 Physical Education. Two activity hours
Participation and instruction are given in such activities as basketball, soccer and touch football.
- 123 Couple, Square and Ballroom Dancing. Two activity hours
- 126 Conditioning Activities. Two activity hours
- 128 Wrestling and Judo. Two activity hours
- 130 Physical Education. Two activity hours
Participation and instruction are given in such activities as gymnastics, softball, volleyball and track.
- 140 Marching Band. Two activity hours
Open to all students. Students are required to participate in athletic events and other band activities for entire semester. A maximum of four activity hours may be earned. Those electing 140 may also elect Band 249 for one hour of academic credit. *Students who receive credit for 240 Precision Drill shall not receive credit in this course.*
Prereq: Permission of the department.
- 141 Adapted Activities. Two activity hours
- 142 Trampolining and Apparatus. Two activity hours
- 144 Trap and Skeet Shooting. Two activity hours
- 145 Judo. Two activity hours
- 146 Snow Skiing. Two activity hours
- 147 Archery. Two activity hours
- 148 Elementary Tennis. Two activity hours
- 149 Badminton. Two activity hours
- 150 Golf. Two activity hours
- 151 Bowling. Two activity hours
- 152 Sailing. Two activity hours

- 153 **Elementary Swimming. Two activity hours**
 154 **Life Saving. Two activity hours**
 158 **Elementary Folk Dancing. Two activity hours**
 220 **Varsity Rifle Team. Two activity hours**
 Open to all students. A maximum of two activity hours may be earned in this course. *Students who receive credit for 140 Marching Band shall not receive additional credit for this course.*
Prereq: Permission of the department.
 230 **Varsity Cross Country. Two activity hours**
Prereq: Permission of the department.
 231 **Varsity Football. Two activity hours**
Prereq: Permission of the department.
 232 **Varsity Basketball. Two activity hours**
Prereq: Permission of the department.
 233 **Varsity Swimming. Two activity hours**
Prereq: Permission of the department.
 234 **Varsity Gymnastics. Two activity hours**
Prereq: Permission of the department.
 235 **Varsity Wrestling. Two activity hours**
Prereq: Permission of the department.
 236 **Varsity Track and Field Sports. Two activity hours.**
Prereq: Permission of the department.
 237 **Varsity Baseball. Two activity hours**
Prereq: Permission of the department.
 238 **Varsity Golf. Two activity hours**
Prereq: Permission of the department.
 239 **Varsity Tennis. Two activity hours**
Prereq: Permission of the department.
 240 **Precision Drill. Two activity hours**
 Open to all students. A maximum of two activity hours may be earned in this course. *Students who receive credit for 140 Marching Band shall not receive additional credit in this course.*
Prereq: Permission of the department.
 242 **Intermediate Tumbling and Free Exercise. Two activity hours**
 243 **Intermediate Fencing. Two activity hours**
 244 **Recreational Shooting and Hunting Safety. Two activity hours**

Intramurals for Men

An extensive program of intramural athletics is offered by the department to men not competing in intercollegiate sports. Independent, all-campus and inter-fraternity competition is organized in many sports all during the year.

SPECIAL EDUCATION AND OCCUPATIONAL THERAPY

Department Head: Frank J. Wawrzaszek

Professors: Angelo Angelocci, C. Wayne Fulton, Henry Gottwald, Joseph J. Motto, Allen Myers.

Associate Professors: Carl Garber, Frances Herrick, James Palasek, David Palmer, Dale Rice, Agnes Rogers, Sara Wright.

Assistant Professors: Helen Adams, Thelma Albritton, George Barach, Normajean Bennett, George Caputo, Marjorie Chamberlain, Linda Collins, Ann Covington, Joe Coyner, Sophie French, Lawrence Geffen, Harvey Gregerson, Robert Gutshall, Nina Homel, Ann Laboda, Marylyn Lake, Nora Martin, Eva Meyer, Gerald Moses, Gary Navarre,

Kathleen Quinn, Margaret Seabert, Lee Shough, Ronald Trapp, Bernard Treado, Merry Maude Wallace.

Instructors: Sharon Burnham, Marla Gousseff, Sandra McClennon, Arlene Post, Mary Rogowski, Yvonne Russell, Sheridan Warden, Benny Yow.

The work of this department is divided into two main divisions:

1. Curriculums for training teachers of exceptional children
 - a. Deaf and hard-of-hearing
 - b. Emotionally Disturbed
 - c. Mentally Handicapped
 - d. Physically Handicapped
 - e. Speech Handicapped
 - f. Visually Handicapped
2. Curriculum for occupational therapists

HORACE H. RACKHAM SCHOOL OF SPECIAL EDUCATION

This campus laboratory school and the contemporary philosophy of its faculty affords students a unique opportunity to gain practical as well as theoretical experience in all areas of special education. The Rackham School accommodates more than 100 children with various kinds of handicaps. The school maintains programs for the deaf, the hard of hearing, the physically handicapped and the mentally handicapped.

Disciplines represented on the staff include classroom teaching, physical therapy, occupational therapy, speech therapy, audiology, psychology and medicine. Moreover, the department maintains liaison for internships for student teaching with almost every state institution in Michigan accommodating children.

Speech and Hearing Clinic

The Speech and Hearing Clinic is maintained in the Rackham School as part of the program in the Department of Special Education. This program provides clinical training for majors in speech correction and, in addition, provides for observations for other students in the special education program. Clinical services are available to college students and to children and adults from the surrounding areas in the out-patient clinic.

The speech and hearing program is maintained as a part of the program in the Department of Special Education and Occupational Therapy. In addition to clinical speech and language evaluations and therapy, complete audiological services are also provided. These services include diagnostic audiology, hearing aid evaluations and selection, aural rehabilitation, pre-nursery evaluation and training and parent counselling. As part of their training, majors in speech correction and deaf education may be directly involved in the delivery of these services under staff supervision.

Parent Counseling Clinic for Deaf and Hard of Hearing

The purpose of this program is to provide guidance to the parents of the deaf and hard of hearing children, enabling them to help their child to attain language development during the formative years. Our aim being to establish cooperation between the home and the school, parent participation in the program is required.

Parents will have an opportunity to learn how they might help their child develop speech and speech reading skills. They will explore the techniques of auditory training and the use of hearing aids. Time will be given to the observation of staff members working with their child, and the parents will be able to discuss problems concerning the child with staff members.

Major

For required courses for a major in special education, see pages 136 to 137 for curriculum for teachers of special education. For specializing students only.

Minor*

	Semester Hours
206 Mental Hygiene	2
251 Education of Exceptional Children	2
Electives	16

The student who wishes to take a minor in special education must obtain, in advance, the approval of the head of the department.

These curriculums lead to the degree of Bachelor of Science and the provisional Certificate. Beginning students who wish to specialize in special education should follow the outline closely. Students entering the department with advanced credits should confer with the head of the department before registering.

Persons admitted to the curriculum must be free from physical and/or emotional handicaps which interfere with or are likely to interfere with success as a teacher.

Affiliations

In order to give students specializing in special education an acquaintance with the broad problems of the field, visits for observation and study will be made to special schools and classes and to the following state institutions and services:

- The Wayne County Training School at Northville
- The Michigan Home and Training School at Lapeer
- The Michigan School for the Deaf at Flint
- The Michigan School for the Blind at Lansing
- The Boys' Vocational School at Lansing and Whitmore Lake
- The Girls' Training School at Adrian
- The University Hospital School at Ann Arbor
- The Ypsilanti State Hospital
- The Huron Valley Children's Center, Ypsilanti
- The Hawthorn Center, Northville
- The Children's Psychiatric Hospital, Ann Arbor
- Public Schools in this area
- Plymouth State Home and Training School, Northville
- Detroit Day School for the Deaf, Detroit

Courses

206 Mental Hygiene. Two sem hours
(For description see Education)

228 Survey of Education and Guidance of the Deaf.

Two sem hours

Designed to cover the history of the education of the deaf including an overview of the current educational programming. The second half of the course deals with problems of parent counseling, social and psychological adjustment of the deaf and vocational training and habilitation.

240 Pre-Clinical Experiences in Special Education.

Two sem hours

These experiences will provide the student with an opportunity to work with handicapped children, helping the student to understand these children and also enabling him to evaluate his own personal qualifications for working with children in his chosen field. Evaluations of the student's performance will be obtained from a supervising person. Majors in the area of the emotionally disturbed will complete 120 hours of experience before the end of their junior year; 10 hours of which should be completed as a freshman. See your academic adviser for further information.

241 Introduction to Speech Correction. Two sem hours

An introductory course providing background preparation in the basis of speech and simple phonetics. A study of various types of speech defects. Designed to help classroom teachers understand and correct minor defects and to help them cooperate with the speech therapist.

243 Applied Phonetics. Two sem hours

The use of I.P.A. symbols for transcription of speech. Emphasis will be placed on analysis of deviant speech. *Intended primarily for majors in speech correction.*

251 Education of Exceptional Children. Two sem hours

A consideration of the problems connected with the education of the non-typical child—the visually handicapped, the deaf, the crippled, speech defective, mentally handicapped, gifted, socially maladjusted and educationally disadvantaged. Principles and methods of differentiation, by means of which the schools may be enabled to meet the needs of every child, will be discussed.

301 Emotionally Disturbed Children. Four sem hours

Dynamics of individual growth and behavior, theories of emotional disturbance in children, illustrated by case materials.

Prereq: 360 Abnormal Psychology.

310 Developmental Aspects of Teaching Physically Handicapped Children. Five sem hours

The basic concepts of anatomy, physiology and pathology as related to the types of disability found in an orthopedic classroom. Laboratory periods (two one hour periods per week) are required and case studies of physically handicapped children are made.

Prereq: 251 Education of Exceptional Children, and 240 Pre-Clinical Experiences in Special Education.

312 Applied Aspects of Teaching Physically Handicapped Children. Six sem hours

To help the student understand the educational and psychological needs of physically handicapped children and to learn about the various teaching techniques to meet these needs, a study of the various therapies and services necessary for the

**This minor provides background but does not offer sufficient specialized work to obtain state approval to teach a specialized type of handicapped children.*

habilitation of physically handicapped children. Two one-hour laboratory periods are required per week.

Prereq: 251 Education of Exceptional Children and 310 Developmental Aspects of Teaching Physically Handicapped Children.

326 Introductory Practicum With the Deaf I. One sem hour
Thirty clock hours supervised observation and work with deaf and hard of hearing children. Experience is designed to permit the student and University to examine the individual's qualifications for working with the deaf.

Conc: 391 Language for the Deaf.

327 Introductory Practicum With the Deaf II. One sem hour
Thirty additional clock hours supervised observation and work with the deaf and hard of hearing. *326 and 327 must be completed prior to Student Teaching with the Deaf.*

336 Anatomy and Physiology of the Speech and Hearing Mechanisms. Two sem hours

The anatomy and physiology of normal production and auditory reception are studied in detail. Emphasis is placed on understanding the physical processes of speaking and listening as dynamic, interdependent processes. *Lab required.*

338 Speech Pathology. Three sem hours

Designed to provide the student with a detailed knowledge of the nature, causes and development of speech disorders. An intensive study will be made of the literature regarding delayed speech, articulatory defects, voice problems, stuttering, cleft palate, cerebral palsy and hearing disorders. *A minimum of 15 clock hours of speech diagnosis will be required. Lab required. Prereq: 241 Introduction to Speech Correction, 243 Applied Phonetics and 336 Anatomy and Physiology of the Speech and Hearing Mechanisms.*

340 Speech Correction Methods I. Three sem hours

Deals with diagnosis and treatment of functional articulatory problems, stuttering, language impairment and functional voice disorders.

Prereq: 338 Speech Pathology.

341 Directed Observation in Speech Correction. One sem hour

Observation and evaluation of the methods and materials used in treating speech and hearing disorders. Opportunity for supervised clinical practice. *Must be taken concurrently with 340 Speech Correction Methods I.*

342 Speech Correction Methods II. Two sem hours

Methods of treatment of speech disorders associated with cerebral palsy, cleft palate, hearing losses and mental handicaps. *Prereq: 340 Speech Correction Methods I and 341 Directed Observation in Speech Correction.*

343 Clinical Practice in Speech Correction I. Two sem hours

A minimum of 30 clock hours of supervised clinical experience with children and adults in individual and group settings. Functional articulation, voice disorders and rhythm problems are given special emphasis.

Prereq: 341 Directed Observation in Speech Correction and 340 Speech Correction Methods I.

344 Clinical Practice in Speech Correction II. Two sem hours

A minimum of 30 clock hours of supervised clinical experience with speech disorders associated with organic impairment.

Emphasis is given to problems of children with cerebral palsy, cleft palate, hearing losses and mental handicaps.

Prereq: 343 Clinical Practice in Speech Correction I. Concurrent enrollment in 342 Speech Correction Methods II.

345 Clinical Practice in Speech Correction III. Two sem hours

A minimum of 30 clock hours of supervised clinical experience with a variety of speech and hearing disorders.

Prereq: 343 and 344 Clinical Practice in Speech Correction I and II.

350 Mental Deficiency. Two sem hours

A study of the etiology and incidence of mental deficiency, the historical and current philosophy, preventive measures and the educational facilities. Opportunities are provided for observation and clinical studies.

Prereq: 101 General Psychology and 251 Education of Exceptional Children.

354 Juvenile Delinquency. Three sem hours

(For description see Education)

357 Education of the Mentally Handicapped I. Two sem hours

Designed for the consideration of problems in selection and preparation of curriculum materials for mentally handicapped children and the methods and devices used in presenting these materials. Opportunities are provided for functional experiences.

Prereq: 350 Mental Deficiency.

358 Education of the Mentally Handicapped II. Two sem hours

A continuation of 357 Education of the Mentally Handicapped I.

Prereq: 357 Education of the Mentally Handicapped I.

364 Methods of Teaching the Blind. Three sem hours

A study of the various methods used in educating blind children. The adaptation of these methods to the teaching of elementary and secondary school subjects to blind students. Further emphasis on Nemeth code, Cranmer abacus and other teaching materials and devices.

Prereq: 365 Braille.

365 Braille. Three sem hours

Students will work on the development of personal skills in the reading and writing of Braille. Methods of teaching Braille to the blind will be emphasized. A portion of the time will be spent in Nemeth Code and Braille scientific and music notations. Use of abacus and braille-writer will be taught.

Prereq: 251 Education of Exceptional Children.

366 Hygiene and Anatomy of the Eye. Two sem hours

Lectures by ophthalmologists on anatomy, physiology and pathology of the organs of vision, refractive errors and in principles of correction. Special attention is given to diseases and causes of visual handicaps in children. Educational implications of these conditions are given. Such ancillary functions as orthoptic training, social work and parent counselling are included.

Prereq: 251 Education of Exceptional Children.

367 Education of Children with Impaired Vision. Two sem hours

Organization and administration of various plans for educating

partially sighted children. Adaptation of the various teaching methods and materials to partially sighted children. A comparison of various vision testing methods and devices. Visits to classes for visually handicapped children.

Prereq: 366 Hygiene and Anatomy of the Eye.

368 Mobility Training for the Blind. Two sem hours

A concentration on sensory training, study and development of cane techniques as they apply to mobility for the blind. Introduction to leader dog program. A practicum is included. *Offered on the junior, senior and graduate level.*

378 Introduction to Audiology. Two sem hours

Structure and functions of the auditory mechanisms. Included is a study of sound as the auditory stimulus, anatomy and physiology of the hearing mechanisms, diseases of the ear and treatment, pure tone audiometry.

390 Measurement and Diagnosis in Special Education. Two sem hours

Psychological evaluation and assessment, the role of tests in the assessment of intellectual capacity, educability, emotional adjustment, visual and auditory limitations.

Prereq: 251 Education and Exceptional Children and junior or senior standing.

391 Language for the Deaf. Four sem hours

Examines the effects of a hearing loss on language development, the structure of English and principles of grammar, techniques of developing language in the young deaf child and a detailed study of a structured language teaching system with emphasis on practical use at all levels. *Must be taken concurrently with 395 Speech for the Deaf I.*

394 Auditory Training and Speech Reading for the Deaf. Two sem hours

A study of the avenues of receptive language available to deaf and hard-of-hearing children, the training of residual hearing and the development of speech reading. Includes the use and care of group and individual hearing aids.

Prereq: 378 Introduction to Audiology.

395 Speech for the Deaf I. Two sem hours

Speech development of the pre-school deaf child. Analysis of speech as a motor skill, with presentation of typical problems of speech for the deaf: i.e. breathiness, voice quality, articulation, rhythm, phrasing, accent and fluency. Methods of analyzing and transcribing speech will be emphasized.

396 Speech for the Deaf II. Two sem hours

A continuing analysis of speech as a psycho-acoustic-motor skill, intensive analysis of methods of developing speech and of achieving intelligible, connected speech. An integral part of this course is a one-to-one tutoring experience for a minimum of 30 clock hours during the semester.

Prereq: 395 Speech for the Deaf I.

397 School Subjects for the Deaf. Four sem hours

Principles and methods of teaching reading and school subjects to the deaf. Classroom procedures and materials especially designed for the deaf as well as the adaptation of regular curriculum and materials will be presented.

Prereq: 228 Survey of Education and Guidance for the Deaf.

401 Methods and Curriculum for Emotionally Disturbed. Two sem hours

Curriculum materials, methods and techniques for educating the emotionally disturbed child are explored.

Prereq: 301 Emotionally Disturbed Children and senior standing.

402 Programs for Emotionally Disturbed Children. Two sem hours

Covers program variations and their adaptations for the education of emotionally disturbed children. The focus is on the theoretical and philosophical foundations of programs and some attention is given to behavior management techniques, teacher role and professional relationships within given programs.

Prereq: 301 Emotionally Disturbed Children and senior standing.

437 Psychology of Speech and Hearing. Two sem hours

The development of speech, language and hearing from birth with emphasis on these areas within the total concept of child development. The normal functions and uses of language in children and adults will be considered as a basis for understanding the effects of speech, language and hearing problems of the individual.

Prereq: Senior standing only.

440 Seminar in Speech Correction. Two sem hours

Concurrent with Special Student Teaching (See SPA596 Public School Internship in Speech Correction, Graduate Catalogue).

442 Seminar in Deaf Education. Two sem hours

History, nature and structure of the Michigan Public School system. Problems related to integration of the functional units within the system are discussed. Organization of special services as they relate to these units is included. Students are encouraged to discuss their public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. *Must be taken concurrently with Special Student Teaching.*

444 Seminar in Mental Retardation. Two sem hours

History, nature and structure of the Michigan Public School system. Problems related to integration of the functional units within the system are discussed. Organization of special services as they relate to these units is included. Students are encouraged to discuss their public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. *Must be taken concurrently with Special Student Teaching.*

446 Seminar in Physically Handicapped. Two sem hours

History, nature and structure of the Michigan Public School system. Problems related to integration of the functional units within the system are discussed. Organization of special services as they relate to these units is included. Students are encouraged to discuss their public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. *Must be taken concurrently with Special Student Teaching.*

448 Seminar in Emotionally Disturbed. Two sem hours

History, nature and structure of the Michigan Public School system. Problems related to integration of the functional units

within the system are discussed. Organization of special services as they relate to these units is included. Students are encouraged to discuss their public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. Must be taken concurrently with Special Student Teaching.

450 Seminar in Visually Handicapped. Two sem hours
History, nature and structure of the Michigan Public School system. Problems related to integration of the functional units within the system are discussed. Organization of special services as they relate to these units is included. Students are encouraged to discuss their public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. Must be taken concurrently with Special Student Teaching.

468 Education of Children with Learning Disabilities. Two sem hours
A study of the educational and psychological problems of children with neurological and perceptual defects. Preparation and evaluation of materials.
Prereq: 251 Education of the Exceptional Child and senior standing.

478 Audiometric Testing. Two sem hours
Advanced techniques of testing the auditory function. Consideration is given to interpretation of audiograms, hearing aid evaluations and use of differential hearing assessment techniques for children and adults with hearing disorders.
Prereq: 378 Introduction to Audiology.

497 Independent Study in Special Education. One sem hour

498 Independent Study in Special Education. Two sem hours

499 Independent Study in Special Education. Three sem hours
Advanced study on an individual basis in areas in which the department does not offer a formal course.
Prereq: 3.0 grade point average and senior standing and permission of the department.

OCCUPATIONAL THERAPY

The curriculum of occupational therapy consists of four years of academic work on campus, plus six to nine months of hospital experience. Upon completion of the four years' work, the graduate is eligible for a Bachelor of Science degree, with a major in occupational therapy and minors in industrial arts and science. Upon completion of the hospital portion of the program the candidate is eligible to qualify for entrance by examination to the registry maintained by the American Occupational Therapy Association. With permission, students may have a summer assignment between the junior and senior year, thus shortening the hospital affiliation period by three months. With careful planning, and an extra semester, students can qualify for a Michigan Provisional Teacher's Certificate, along with the above. (See page 153 for required courses.)

Students may enter the program in occupational therapy on freshman, transfer or post degree level. Applicants holding a bachelor's degree must be on campus at least two semesters. They fulfill the hospital assignment as the other students do.

Occupational Therapy may be chosen as a major field only.

The curriculum of occupational therapy at Eastern Michigan University has been approved and accredited by the Council of Medical Education of the American Medical Association. It also meets all training requirements for professional registration with the American Occupational Therapy Association. Assignments for the hospital experience are made with those centers that maintain occupational therapy departments, under direction of registered occupational therapists.

A special bulletin on occupational therapy at Eastern Michigan University is available upon request from the director of occupational therapy.

Affiliations

University of Michigan Hospital
Ypsilanti State Hospital
The Rehabilitation Institute, Detroit
Neuropsychiatric Institute, University of Michigan
Mary Free Bed Hospital
Lafayette Clinic
Detroit Memorial Hospital
Northville State Hospital
Detroit Orthopedic Clinic
Children's Hospital, Detroit
Veteran's Administration Hospitals
Traverse City State Hospital
Pontiac State Hospital
Annapolis Hospital, Wayne

OCCUPATIONAL THERAPY CURRICULUM

Bachelor of Science Degree
Adviser Chairman, Frances Herrick

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following	3-5
121 English Composition or a foreign language course (121 through 222)	
Group II Science	34
101 Psychology	3
105 Biological Science (unless exempt by passing test)	4
200 Anatomy for Occupational Therapy Students	5
270 Human Physiology	3
300 Neuroanatomy and Neurophysiology	3
301 Kinesiology	3
360 Abnormal Psychology	3
361 Psychiatry Lectures	2
390 Measurement and Diagnosis in Special Education	2
404 and 405 Medical Lectures	6
Group III Social Science	12
101 or 102 History of Civilization	3
105 Introductory Sociology	3
Either of the following	3
112 American Government or	
202 State and Local Government	
308 Social Psychology	3

Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies	
A course in philosophy or religion	3
101, 102 Reading of Literature	6
A fine arts course (met automatically by Group V courses below)	2-3
Group IV Education	21
201 Theory A—Survey of Occupational Therapy and Rehabilitation	2
240 Pre-clinical Experience	2
301 The Emotionally Disturbed Child	4
305 Theory B—Psychiatric Theory	2
320 Human Growth and Development	4
400 Theory D—Rehabilitation Techniques	2
407 Theory C—Physical Disabilities Theory	3
408 Theory E—Senior Seminar	2
Group V Fine Arts	9
101 Introduction to Art	3
300 Creative Arts (o.t. section with ceramics) ..	3
Art Elective	3
Group VI Practical Arts	14
102 Woodwork	3
104 Graphic Arts Processes	3
304 Therapeutic Media I	3
428 Adaptive Equipment	2
453 Therapeutic Media II	3
Group VII Physical Education and Health	4
Physical education activity courses (eight activity hours)	4
Men: May apply two semester hours of military science toward this requirement,	
Electives	14-10
Total	124

Note: Occupational Therapy majors who wish to qualify for a Michigan Provisional Teaching Certificate must make application to the College of Education and fulfill the requirements necessary for a student teaching experience. (Hours credit and placement to be arranged by adviser and student teaching office.)

Courses

- 200 Anatomy for Occupational Therapy Students.** **Five sem hours**
 Study of the skeletal and muscular systems of the human body. Emphasis placed on upper extremity. Laboratory required.
Prereq: 105 Biological Science.
- 201 Theory A—Survey of Occupational Therapy and Rehabilitation.** **Two sem hours**
 A study of the history, development and scope of the field of occupational therapy. Study of the philosophy of rehabilitation and the relationship of occupational therapy to the broad field of rehabilitation.
- 240 Pre-Clinical Experience.** **Two sem hours**
 One semester of lecture, observation and participation in the Occupational Therapy programs at Rackham School and Ypsilanti State Hospital to provide opportunity for self and staff evaluation relative to the student's potential in the field

of occupational therapy. *To be taken after 200 Anatomy for Occupational Therapy Students and 201 Theory A—Survey of Occupational Therapy and Rehabilitation.*

300 Neuroanatomy and Neurophysiology. **Three sem hours**
 Study of the nervous system of the human body, lesions of the nervous system and resulting disabilities. Laboratory required.
Prereq: 200 Anatomy for Occupational Therapy Students.

301 Kinesiology for Occupational Therapy Students. **Three sem hours**
 Study of neuromuscular functions of the human body. Application of principles of kinesiology in choosing therapeutic activities. Pathological gaits. Muscle testing. Joint measurement. Laboratory required.
Prereq: 200 Anatomy for Occupational Therapy Students.

304 Therapeutic Media I. **Three sem hours**
 Instruction in planning treatment programs for individuals with physical disabilities and/or psychological illnesses through variations and adaptations in weaving. Procedures for floor looms and portable looms. Materials and sources.
Prereq: 201 Theory A—Survey of Occupational Therapy and Rehabilitation and 101 Introduction to Art.

305 Theory B—Principles of Occupational Therapy for Patients Hospitalized for Psychological Reasons. **Two sem hours**
 Treatment programs in psychiatric settings. Rapport with patients. Adjusting program to needs of patients. Records, case histories, case conferences. Treatment planning and reporting. Organization and administration.
Prereq: 101 or 102 General Psychology and 360 Abnormal Psychology.

361 Psychiatry Lectures. **Two sem hours**
 Lectures on the psychoses, major and minor, and the abnormal psychological reactions, from the standpoint of etiology, symptomatology and treatment. *For occupational therapy majors only.*
Prereq: 101 or 102 General Psychology and 360 Abnormal Psychology.

400 Theory C—Rehabilitation Techniques. **Three sem hours**
 Patient evaluation, treatment planning and techniques in the areas of perception, vocational exploration, activities of daily living, work simplification, mobility and prosthetic training.
Prereq: 200 Anatomy for Occupational Therapy Students, 300 Neuroanatomy and Neurophysiology and 301 Kinesiology for Occupational Students.

404 Medical Lectures. **Three sem hours**
 A series of lectures on orthopedic, neurological, medical and surgical conditions with emphasis on the important signs and symptoms, etiologies, complications, psychological reactions and convalescent care. *For occupational therapy majors only.*

405 Medical Lectures. **Three sem hours**
 Continuation of 404 Medical Lectures.

407 Theory D—Physical Disability Theory. **Two sem hours**
 Exploration and study of the use of occupational therapy in all areas of physical disability including the psychological aspects. Utilization of this knowledge for treatment planning. Reporting and record keeping. Administrative procedures.

408 Theory E—Senior Seminar. Two sem hours
A seminar to promote independent study, written and oral reporting, professional reading.

428 Adaptive Equipment and Appliances. Two sem hours
(Graduate course, 528)
Laboratory course covering use of materials and designs for the making of supportive devices used in the field of rehabilitation.

453 Therapeutic Media II. Three sem hours
Laboratory study of crafts (leatherwork, copper tooling, square knotting). Adaptation of above crafts to treatment programs for patients with physical disabilities and/or psychological illnesses.

Prereq: 201 Theory A—Survey of Occupational Therapy and Rehabilitation.

495 Student Affiliations in Occupational Therapy.
Hospital practice-training period of six–nine months, required of all occupational therapy majors. Experience is procured in a department directed by a registered therapist and organized to afford the student adequate educational opportunities. Assignments are in physical disabilities, psychiatry, general setting.
Requirement of occupational therapy curriculum.

CURRICULUM FOR TEACHERS OF DANCE

Bachelor of Science Degree

***Elementary or Secondary Provisional Certificate**

Adviser Chairman, **Jeannine Galetti**

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3

**If an elementary provisional certificate is desired, consult with the dean of Records and Teacher Certification or director of Academic Advising regarding special requirements. In Group II, 101 Functional Math is recommended for those seeking elementary certification.*

The student will complete as a minimum: major in physical education as listed above and one minor of 20 semester hours or a group minor of 24 semester hours in a subject field which the student expects to teach.

Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	10-12
101 General Psychology	3
105 Biological Science	4
One mathematics course or another laboratory science course from the biology, chemistry, geography or physics departments	3-5
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History of Civilization or A two course sequence in sociology, economics or geography	
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies. A course in philosophy or religion	3
106 Introduction to the Performing Arts	3
Either of the following	6
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group IV Education	21
252 Methods and Materials in Physical Education	3
302, 303, 418 Education	8
440 Tests and Measurements in Physical Education	2
492 Student Teaching	8
Group VII Physical Education and Health	30
107 Rhythmic Analysis and Dance Accompaniment	3
200 Anatomy and Physiology	5
245 Elements of Dance Composition	3
255 Dance Production	3
350 Dance History	3
355 Labanotation	3
450 Advanced Dance Composition	4
455 Seminar in Dance	2
Electives: to be chosen from related areas with Department approval	4
Dance major studio courses (28 activity hours, see page 146)	4
Electives	29
Total	124

APPLIED SCIENCE DEPARTMENTS

DEPARTMENTS

Home Economics
Industrial Education
Military Science

HOME ECONOMICS

Department Head: Anita L. Fielder

Professors: Betty L. Bornemeier, Duane M. Laws, Madeleine M. Lloyd, Ruby L. Meis

Associate Professors: R. Elaine Found, Annette Peel

Assistant Professors: Betty L. Barber, Mary M. Krieger, Karen L. Miller, Sarah K. Moore, Judith Williston

Instructor: Jo H. Webb

Home economics, as a field of study, offers the student a unique combination of careers with education for a wide variety of professional opportunities and a valuable preparation for marriage and community service as well. All courses are open as electives to any student in the University if prerequisites are met.

To provide all students with the opportunity to gain the minimum of preparation for marriage and family life, the Home Economics Department offers the

FAMILY LIFE LECTURE SERIES

- 101 Family Resources, one sem hour, elective credit
- 102 Family Food Management, one sem hour, elective credit
- 103 Family Clothing Problems, one sem hour, elective credit
- 104 Family Living, one sem hour, elective credit

This series is offered each semester. One or several of the courses may be elected by any student. See course descriptions on page 159.

CURRICULUM IN GENERAL HOME ECONOMICS

Bachelor of Science Degree

Adviser Chairman, **Anita Fielder**

This curriculum is designed for the student who wishes to combine interests in home economics and the liberal arts. It gives a broad general training in all phases of home economics with minor and electives in the field of the student's special interest.

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

	Semester Hours
Group I Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either of the following (see page 60) ...	3-5
121 English Composition or	
A foreign language course (121 through 222)	
Group II Science	15-16
101 or 102 Psychology	3-4
105 Biological Science	4
119 General Chemistry (or 131 Chemistry)	4
120 Chemistry	4
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6

The remaining 101 or 102 History of Civilization or	
A two course sequence in sociology or economics	
Either of the following	3
112 American Government or	
202 State and Local Government	
Humanities Area Requirements	12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
105 Integrated Arts	3
Either of the following	6
101, 102 Reading of Literature or	
221, 222 Intermediate Foreign Language or more advanced foreign language literature courses)	
Group VI Practical Arts	44
Home Economics Core	20
106 Orientation to Home Economics	1
114 Clothing for Consumers	3
117 Clothing Principles Lecture	1
116 Food for the Family	4
204 Home Management and Family Economics	4
206 Contemporary Family Relations	4
208 Aesthetics of the Home and Family ...	3
Advanced Sequence	24
235 Textile for Consumers	3
201 Nutrition for the Family	3
211 Advanced Foods	3
213 Family Health Care	1
269 Housing the Family	2
271 Household Equipment	2
302 Experimental Clothing	3
309 Home Furnishings	3
406 Seminar in Home Economics	1
410 Home Management Seminar	3
Physical education activity	4
*Electives	35-28
Total	124

CURRICULUM FOR TEACHERS IN HOME ECONOMICS

This curriculum prepares students to certify as vocational homemaking teachers for junior and senior high schools as well as for adult education and occupational programs. See Curriculum for Teachers of Home Economics, page 129.

CURRICULUM FOR HOME ECONOMICS IN BUSINESS

Bachelor of Science Degree

Adviser Chairman, **Anita Fielder**

This curriculum has been specifically designed for those students who plan to enter the business field in one of the areas of home economics. Some of the career possibilities in the various areas of specialization are:

**Electives should be chosen to satisfy the requirements of a minor chosen by the student.*

- A. Communications—
Journalism, television, radio, publications (both commercial and agency)
- B. Consumer Management
Home service and demonstrator for utilities companies, consumer consultant, retailing, family welfare agencies, consultant for housing developments
- C. Foods in Business
Food industry technology, dietetics assistants, cafeteria or restaurant management, food demonstrator or nutrition consultant
- D. Fashion Merchandising
Buyer for fashion department, pattern company personnel, fashion design, fashion consultant, publication
- E. Interior Design
Decorating consultant, retailing of furniture or home accessories, kitchen planning consultant, publications.

All home economics in business majors enroll in the basic core, followed by the professional sequence and a specialization of the student's choice. Wider professional opportunities are available through chosen electives.

A minimum total of 40 semester hours in the Basic Studies areas—Groups I, II, III and the Humanities—is required of all students.

Group IV Education (Optional, as in teacher's curriculum if certificate is desired.)	
Group VI Practical Arts	59
General Home Economics Core	20
106 Orientation to Home Economics	1
114 Clothing for Consumers	3
116 Food for the Family	4
117 Clothing Principles Lecture	1
204 Home Management and Family Economics	4
206 Contemporary Family Relations	4
208 Aesthetics for the Home and Family	3
Professional Sequence	14
215 Journalism	3
220 Elements of Economics	3
210 Display Techniques	2
360 Principles of Marketing	3
390 Demonstration Methods	3
Specialization Courses	24-25
Group VII Physical Education Activity	4
**Electives	23-17
Total	124

Specialization Areas for Home Economics in Business Curriculum

Select one of the five specialization groups making certain to include the starred courses.

	Semester Hours
Group I Drama, Language, Literature and Speech	6-8
124 TV Fundamentals of Speech	3
Either of the following (see page 60)	3-5
121 English Composition or A foreign language course (121 through 222)	
Group II Science	11-12
101 or 102 General Psychology	3-4
Either of the following	4
119 Fundamentals of Chemistry or 131 General Chemistry I	
120 Fundamentals of Chemistry	4
Group III Social Science	9-12
101 or 102 History of Civilization	3
Either of the following	3-6
The remaining 101 or 102 History or Civilization or A two course sequence in sociology or economics	
Either of the following	3
112 American Government or 202 State and Local Government	
Humanities Area Requirements	12
In addition to the courses above, the selected courses below from Groups I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
105 Integrated Arts	3
Either of the following	6
101 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	

	Semester Hours
A. Communication	24
*222 Expository Writing	3
*332 Fundamentals of Television	2
*350 Persuasive Speaking	3
382 Introduction to Management	3
363 Retailing	3
331 Fundamentals of Radio	2
235 Textiles for Consumers	3
211 Advanced Foods	3
269 Housing the Family	2
271 Household Equipment	2
309 Home Furnishings	3
302 Experimental Clothing	3
B. Consumer Management	24
*269 Housing the Family	2
*271 Household Equipment	2
*309 Home Furnishings	3
*322 Family Financial Planning	3
*410 Home Management Seminar	3
382 Introduction to Management	3
363 Retailing	3
235 Textiles for Consumers	3
211 Advanced Foods	3
244 Personal Tax Accounting	2
306 General Insurance	3
308 Personal Finance	3
367 Consumer and Industrial Credit	3

**Electives should be chosen to satisfy the requirements of a minor chosen by the student.

C. Interior Design	24
*235 Textiles for Consumers	3
*269 Housing the Family	2
*271 Household Equipment	2
*309 Home Furnishings	3
*259 History of Furnishings and Decoration	3
*445 Interior Design I	3
*446 Interior Design II	3
122 Two Dimensional Design	3
128 Architectural Drawing	3
235 Design in Materials	3
382 Introduction to Management	3
222 Expository Writing	3
332 Fundamentals of Television	2
350 Persuasive Speaking	3
D. Fashion Merchandising	24
*382 Introduction to Management	3
*222 Expository Writing	3
*345 Fashion Analysis	3
*392 Pattern Design	3
*302 Experimental Clothing	3
*235 Textiles for Consumers	3
332 Fundamentals of Television	2
350 Persuasive Speaking	3
363 Retailing	3
241 Principles of Accounting	3
269 Housing the Family	2
271 Household Equipment	2
309 Home Furnishings	3
E. Foods	24
*105 Biological Science	4
*210 and 211 General Microbiology with lab	5
*201 Nutrition for the Family	3
*211 Advanced Foods	3
*391 Food Investigation	3
*435 Food and Nutrition Seminar	1
381 Quantity Food Production	3
221 General Botany	4
222 General Zoology	4
301 Genetics	3
382 Introduction to Management	3
240 Broadcasting and Film Performance	2
350 Persuasive Speaking	3
222 Expository Writing	3
251 Meal Management	3

CURRICULUM FOR DIETETICS

Bachelor of Science Degree**

Adviser Chairman, **N. Annette Peel**

The dietetics curriculum provides the specialized educational program for students desiring to qualify for membership in the American Dietetic Association. Upon completion of the Bachelor of Science degree in dietetics,

students may apply for an internship approved by the American Dietetic Association. Career opportunities for the dietitian are available in hospitals, in administrative, therapeutic or clinical situations, in industrial food service programs, in college dormitories or in teaching or research.

Group I—Drama, Language, Literature and Speech	6-8
124 TV Fundamentals of Speech	3
Either 121 English Composition (see page 60) or a foreign language course (121 through 222)	3-5
Group II—Science	30
101 Psychology	3
105 Biological Science	4
131, 180, 219 and 220 Chemistry	11
351 Introductory Biochemistry	3
352 Basic Biochemical Analysis	1
211 General Microbiology	3
200 Anatomy and Physiology	5
Group III—Social Science	9-12
101 or 102 History of Civilization	3
Either the remaining 101 or 102 History of Civilization or a two course sequence in sociology or economics	3-6
Either 112 American Government or 202 State and Local Government	3
Humanities Area Requirements	12
A course in philosophy or religion	3
105 Integrated Arts	3
Either 101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language	6
Group IV—Education	3
302 Educational Psychology	3
Group VI—Practical Arts	45
General Home Economics Core	8
106 Orientation to Home Economics	1
101 Family Resources	1
116 Food for the Family	4
103 Family Clothing Problems	1
104 Family Living	1
Professional Sequence and Specialization	37
201 Nutrition for the Family	3
211 Advanced Foods	3
251 Meal Management	3
381 Quantity Food Production	3
391 Food Investigation	3
435 Foods and Nutrition Seminar	1
415 Diet and Disease	3
412 Child Nutrition	3
402 Nutrient Metabolism	3
240 Principles of Accounting	3
384 Personnel Administration	3
220 Elements of Economics	3
382 Introduction to Management	3
Group VII—Physical Education Activity	4
Electives toward specialization	15-10
Total	124

MINOR IN GENERAL HOME ECONOMICS

Required courses:	20-24*
106 Orientation to Home Economics	1
114 Clothing for Consumers	3
116 Food for the Family	4
117 Clothing Principles Lecture	1

**Group IV Education is recommended as possible alternate professional field, whereupon a Secondary Provisional Certificate will be earned.

204 Home Management and Family Economics	4
206 Contemporary Family Relations	4
208 Aesthetics of the Home and Family	3

CURRICULUM FOR FAMILY LIFE EDUCATION

Adviser Chairman, Madeleine M. Lloyd

This major in family life education has been developed with the objective of providing interdisciplinary academic experiences and supervised direct experiences with families. It draws upon course offerings of various departments in the University. Courses are designed to provide the field experiences necessary for meaningful and productive educational work with families, children, and youth; they will also provide academic backgrounds in the areas of understanding children in the family setting, and variations in family patterns and life styles.

There is a marked need for professionally trained people in the field of family life education. Some will be involved in direct education programs, as in the public schools: teachers of family life education and consultants to other classroom teachers are needed, as are persons skilled in mobilizing school-community action programs in family life education. Some agencies and organizations with a traditional casework orientation have expanded their services to include parent education and family life education. There is a growing emphasis in programs such as those sponsored by the Cooperative Extension Service, a broad concern with the totality of family relationships. As pre-school education becomes an integral part of more public school programs, professional persons who are skilled in working with parents, young children and families will be needed.

	Semester Hours
Required Courses:	
Group I—Drama, Language, Literature and Speech	5-8
121 or 124 Fundamentals of Speech	2-3
Either 121 English Composition (see page 60) or a foreign language course (121 through 222)	3-5
Group II—Science	14
101 General Psychology	3
105 Biological Sciences	4
119 or 131 General Chemistry, 108 Earth Science, 110 Physical Science I or 102 General Psychology	4
360 Abnormal Psychology	3
Group III—Social Science	12
101 or 102 History of Civilization	3
105 Introductory Sociology and 214 Racial and Cultural Minorities	6
112 American Government or 202 State and Local Government	3

Humanities	12
A course in philosophy or religion	3
105 Integrated Arts	3
101, 102 Reading of Literature or 221, 222 Intermediate Foreign Language (or more advanced)	6
Group IV—Education	25
(to be included for those desiring a Provisional Secondary Teaching Certificate)	
320 Human Growth and Development	4
326 School and Society	6
375 Methods of Teaching Family Life	3
405 Guidance Function of Secondary School Teaching	2
418 Seminar in Education	2
492 Student Teaching	8
Students wishing a general family life degree may omit requirements of Group IV and use the 25 credit hours as electives.	
Group VI—Practical Arts	30
Required Family Life Core	25
206 Contemporary Family Relations	4
307 Preparation for Parenthood	4
107 Food and Man	2
202 Social Problems	3
204 Home Management and Family Economics	4
322 Psychology of Adolescence	3
360 Concepts in School Sex Education	2
414 Experiences with Families	3
Electives to Complete Group VI	5
213 Family Health Care	1
216 Family Interaction	3
269 Housing the Family	2
306 The Urban Community	3
308 Social Psychology	3
309 Culture and Personality	3
322 Family Financial Planning	3
361 Issues in Family Life	3
500 The Disadvantaged Family	2
Group VII—Physical Education Activity	4
Electives toward minors if Group IV is included in total credit hours; if Group IV is omitted 44 hours may be used toward minors.	
Total	124

FAMILY LIFE MINOR

	Semester Hours
Required courses	20
206 Contemporary Family Relations	4
307 Preparation for Parenthood	4
107 Food and Man	2
204 Home Management and Family Economics	4
322 Psychology of Adolescence	3
202 Social Problems	3

If this is to be a teaching minor, students will take 375 Methods of Teaching Family Life, an additional three hours.

Students enrolled in other home economics curriculums (i.e. general, education or business) will adapt the family life minor requirements as follows:

*Students who wish to declare a teaching minor also take 371 Methods and Materials in Homemaking Education and 406 Seminar in Home Economics to fulfill North Central Association Requirements (24) for teaching at junior and senior high level.

307 Preparation for Parenthood	4
322 Psychology of Adolescence	3
202 Social Problems	3
105 Introductory Sociology	3
*101 General Psychology	3
360 Concepts in Sex Education	2
216 Family Interaction or	
361 Issues in Family Life	3
Total	21

If this is to be a teaching minor, students will take 375 *Methods of Teaching Family Life*, an additional three hours.

Courses

101 Family Resources. One sem hour
Lectures on ways to solve problems of providing for a family on limited money, time and physical energy. Study of best values for investment of resources with major concern the satisfaction of family needs.

102 Family Food Management. One sem hour
Lectures on ways to manage food problems for the family including wise food buying for wholesome, attractive and economical meals and meeting problems of persons with limited food choices or weight problems.

103 Family Clothing Problems. One sem hour
Lectures on family problems relating to selection and care in planning clothing for the family.

104 Family Living. One sem hour
Lectures on family relationships which are basic to marriage success and to the welfare of the children. Study of pressures which result in family problems and ways to deal with them.

105 Integrated Arts. Three sem hours
Provides an opportunity for students to become familiar with the basic humanitarian and design principles of industrial arts and home arts. Open only to students on secondary teacher curriculums. (Industrial Education and Home Economics Departments)

106 Orientation to Home Economics. One sem hour
Home economics as a field of study: its development, scope and leadership, its contribution to education for home and family life, professional opportunities.

107 Food for Man. Two sem hours
The course is organized to provide an interdisciplinary approach for the understanding of the relationships between an individual's dietary habits and varied social, psychological, religious and cultural factors.

114 Clothing For Consumers. Three sem hours
The selection of appropriate clothing in relation to family needs and resources throughout the family life cycle.

116 Food for the Family. Four sem hours
Basic study of food for the family including an introduction to nutrition, food science and standards in preparation. Laboratory required.

117 Clothing Principles Lecture. One sem hour
The interpretation of clothing principles, standards and techniques in relation to fabric manipulation, fit and construction.

118 Clothing Principles Lab. One sem hour
Application of clothing principles, standards and techniques through construction of a garment. Required of students completing 117 Clothing Principles Lecture unless waived by achievement grade.

Prereq. or coreq: 117 Clothing Principles Lecture.

201 Nutrition for the Family. Three sem hours
The study of foods and their functions in developing and maintaining normal growth and health of the individual and the family.

Prereq or coreq: 116 Food for the Family and 120 Fundamentals of Chemistry.

204 Home Management and Family Economics. Four sem hours
Management and relationships basic to satisfying home and family life. Includes decision-making in the use of resources within the framework of family values and goals.

206 Contemporary Family Relations. Four sem hours
Family relationships throughout the life cycle with concerns for changes in values and roles of family members and effective patterns for family adjustments. Recitation required.

208 Aesthetics of the Home and Family. Three sem hours
Application of the principle of design to creative problems in home and dress. Development of good taste in effective use of resources and materials in home decoration and apparel for family members.

Prereq: 105 Integrated Arts.

210 Display Techniques. Two sem hours
The techniques, resources and evaluation of effective displays for use in educational, commercial and informational exhibits. Participation experiences provided in all phases of display work.

Prereq: 105 Integrated Arts.

211 Advanced Foods. Three sem hours
A continuation of 116 Food for the Family. Deals with the experimental approach to food preparation.
Prereq: 116 Food for the Family and 201 Nutrition for the Family.

213 Family Health Care. One sem hour
Survey of current health problems and community resources available to families at various income levels.

216 Family Interaction. Three sem hours
A study of the varieties of interpersonal relationships in families with emphasis on the shifting role requirements and relationships with non-family members; designed to help students who will be dealing with families of many patterns and cultures.

Prereq: 206 Contemporary Family Relations.

*102 General Psychology may be substituted for this course.

- 222 Home Furnishing Techniques.** Two sem hours
Professional techniques in construction, renovation and restoration of home furnishings. Emphasis on use of fabrics and furniture in project experience.
- 235 Textiles for Consumers.** Three sem hours
Deals with the study and analysis of fabrics used for clothing and household purposes: their wearing qualities and cost.
Prereq: 119 and 120 Fundamentals of Chemistry.
- 251 Meal Management.** Three sem hours
Study of the planning and the preparation of various types of meals for the family, with emphasis on management of time, energy and economic resources.
Prereq: 116 Food for the Family and 201 Nutrition for the Family.
- 259 History of Furnishings and Decoration.** Three sem hours
Historical development of furniture styles, textile design and accessories through the centuries to present application.
Prereq: 208 Aesthetics of the Home and Family.
- 269 Housing the Family.** Two sem hours
A study of housing as it relates to and conditions family living. Analysis of family needs as a basis for selecting, adapting and financing the home.
- 271 Household Equipment.** Two sem hours
Study of appliances, basic principles of operation, performance, care and comparative values for consumer selection.
Prereq: 116 Food for the Family and 204 Home Management and Family Economics.
- 302 Experimental Clothing.** Three sem hours
Experience in clothing construction with emphasis on processes and techniques relative to varied fabrics and designs.
Prereq: 117 Clothing Principles Lecture or 118 Clothing Principles Lab or waiver; 208 Aesthetics of the Home and Family and 235 Textiles for Consumers.
- 307 Preparation for Parenthood.** Four sem hours
Developmental patterns of children in various family settings. Physical, mental, emotional and social components of growth throughout the first five stages of the family life cycle. Impact of family resources, attitudes, values on children. Facilitation by family of optimal growth and development of individual child. Participation and observation in the Children's Center. *Not open to freshmen.* Laboratory required.
- 309 Home Furnishings.** Three sem hours
Consideration of house furnishings as they are related to family needs, mode of living and income. Arrangement, planning and reconditioning of furnishings, development of consumer discrimination.
Prereq: 208 Aesthetics of the Home and Family.
- 322 Family Financial Management.** Three sem hours
An analysis of economic problems of the family with study of a variety of incomes, expenditures, standards of living and means of security through planning.
Prereq: 204 Home Management and Family Economics.
- 345 Fashion Analysis.** Three sem hours
The movement of fashion, major U.S. and European markets, the garment industry.
Prereq: 302 Experimental Clothing, 220 Elements of Economics.
- 361 Issues in Family Life.** Three sem hours
Analysis of the impact on family members of crisis situations which are significant in their effects. Resources for resolving critical problems with emphasis on preservation of stability, security and constructive approaches.
Prereq: 206 Contemporary Family Relations and junior or senior standing.
- 371 Methods and Materials in Homemaking Education.** Three sem hours
Responsibilities of homemaking teachers, group planning of curriculums, units of work, facility planning, interrelations of homemaking education and the total school and community.
Not open to graduate students for graduate credit.
Prereq: 320 Human Growth and Development, 326 (or coreq.) School and Society and junior standing.
- 375 Methods and Materials in Family Life Education.** Three sem hours
Responsibilities of family life educators in school and community. Curriculum and program planning. Home-school-community relations. Planning facilities. Resources available from community through federal government levels.
Prereq: 320 Human Growth and Development, 326 (or coreq.) School and Society.
- 381 Quantity Food Production.** Three sem hours
Study of menu planning, food purchasing, food preparation techniques and sanitation principles in institutional food services. Supervised experience in work situations. Laboratory required.
Prereq: 251 Meal Management and/or 211 Advanced Foods.
- 390 Demonstration Methods.** Three sem hours
Principles and procedures for demonstrations to be used in teaching and in the business areas. Actual experiences through laboratory participation (*open to graduate students for two semester graduate hours*).
- 391 Food Investigation.** Three sem hours
Application of experimental method to the study of the nature of food. Emphasis given to research techniques in the evaluation of foods.
Prereq: 211 Advanced Foods and 219 Elementary Organic Chemistry.
- 392 Pattern Design.** Three sem hours
Principles of pattern making and special problems in clothing construction and design.
Prereq: 302 Experimental Clothing.
- 402 Nutrient Metabolism.** Three sem hours
Discussion of the biochemical functions of essential nutrients, and their relationship to health. Emphasis on methods of evaluating nutritional status.
Prereq: 201 Nutrition for the Family and 351 Introductory Biochemistry.
- 406 Seminar in Home Economics.** One sem hour
Interpretation and integration of progress in all areas of home economics. *Required of all seniors in general home economics and home economics education and for home economics education minors who are preparing for teaching.*
- 410 Home Management Seminar.** Three sem hours
Analysis of the homemaker's role in family decision-making, the effect of values, stages in the life cycle and cultural environment on the use of family resources with opportunities for application in living situations.
Prereq: 204 Home Management and Family Economics, 206 Contemporary Family Relations.

412 Child Nutrition. **Three sem hours**
Study of ways of meeting nutrient requirements for each of the physiological age groups of prenatal life, childhood and adolescence.
Prereq: 201 Nutrition for the Family or permission of the department.

414 Experiences with Families. **Three sem hours**
Supervised experiences with families and their members through observation, participation, community services. Opportunities to work with families, parents, children, youth and the elderly. Emphasis on personal and professional competencies necessary, working with a variety of family settings and patterns. Resources available to families and other professional persons.
Prereq: Permission of the department.

415 Therapeutic Nutrition. **Three sem hours**
Study of diet in the treatment of abnormal metabolic and disease states. Brief field experience in one of the area hospitals may be offered.
Prereq: 402 Nutrient Metabolism and 352 Basic Biochemical Analysis.

435 Foods and Nutrition Seminar. **One sem hour**
Critical evaluation of current topics of foods and nutrition.
Prereq: Seniors; dietetics or food specialization only.

445 Interior Design I. **Three sem hours**
Basic principles of interior design related to business field. Experience in solving problems in interior design, with extended opportunities to use materials, resources and techniques.
Prereq: 235 Textiles for Consumers and 309 Home Furnishings.

446 Interior Design II. **Three sem hours**
Professional practicum with the interior design studio. Methods and techniques applied in projects and field experiences.
Prereq: 445 Interior Design I.

490 Special Work (Honors Course). **One sem hour**
491 Special Work (Honors Course). **Two sem hours**
Designed to provide additional experiences for promising seniors making a more detailed study of some phase of home economics. Work will be based on a problem of research interest with written and/or oral report. Regulations regarding honors courses will be observed.

INDUSTRIAL EDUCATION

Department Head: Raymond A. LaBounty
Professors: Gerald L. Jennings, Norman Risk, H. James Rokusek
Associate Professors: Ralph F. Gilden, Gerald R. Griess, Clois Kicklighter, Delmar Larsen, Carroll A. Osborn, John T. Wescott
Assistant Professors: Robert Benden, Norman Delventhal, Lewis Kieft, Paul Kuwik, Gene Minton, Herbert Nelson, Harry PaDelford, Alfred A. Roth, John Weeks, Herbert Wilson
Instructor: Harry Smith

The Department of Industrial Education offers courses and curriculums which:

1. Prepare students for certification in the teaching of industrial education subjects.

2. Lead to the Bachelor of Science degree in industrial technology.
3. Provide opportunities for two-year terminal studies for those who expect to enter technical drawing or design occupations, graphic arts, electricity-electronics, industrial materials processing or automotive occupations.
4. Lead to certification as teachers of vocational trade and industrial subjects under the Michigan State Plan for Vocational Education.

The industrial education program is designed as a curriculum with specialization in discrete areas built into the course sequence. Completion of the program as described fulfills University requirements for a major and a minor. (see page 28).

Major

For required courses for a major in industrial education, see curriculum for teachers of industrial education, page 130, and page 163 for curriculums for industrial technicians.

INDUSTRIAL TECHNOLOGY CURRICULUM

Bachelor of Science Degree

Adviser Chairman, **Raymond LaBounty**

This curriculum is designed to prepare students for employment in technologically based industry. Typical occupations include 1) Manufacturing: supervisors, managers, quality control and maintenance personnel. 2) Development: designers, testing specialists, and engineering technologists. The curriculum provides broad foundations in the physical sciences, manufacturing processes, and the social sciences.

Group I—Drama, Language, Literature	6-8
124 Fundamentals of Speech	3
Either of the following: (see page 60)	3-5
121 English Composition or	
A foreign language course (121 through 222)	
*Group II—Science	40
107 Plane Trigonometry (unless exempt)	2
230 Slide Rule	1
131 General Chemistry I	4
120 Calculus with Analytic Geometry I	4
121 Calculus with Analytic Geometry II	4
241 Materials Science	3
180 Chemistry Laboratory Techniques	2
237 Introduction to Computer Programming	3
221 Mechanics, Sound and Heat	4
222 Electricity and Light	4
Electives	9
Group III—Social Science	12-14
101 or 102 History of Civilization	3
Either of the following	3
112 American Government or	
202 State and Local Government	

**The sequence of courses given here assumes a high school preparation including three semesters of algebra, plane and solid geometry, a year of physics and a year of chemistry. A deficiency in any of these subjects with the exception of solid geometry, will necessitate a change of program in order to provide the necessary background as soon as possible.*

Either of the following	6-8
201 Principles of Economics I, and	
202 Principles of Economics II, or	
200 The American Economy and	
approved two course sequence.	
Humanities Area Requirements	11-12
In addition to the courses above, the selected courses below from Group I, III and V must be taken to complete the Basic Studies.	
A course in philosophy or religion	3
A fine arts course in art, music or dramatic arts	2-3
Either of the following	6
101, 102 Reading of Literature or	
211, 222 Intermediate Foreign Language (or more advanced foreign language literature courses)	
Group VI—Practical Arts	41
116 Elements of Production	3
121 Graphic Communication	3
122 Technical Drawing	3
123 Metal Processes	3
200 Electricity and Electronics I	3
202 Wood and Plastics Technology	3
302 Business Communication	3
317 Structure of Industry	2
325 Industrial Production Fundamentals	3
In addition to the above, the student will complete a 15 hour concentration in an area of his choice, determined in consultation with his program adviser.	
Group VII—Physical Education and Health	4
Physical education activity courses (eight activity hours)	4
Men: May apply two semester hours of military science toward this requirement	
Electives	10-5
Total	124

Completion of the above requirements fulfills a major in industrial technology and a minor in science.

TWO-YEAR PROGRAMS

Curriculums for Industrial Technicians

These programs are designed specifically for students who plan to enter industry or related technical fields after two years of college preparation. Students completing the two-year program with an honor point average of 2.00 "C" will receive a certificate. Students desiring to achieve other specialized objectives within this program should discuss their needs with the adviser chairman.

For the two year program all students must complete 2 semester hours (4 activity hours) in physical education activity courses.

The two-year curriculums, as outlined below, assume a high school preparation, including three semesters of algebra and two semesters of plane geometry. Students entering with only two semesters of high school algebra should enroll in 104 Algebra during their first semester.

DRAFTING

Adviser Chairman, Norman W. Risk

First Year

	Semester Hours
First Semester	15
121 English Composition	3
104 Graphic Arts Processes	3
122 Technical Drawing	3
116 Elements of Production	3
107 Plane Trigonometry	2
Physical Education Activity Hours (two)	1
Second Semester	15
223 Descriptive Geometry	3
121 Fundamentals of Speech	2
128 Architectural Drawing	3
Physical Education Activity Hours (two)	1
Electives	6

Second Year

Third Semester	15
112 American Government	3
215 Manufacturing Processes	3
230 Slide Rule	1
324 Industrial Drawing	3
Electives	5
Fourth Semester	16
207 Photographic Reproduction	2
317 Structure of Industry	2
200 The American Economy	3
331 Advanced Drafting	3
Electives	6
Total Semester Hours	62

ELECTRONICS

Adviser Chairman, John Weeks

First Year

	Semester Hours
First Semester	15-16
121 English Composition	3
122 Technical Drawing	3
107 Trigonometry	2
121 Fundamentals of Speech	2
Physical education activity hours (two)	1
Electives	4-5
Second Semester	15-16
112 American Government	3
200 Electricity and Electronics I	3
116 Elements of Production	3
Physical education activity (two)	1
Electives	5-6

Second Year

Third Semester	15-16
214 Electricity and Electronics II	2
221 Mechanics, Sound and Heat	4

218 Energy Systems	3
Electives	6-7
Fourth Semester	15-16
314 Solid State Electronics	2
315 Communication Circuitry	2
200 The American Economy	3
Electives	8-9
Total Semester Hours	60-64

GRAPHIC ARTS

Adviser Chairman, Norman Delventhal

First Year

Semester Hours

First Semester	15-16
121 English Composition	3
122 Technical Drafting	3
119 Fundamentals of Chemistry	4
121 Graphic Communication	3
Physical education activity (two)	1
Electives	1-2
Second Semester	15-16
112 American Government	3
107 Trigonometry	2
121 Fundamentals of Speech	2
205 Photo-Technology	2
Physical education activity (two)	1
Electives	5-6

Second Year

First Semester	15-16
120 Fundamentals of Chemistry	4
200 Electricity and Electronics I	3
207 Photographic Reproduction	2
200 The American Economy	3
308 Typography	2
Electives	1-2
Second Semester	15-16
214 Electricity and Electronics II	2
309 Offset Presswork	3
310 Graphic Arts Design	3
Electives	7-8
Total Semester Hours	60-64

MATERIALS PROCESSING

Adviser Chairman, Gene Minton

First Year

Semester Hours

First Semester	15-16
116 Elements of Production	3
121 English Composition	3
122 Technical Drawing	3
121 Fundamentals of Speech	2
Physical education activity (two)	1
Electives	3-4

Second Semester	16
107 Plane Trigonometry	2
112 American Government	3
119 Fundamentals of Chemistry	4
122 English Composition	3
123 Metal Processes	3
Electives	3
Physical education activity (two)	1

Second Year

Third Semester	15-16
202 Wood and Plastics Technology	3
215 Manufacturing Processes	3
120 Fundamentals of Chemistry	4
221 Mechanics, Sound and Heat	4
Electives	1-2
Fourth Semester	15-16
200 The American Economy	3
306 Plastic Processing	3
Electives	9-10
Total Semester Hours	61-64

POWER TECHNOLOGY

Adviser Chairman, Gerald Jennings

First Year

Semester Hours

First Semester	15-16
121 English Composition	3
121 Fundamentals of Speech	2
122 Technical Drawing	3
107 Plane Trigonometry	2
218 Energy Systems	3
Physical education activity (two)	1
Electives	1-2
Second Semester	15-16
116 Elements of Production	3
119 Fundamentals of Chemistry	4
112 American Government	3
Physical education activity (two)	1
Electives	4-5

Second Year

Third Semester	15-16
200 Electricity and Electronics I	3
219 Automotive Technology	2
120 Fundamentals of Chemistry	4
200 The American Economy	3
Electives	3-4
Fourth Semester	15-16
318 Automotive Instrumentation	3
221 Mechanics, Sound and Heat	4
214 Electricity and Electronics II	2
Electives	6-7
Total Semester Hours	60-64

Courses

- 102 Woodwork.** **Three sem hours**
Basic wood processing with hand and power tools. Includes learning situations in design, pattern development, project construction and finishing. Selection, use and care of hand and power tools. *Not open to majors in industrial education.* Lecture: two hours per week. Laboratory: four hours per week.
- 104 Graphic Arts Processes.** **Three sem hours**
History of printing, typography, layout and design, hand composition, printing methods, proofreading, basic press work, silk screen printing, duplicating, thermography, rubber stamps and basic photo-offset lithography. *Not open to majors in industrial education.* Lecture: two hours per week. Laboratory: four hours per week.
- 105 Integrated Arts.** **Three sem hours**
Provides an opportunity for students to become familiar with the basic humanitarian and design principles of industrial arts, fine arts and home arts. (Industrial Education and Home Economics Departments)
- 116 Elements of Production.** **Three sem hours**
The theory and application of those industrial elements associated with the production of goods, including the coordination of material, process and human resources. Lecture: two hours per week. Laboratory: four hours per week.
- 121 Graphic Communication.** **Three sem hours**
Preparation and design of graphic media. The theory and application of effective communications. Information collection, analysis and dissemination, survey of the graphic communication industry. Lecture: two hours per week. Laboratory: four hours per week.
- 122 Technical Drawing.** **Three sem hours**
The study and application of technical sketching and mechanical drawing. Planned and organized especially for pre-engineering, industrial education and technical drawing majors. Lecture: two hours per week. Laboratory: four hours per week.
- 123 Metal Processes.** **Three sem hours**
Survey and analysis of fundamental metal processes used in manufacturing. Emphasis upon theory and application in joining, forming, cutting, treating and the physical testing of metals. Lecture: two hours per week. Laboratory: four hours per week.
- 128 Architectural Drawing I.** **Three sem hours**
A beginning course dealing with the basic skills and techniques used in architectural drawing, the basic principles of architectural construction drawings, their scope, content, and preparation, a survey of current building practices and use of materials. Identification of various sources of technical data regarding building materials and development of competence in using technical data for architectural problem solving. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: A course in instrument drawing.
- 150 Introduction to Industrial Education.** **Two sem hours**
An orientation to the field of industrial education and its areas of involvement in both general and specialized educational programs. Provides an opportunity for study of the purpose of the related educational programs at Eastern which can be followed by students in the department. *Open only to first semester students in industrial education.*
- 152 Arts and Crafts.** **Three sem hours**
An exploratory course designed to provide experience in design and use of a wide variety of craft materials. Emphasis on an avocational and recreational use of craft media.
- 170 Aviation Ground Instruction.** **Two sem hours**
Basic flight training ground instruction and practice in the following: aircraft theory, aerial navigation, civil air regulations, meteorology and radio. Instruction is directed toward preparation for the private pilot written examination.
- 200 Electricity and Electronics I.** **Three sem hours**
A basic course in the application and manipulation of fundamental concepts of electricity and electronics. Topics include sources, rectifiers, phase relationships magnetism, current flow and controls. The use of meters and test equipment is emphasized. Lecture: two hours per week. Laboratory: four hours per week.
- 202 Wood and Plastics Technology.** **Three sem hours**
An analysis of the forest products and plastics industries: a study of material properties, identification, testing and processing techniques and the application of design to product manufacture. Laboratory: three hours per week.
- 205 Photo-Technology.** **Two sem hours**
A study of the applications of light sensitive materials used in industry to include photo-drafting, photofabrication, and photoreproduction. Laboratory: two hours per week.
Prereq: 121 Graphic Communication and one course in chemistry.
- 206 Surveying.** **Three sem hours**
Embraces the fundamental use of the transit and level. Exercises include linear measurement, angle measurements, extending straight lines, differential and profile leveling, a simple traverse survey and the keeping of accurate notes. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 107 Trigonometry.
- 207 Photographic Reproduction.** **Two sem hours**
Study and laboratory work in photomechanics, stripping and platemaking as applied to offset presswork. Includes the preparation of layout material for printing. Laboratory: two hours per week.
Prereq: 121 Graphic Communication or 104 Graphic Arts Processes.
- 214 Electricity and Electronics II.** **Two sem hours**
A continuation of 200 Electricity and Electronics I. Additional topics include semiconductors, vacuum tubes, circuits, inductance, capacitance, LCR circuits, amplifiers, oscillators, transmission and reception. The laboratory provides experience with test equipment in functional and experimental forms. Laboratory: two hours per week.
Prereq: 200 Electricity and Electronics I.
- 215 Manufacturing Processes.** **Three sem hours**
Study of the principles involved in manufacturing processes with emphasis on the use of basic equipment in metals processing and testing. Lecture: two hours per week. Laboratory: four hours per week.

- 217 Field Study in Industries.** **Two sem hours**
Study of manufacturing processes in industry. Opportunity is provided for observation of the industrial complex through field trips to selected industries in the local area. Laboratory: two hours per week.
- 218 Energy Systems.** **Three sem hours**
An introduction to systems used to generate, transmit and utilize energy. Concern is directed at describing energy sources and uses, and the interrelationships of energy systems. Lecture: two hours per week. Laboratory: four hours per week.
- 219 Automotive Technology.** **Two sem hours**
A basic course designed to provide students with a thorough understanding of the design, construction, operation and service of selected automotive components. Laboratory: two hours per week.
Prereq: 218 Energy Systems.
- 223 Descriptive Geometry.** **Three sem hours**
A drawing course for those especially interested in technical and engineering work. The work involves geometrical constructions as related to distances, angles, intersections and the development of surfaces. Orthographic projection and geometrical theory is related to technical descriptions. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 122 Technical Drawing or 107 Trigonometry.
- 229 Architectural Drawing II.** **Three sem hours**
This course is a continuation of 128 Architectural Drawing I. Emphasis is placed on the actual application of design through materials, techniques and principles. Field problems will form the basis for application of principles and practices learned. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 128 Architectural Drawing I.
- 250 Foundations of Industrial Education.** **Two sem hours**
The cultural forces in history which have tended to shape the various types of programs in industrial education and the philosophical viewpoints which have evolved from these events.
Prereq: 150 Introduction to Industrial Education and sophomore standing.
- 251 Materials Analysis and Testing.** **Three sem hours**
Study of the structure, characteristics and working qualities of common industrial materials. Lecture: two hours per week. Laboratory: four hours per week.
- 253 Industrial Arts for Elementary Teachers.** **Three sem hours**
Studies evolve along an anthropological, contemporary and futuristic continuum in describing the impact of industry and technology on society. Laboratory experiences involve individual and group activities in industrial processes and problems.
- 255 Art Metalwork.** **Two sem hours**
Copper, brass and silver are the basic materials. Jewelry and other art metal objects are designed and made by the student. Emphasis on design and the basic processes. Open to all students. Laboratory: two hours per week.
- 270 Aviation Flight Training.** **Two sem hours**
Forty hours of flight training preparation for the private flight examination.
Prereq: Completion or concurrent enrollment in 170 Aviation Ground Instruction or a passing score on the FAA private pilot written examination. Departmental permission.
- 305 Forest Products.** **Three sem hours**
A study of products derived from the trees; analysis of wood structure, wood hydrolysis, destructive distillation veneers, wood pulp, solid members and related materials; machining, fabrication, testing and production. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 202 Wood and Plastics Technology.
- 306 Plastic Processing.** **Three sem hours**
A study of high polymers, basic resin types and their application to molding and fabricating processes. Analysis of chemical and physical properties, mold design and problems of production. Emphasis on experimentation and testing. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 202 Wood and Plastics Technology.
- 308 Typography.** **Two sem hours**
Includes the study of type design and mechanical and photographic composition with application in letterpress and offset printing. Laboratory: two hours per week.
Prereq: 207 Photographic Reproduction.
- 309 Offset Presswork.** **Three sem hours**
Operation and maintenance of small offset presses, stripping and layout, ink and water control, elementary plate making and camera work. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 207 Photographic Reproduction.
- 310 Graphic Arts Design.** **Three sem hours**
A study of design problems dealing with the media of the various reproduction fields of the graphic arts industry. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 207 Photographic Reproduction.
- 314 Solid State Electronics.** **Two sem hours**
An introduction to semiconductor theory and principles associated with solid state devices. A study of PN junction, junction transistors, diodes, ACR's, amplifier circuits and related semiconductor devices. Laboratory: two hours per week.
Prereq: 214 Electricity and Electronics II.
- 315 Communications Circuitry.** **Two sem hours**
A study of commercial and amateur radio and television transmitters and receivers, theory, construction and use. Construction and trouble diagnosis are included in the laboratory experience. Laboratory: two hours per week.
Prereq: 214 Electricity and Electronics II.
- 316 Modern Manufacturing Processes and Materials.** **Three sem hours**
Considers the application of fundamental principles to problems arising in modern manufacturing, analysis of forces and energy requirements in metal removal and forming, temperature effects, design specifications economically obtainable in terms of dimensional accuracy. Lecture: two hours per week. Laboratory: four hours per week.
Prereq: 116 Elements of Production, 123 Metal Processes and 215 Manufacturing Processes.

317 Structure of Industry. Two sem hours

A study of the structure of industry as the institution in our society responsible for the production of goods and services.

318 Automotive Instrumentation. Three sem hours

A study of the theoretical bases, both scientific and operational, and the application of sophisticated diagnostic equipment to the solution of complex automotive problems. Lecture: two hours per week. Laboratory: four hours per week.

Prereq: 219 Automotive Technology.

324 Industrial Drawing. Three sem hours

The intermediate aspects of drawing. Orthographic projection, auxiliary projection, sections, technical and structural drafting procedures, sheet metal layout and topographical drawing are included. Lecture: two hours per week. Laboratory: four hours per week.

Prereq: 223 Descriptive Geometry.

325 Industrial Production Fundamentals. Three sem hours

Particularly for students who are specializing in plant management and supervision. The course consists of the following areas: blueprint reading, sketching and reproduction and materials in manufacturing. Participation of industrial resource persons demonstrating products and related production methods will be utilized.

331 Advanced Drafting. Three sem hours

An advanced course for those specially interested in drafting and those preparing to teach mechanical drawing as a special subject. Lecture: two hours per week. Laboratory: four hours per week.

Prereq: 223 Descriptive Geometry.

350 Curriculum in Industrial Education. Two sem hours

A study of curriculums and programs in industrial education for grades K-12. Includes consideration of the structure of the various programs with emphasis upon the selection, organization and validation of the content for them.

Prereq: 250 Foundations of Industrial Education, junior standing.

354 Industrial Arts for Elementary Grades.

Two sem hours

Laboratory experiences in the use of materials, tools, processes and products of industry as utilized in the elementary and middle school. Emphasis is on individual and group learning situations relevant to integrated curriculum activities.

Prereq: 253 Industrial Arts for Elementary Teachers.

424 Industrial Plant Facilities and Planning. Three sem hours

Designed to give the student a basic knowledge of planning procedures related to small plant and heavy industrial production. Included are the treatment of mass production layout methods, machine and production equipment arrangements, types of plant architecture and related facilities, transportation and handling facilities, lighting, sewerage, ventilation, water supply, electrical power, personnel facilities. Visits to representative industrial plants are integrated with course work. *On demand.*

460 Practicum in Industrial Education. Two sem hours

Direct involvement in solving problems related to classroom activities in industrial education programs. Emphasis upon the implementation of the methods employed in the classroom

including the selection, organization and evaluation of the activities. Laboratory: two hours per week.

Prereq: 361 The Teaching of Industrial Education and concurrent with or following student teaching.

461 The Teaching of Industrial Education. Two sem hours

Examines the relationship between principles of effective learning and various methods of organization of industrial education content.

Prereq: 350 Curriculum in Industrial Education.

497 Directed Study. One sem hour**498 Directed Study. Two sem hours****499 Directed Study. Three sem hours**

Available to selected students who have demonstrated ability to profit from a directed study project. Provides opportunity for intensive study of a problem appropriate to the student's area of concentration.

MILITARY SCIENCE

Department Head: Colonel Kenneth T. Macek

Associate Professor: LTC Charles H. Smith

Assistant Professors: Majors Robert A. Hicks, Stephen O. Perry, Walter R. Reed

The military science program is designed to provide "on-campus" education and training in a special curriculum which permits entry into the armed forces at the commissioned officer level. Emphasis is directed toward the role of an officer in organizing, motivating and leading others. Also included are practical exercises in the development of self-discipline, confidence, physical stamina and bearing.

The program is normally of four years duration and is conducted as a complement to the student's chosen field of academic endeavor. Its successful completion enables him to earn a commission as a career officer or member of the reserve components as he works towards a degree in his major field.

Special programs offered include flight training, distinguished military graduate program, the ROTC scholarship program and the transfer student two-year program.

THE BASIC PROGRAM

The basic program is open to any male student on an elective basis. It requires normally two academic years for completion and is a prerequisite for entrance into the advanced program.

Prescribed Courses:

First Semester - MS 100 The United States Defense and National Security I. Two sem hours.

Second Semester - MS 101 The United States Defense and National Security II. Two sem hours.

MS 102 Leadership Laboratory must be taken in conjunction with the 101 level course.

Third Semester - MS 200 Topography, Terrain Appreciation and Small Unit Employment. Two sem hours.

Fourth Semester - MS 201 A History of American Military Development. Two sem hours.

MS 202 Leadership Laboratory must be taken in conjunction with both 200 level courses.

Credit Toward Graduation

A maximum of six semester hours may be awarded toward graduation for completion of the basic program. Two of the

semester hours, at the student's option, may count toward satisfying the general requirement in physical education.

Uniforms, Texts, Special Equipment, Etc.

1. Uniforms for basic students are furnished by the Army. Students make a ten dollar deposit to the University for uniforms. This deposit is refunded when uniforms are returned.
2. Students will be required to wear the uniforms when participating in laboratories, ceremonies and other mandatory departmental activities.
3. All required texts and special equipment are furnished to the student on a loan basis.

The Two-Year Program

This is a special program which is designed for community college transfer students and other students who were unable to enroll in military science courses during their first two years in college. Applicants complete a six-week summer field course in lieu of the basic on-campus program. Pay and travel allowances are authorized for participation in this program. Students completing the field course are eligible for up to six semester hours of credit upon recommendations of the Military Science Department and may apply for admission to the advanced program. Applications for the two-year program are accepted by the department from January through March of each year.

THE ADVANCED PROGRAM

Admission to the advanced program is by permission of the Military Science Department. Normally a student should make application for admission two years before his planned date of graduation. Upon successful completion of the advanced program and satisfaction of the requirements of the University for a baccalaureate degree, an Army Commission is awarded. In addition to permission of the department, the applicant must be physically qualified and have completed:

1. The Army, Navy or Air Force basic military science program or
2. At least four months of active duty with one of the services of the armed forces or
3. The summer field course or
4. The equivalent of the above, as determined by the professor of military science.

Prescribed Courses:

First Semester - MS 300 Military Leadership and Management
I. Three sem hours

Second Semester - MS 301 Fundamentals and Dynamics of the Military Team I. Three sem hours

MS 302 Leadership Laboratory must be taken in conjunction with both 300 level courses.

Summer - Advanced Summer Field Course - Students who successfully complete this field course are exempt from required physical education courses.

Third Semester - MS 400 Military Leadership and Management
II. Three sem hours

Fourth Semester - MS 401 Fundamentals and Dynamics of the Military Team II. Three sem hours

MS 402 Leadership Laboratory must be taken in conjunction with both 400 level courses.

Credit Toward Graduation

The twelve semester hours credit provided by the advanced

program may be used as free elective credit. However in some curriculums the ROTC student in the advanced program must take more than the minimum total of 124 hours for graduation. Students should consult their academic advisers on this matter when planning for graduation.

Uniforms, Texts, Allowances, Etc.

All uniforms and texts are provided to the student without cost. Additionally, participants receive \$100 subsistence allowance per school year month and approximately \$500 pay and travel allowance for the summer field course. Prior service veterans are entitled to these allowances, in addition to any other veterans benefits they are receiving.

Military Deferment

A student enrolled in the military science program may request a military deferment after completion of the first semester of the basic program. Students in the advanced program are deferred automatically by virtue of their Reserve status. Additionally, students completing the advanced program may apply for further deferment in order to pursue graduate level studies.

The Flight Program

Students may apply to the Military Science Department, prior to their final school year, for admission to the flight program. This program is conducted on campus and qualifies the student to enter the Army aviation program at the time of his graduation. Texts, training and special flight equipment are furnished at no cost to the student.

Distinguished Military Graduate Program

In the final year of the advanced course, students graduating with outstanding academic and personal achievements are designated Distinguished Military Graduates. A Distinguished Military Graduate is eligible to apply for appointment as a career officer in the Regular Army.

The ROTC Scholarship Program

Upon completion of the first semester of the basic program, students may apply for ROTC scholarships of one, two or three years duration. Scholarships are awarded on a best qualified basis and include payment of all fees, texts and tuition costs related to the student's curriculum for the stated period, plus a monthly cash stipend of \$100.

MINOR IN MILITARY SCIENCE

Prescribed Courses:	Semester Hours
100 The United States Defense and National Security I	2
101 The United States Defense and National Security II	2
200 Topography and Terrain Appreciation	2
201 A History of American Military Development	2
300 Military Leadership and Management I	3
301 Fundamentals and Dynamics of the Military Team I	3
400 Military Leadership and Management II	3
401 Fundamentals and Dynamics of the Military Team II	3
Total	20

Note: 1. Students electing a minor in military science may not use this minor to fulfill the state secondary certificate requirement of a teaching minor.

Courses

100 The United States Defense and National Security I, First year basic. Two sem hours

A study of the various factors of national power and how these factors are meaningful today. The United States defense treaty system is reviewed as well as selected military programs which the United States has in the underdeveloped portions of the world. The course provides an introduction to the Department of Army organization, stressing the magnitude of management responsibilities and the relationships with other armed services. Included are United States Army missions and functions, the organization and role of the Department of Defense, the missions and functions of the other armed services and the concept of operation of the various unified and specified commands. A survey is given to the definition, causes and nature of the spectrum of conflict.

101 The United States Defense and National Security II, First year Basic. Two sem hours

The course presents an overview of the functional organization of the units in the Army from Department of the Army to the Infantry squad. A survey is given to functions of the various branches of the service and the responsibilities of the officers within each branch. The course also presents an introduction to leadership and problem solving. A laboratory complements this course by offering practical application of concepts developed within the classroom.

102 Leadership Laboratory, First year basic.

The laboratory provides demonstrations and practical problem solving for the beginning student, with the objective of developing poise, confidence, self-discipline and an understanding of military customs. Additionally, group behavior situations are presented as a vehicle for experience in the development of teamwork and esprit de corps.

200 Topography, Terrain Appreciation and Small Unit Employment, Second year Basic. Two sem hours

A study of aerial photographs, maps and mapping, with special attention to grids, grid systems, map symbols and their relationship to the actual terrain. Additionally, the influence of terrain in the planning and conduct of military operations is examined in detail. The study course is complemented by laboratory periods of applicable exercises.

201 A History of American Military Development, Second year basic. Two sem hours

A textual and case study approach is used to examine the history of the art of warfare. Emphasis is given to the tactical lessons and leadership techniques demonstrated in significant American campaigns and engagements. Relationships between tactical, logistical, technical, social and political developments are examined for their influence on military developments. The course is complemented by laboratory periods of applicable exercises.

202 Leadership Laboratory, Second year basic.

A laboratory to provide controlled leader experience in

problem solving. Techniques learned from classroom experience are applied in the areas of basic unit tactics, weaponry and terrain analysis.

300 Military Leadership and Management I, First Year Advanced. Three sem hours

A study of basic techniques of leadership and management with special attention to the teaching and organizing role of the military leader. Consideration is given to the psychological, physiological and sociological factors affecting human behavior. Stress is placed on the problems inherent in the planning, preparation and presentation of learning experiences to others. Suggested techniques are applied by the student as he presents and evaluates instruction. Various concepts of group organization are examined with the objective of identifying effective techniques of coordination, communication and delegation of authority by the decision maker. A survey is given to fundamental procedures of parliamentary, panel and conference procedures. A laboratory of applicable exercises complements this course.

301 Fundamentals and Dynamics of the Military Team I, First year advanced. Three sem hours

This course will emphasize to the student the leader's role in directing, planning and coordinating individual and team efforts in the execution of a variety of missions by organizations ranging in size from ten to eight hundred men. The course will cover the principles of command and executive control, leadership techniques and the communication and management systems used in the control of small organizations. The student will be familiarized with the roles and missions of the various branches of the Army. A section of this course will examine the principles and nature of Internal Defense/Development. A case history approach is used to identify insurgency and counter-insurgency methods and procedures in selected countries. A laboratory of applicable exercises complements this course.

302 Leadership Laboratory, First year advanced.

Leadership laboratory conducted for both semesters of 300 level courses. Throughout a series of field type courses, the student plans, organizes, and conducts tactical exercises and instructional periods. Performance measurements are accomplished through critique and peer evaluations.

400 Fundamentals and Dynamics of the Military Team II, Second year advanced. Three sem hours

This course provides an understanding of command and staff evaluation, organization and functions using the division staff as a model. Processes for arriving at sound and timely decisions and the translation of decisions to plans and orders are stressed. Military intelligence, procedures for obtaining it and its uses in the formulation of decisions are included. Special problems introduce long-range planning and the coordination of diverse groups and activities. Experience is provided in the problems of personnel evaluation and selection and in gaining and maintaining of morale and discipline within a group. A laboratory of practical exercises complements this course of study.

401 Military Leadership and Management II, Second year advanced. Three sem hours

A study of world change and military implications with special attention to their influence on management of forces. Suggested methods of measuring international relations are identified and applied in student analysis of United States relations

with selected nations. Emphasis is directed toward the influence of armed forces within national power structures. The semi-diplomatic roles required of officers in foreign assignments is also examined. A section of this course is devoted to a study of basic concepts of effective administration and their application to the management of military forces. Included is a familiarization with the fundamentals of military law, including the procedures by which judicial and non-judicial disciplinary measures are conducted. A laboratory including practical exercises and student writings is conducted

one hour per week as a complement to this course.

402 Leadership Laboratory, Second year advanced.

This is a two semester practicum conducted in conjunction with 400 level courses. The cadet brigade command and staff structure is utilized as a vehicle to provide practical experience in the planning, execution and evaluation of activities involving concepts and procedures developed in the classroom during the year. Long range projects provide experience in the management of diverse organizations, equipment and services.



BLACK STUDIES

BLACK STUDIES AT EASTERN MICHIGAN UNIVERSITY

Eastern Michigan University's enrollment has almost doubled in the past five years. In 1965 there were 10,200 students enrolled; presently there are more than 19,000 persons registered. This expansion indicates that the University must serve the needs of a larger and more diversified population than in the past. The fact that this increased enrollment involves a greater number of black students requires curriculum development reflecting issues, problems, and events closely related to the unique aspects of their special environments.

Furthermore, Eastern Michigan University, as a leading teacher education institution, is dedicated to providing its students with the opportunity to develop a background in the culture, experiences, and problems in American society. The teacher who is ignorant of all facets of American society is not only unable to teach black children, but fails to provide non-black youngsters with necessary resources for living in a multi-cultural society.

Goals of Black Studies at Eastern Michigan University

1) To provide information about the black experience (socio-economic, educational, historical and psychological aspects of being a black member of society).

2) To develop skills which will equip students to help members of groups living in impoverished urban and rural communities.

3) To promulgate ideas and attitudes which will promote understanding and better communication among individuals of differing racial origins.

THE PROGRAM IN BLACK STUDIES

The University is seeking a director of black studies. Students interested in this program should consult with him following his appointment. Until that time, Dr. Valmore Goines, dean of academic services, is serving as adviser chairman. His office is at 146 Pierce hall.

The program consists of two integral parts, a black studies minor and/or an individual concentration. Both parts are considered essential to a total program in black studies.

I. Black Studies Minor (24 hours)

	Semester Hours
Required courses (15 hours):	
English	
260 Afro-American Literature	3
History	
315 History of Black Americans	3
Psychology	
340 Psychological Perspectives in Prejudice and Discrimination	3
Sociology	
214 Racial and Cultural Minorities	3
Seminar in Black Studies	3
(This course is yet to be designed. It will teach research skills necessary for examining and analyzing the black experience in American).	
Electives (9 hours)	
Biology	
306 Physical Anthropology	2
Economics	
324 Labor Problems	2

Economics	
340 Black Workers and the Labor Market ...	3
Economics	
425 Labor and Government	3
Geography	
322 Geography of Africa	3
Geography	
332 Urban Geography	2
History	
365 The Old South	3
History	
377 History of Sub-Saharan Africa	3
History	
438 History of Islamic Lands to 1800 ..	3
Marketing	
478 Practicum in Marketing	3
Political Science	
372 Government and Politics of Sub-Sahara Africa	3
Psychology	
330 Psychology of Contemporary Issues ...	3
Sociology	
236 Peoples of Africa	3
Sociology	
306 The Urban Community	3

The Individual Concentration Program

This program is designed for the student who wishes to pursue a more extensive course of study in the area of black studies or whose interests and goals are not presently satisfied by a traditional major. For example: problems of American Indians and similar specialized programs.

General Requirements

Any student selecting this program will be expected to meet the basic studies requirement of the University. With the assistance and approval of an individual concentration committee, the student will then develop an individual concentration program of at least 60 hours. Students completing the 60 hour program will have satisfied all major and minor requirements for graduation.

Procedures

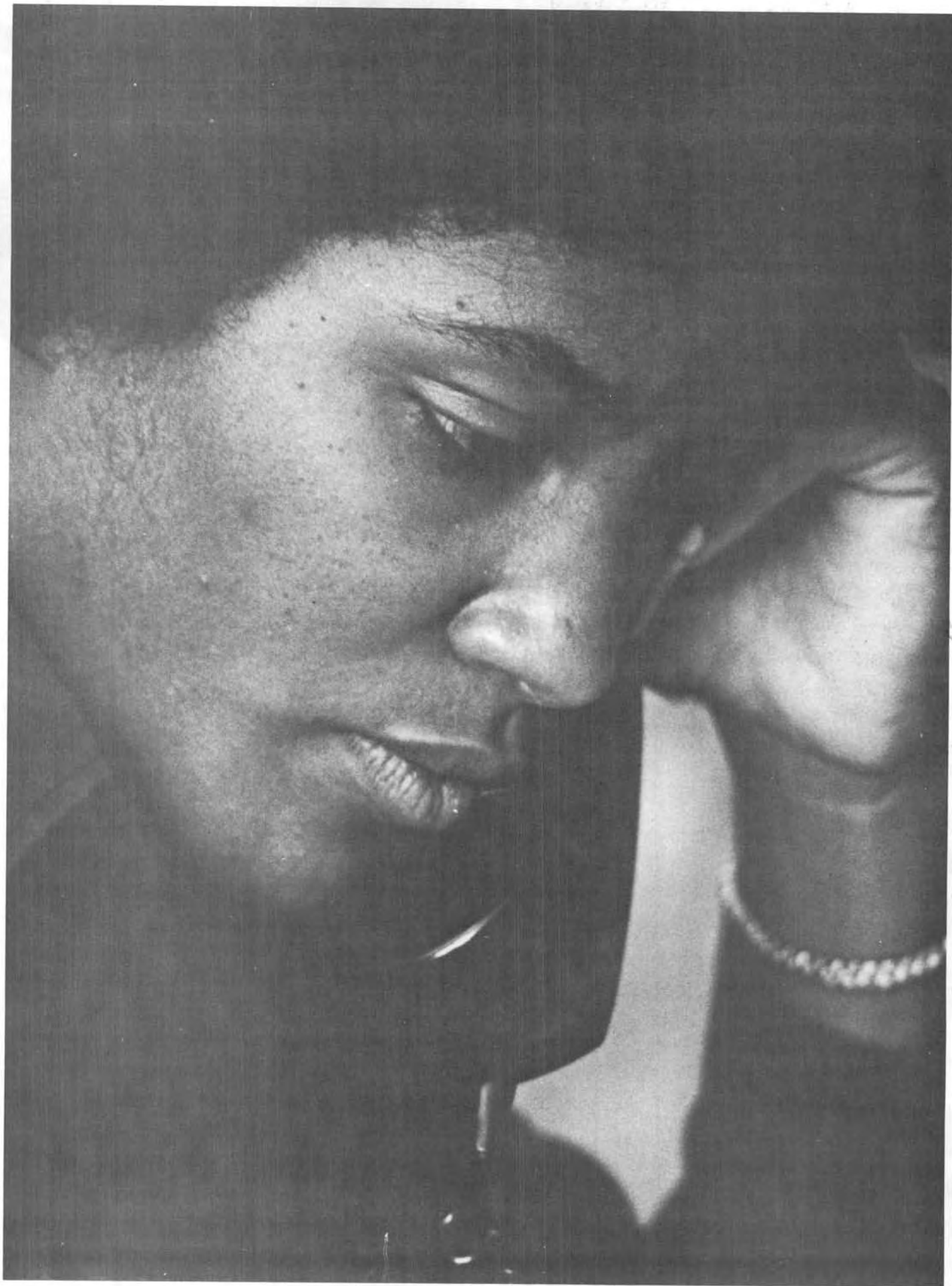
The student will provide the following information to the individual concentration committee:

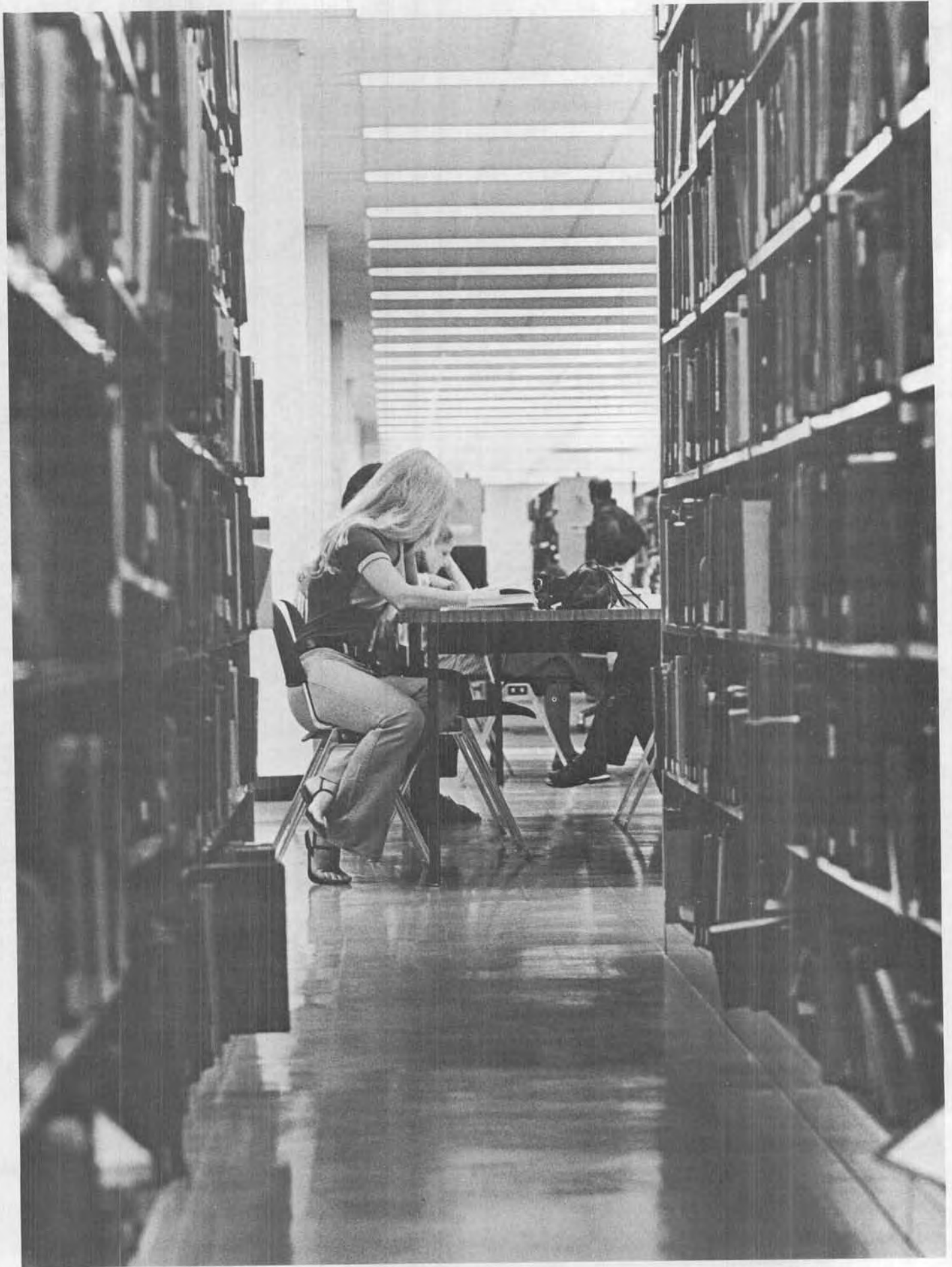
- 1) Reasons that the program cannot be pursued within the framework of the traditional major,
- 2) The immediate goals of his proposed program,
- 3) The way in which the proposed program will operate to fulfill his educational and life objectives,
- 4) A detailed listing of courses which he wishes to elect.

Certification

Students who elect the black studies program may satisfy certification requirements by using variations of the program to meet the Social Science Group major requirements for Early and Later Elementary Teachers. The black studies program, when used in this certification procedure, should consist of at least 12, but no more than 18 semester hours in one of the five social science areas, and at least three semester hours in each of the remaining areas.

The student who desires certification in secondary education may elect a social science major with a recommended minor in history. Since the courses in the minor field must be excluded from the social science major, the student could use the 12 hours thus released to elect courses from the black studies concentration in the other four social science areas.





THE CENTER FOR THE STUDY OF CONTEMPORARY ISSUES

Director: Monroe P. Friedman

THE CENTER FOR THE STUDY OF CONTEMPORARY ISSUES

This new University center was established in 1970 to study some of the major contemporary issues confronting society. The bulk of the center's efforts will be directed toward the development and execution of an issue-oriented instructional program. In addition, the center will explore various program possibilities in research and community service. With regard to the instructional program, a number of critical issues have been identified (see the titles of the 300-level seminar courses listed below), and courses to deal with these issues have been structured by faculty members from some fifteen academic departments at the University.

In each academic year, center courses dealing with three of these issues will be offered as electives to Eastern students. In each course, the issue will be defined, its historical roots identified, and various alternatives examined for resolving the issue in the future.

The instructional program of the center will be carried out by a staff consisting of a director, three center fellows, one or more scholars-in-residence and several graduate teaching assistants. In addition, a Center Advisory Board, consisting of a representative group of University students and faculty members, will recommend a set of issues to be studied by the center in each academic year.

A major responsibility for the center activities will lie with the three center fellows, who will be selected from the University faculty for one-year, full-time appointments. Each fellow will be knowledgeable about one of the contemporary issues recommended for inclusion in the center program by the Center Advisory Board. He will devote his year in center residence to instructional, research and service activities relating to this issue. In performing his instructional activities, the center fellow will call upon faculty members and outside practitioners for assistance, as guest lecturers and panel participants for his courses.

Three types of center courses are offered: (1) survey, (2) seminar and (3) independent study. Students who enroll in these courses will receive elective credit in the social sciences (Group III). The 200-level survey courses have as prerequisites nine hours of social science (Group III) courses. Course credit earned in economics, geography, history, philosophy, political science and sociology will count toward fulfilling the nine-hour prerequisite. Additional prerequisites are specified for the 300-level seminar courses and the 400-level independent study courses.

Since the set of three issues to be studied by the center will change from year to year, students should consult the latest class schedule for a current list of the issue-oriented courses which are being offered.

COURSES

201, 202, 203, 204, 205 Survey of Contemporary Issues.

Three sem hours

An overview of two or more contemporary issues selected from the 300-level seminar topics listed below. Several instructors from different academic departments participate in the teaching of the course. Since the subject matter changes from year to year, a student may take the course more than

once. Topics considered each year are listed in the class schedule. Lecture: two hours per week. Recitation: one hour per week.

Prereq: Nine hours of social science (Group III) courses.

301 The Role of the University in the Contemporary World.

Two sem hours

As the vital issues confronting a concerned citizenry have assumed an ever-greater complexity, the societal demands upon American universities have intensified. This course examines the nature of these demands and explores both proposed and actualized university models for coping with them.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

303 The Impact of Technology on Man. Two sem hours

A study of the effects of the "technological revolution" on the quality of human life. Proposed mechanisms are examined for managing the new technology in ways which will serve the interests of man.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

305 Securing Environmental Quality: The Challenge for Man.

Two sem hours

A study of the forces which threaten environmental quality, such as air and water pollution, crowding and noise. The nature of these forces and proposals for dealing with them are examined from a cross-disciplinary perspective.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

307 The Right of Privacy in an Open Society. Two sem hours

An examination of physical, psychological and data surveillance techniques which have made it possible for personal information to be collected and disseminated without the knowledge or permission of the individuals involved. Also examined are attempts at reconciling the individual's desire for privacy with the desire of societal institutions and organizations for more information of a personal nature.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

309 The Challenge of the Emerging Nations. Two sem hours

A study of the efforts by the developing nations of Asia, Africa and Latin America to solve their economic and social problems. The role of the economically advanced nations in supporting these efforts is examined as well as the impact of these developments on the world order.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

311 Poverty in America.

Two sem hours

A cross-disciplinary analysis of poverty in the United States. Existing socio-economic structures and institutions which affect poverty are examined, and proposals to improve the lot of the poverty-stricken are evaluated.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

313 Violence in America.

Two sem hours

An examination of current patterns of violence in America, their historical and philosophical roots and the effectiveness of various programmatic efforts for reducing violence.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

315 Censorship and the Free Society. Two sem hours

An examination of efforts to prohibit or restrict types of expression believed to threaten the social, political or moral order. The implications of such censorship practices for a free society are explored for various communications media.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

317 The Population Explosion. Two sem hours

An exploration of the rapid growth of world population and its implications for the present and future quality of human life. Proposed mechanisms for controlling population are examined and evaluated.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

319 Militarism in Contemporary America. Two sem hours

An examination of the concept of militarism and its role in contemporary American society. Particular emphasis is given to the manifestations of militarism in government, business, science, education and the communications media, and the implications of these influences for the future.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

321 Drugs: Uses, Abuses and Controls. Two sem hours

This course deals with medical, psychological, social and educational problems arising from drug uses and abuses. Proposed solutions to these problems are examined from various perspectives.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

323 Private Enterprise and the Public Interest.**Two sem hours**

An examination of potential sources of conflict between private enterprise and the public interest. Attention is given to current issues and efforts to resolve them, as well as the social, economic and political constraints involved in the resolution process.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

325 Resolving Racial Conflict in America. Two sem hours

An examination of past, present, and likely future efforts to resolve racial conflict in America.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

327 The World in the Year 2000. Two sem hours

This course explores possible worlds of the future from both descriptive and prescriptive perspectives. Various forecasting techniques are examined and evaluated.

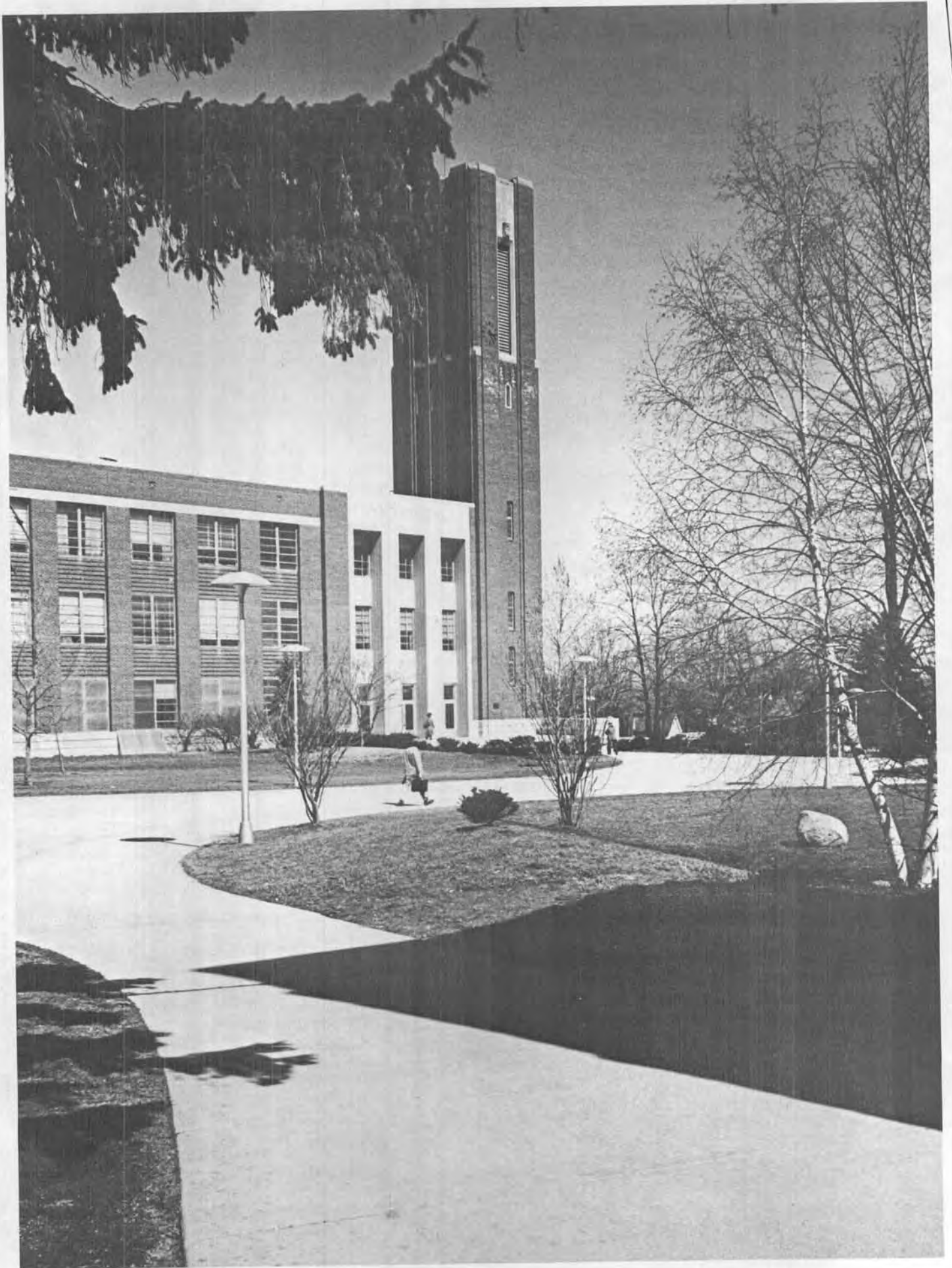
Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.

497 Independent Study of Contemporary Issues.**One sem hour****498 Independent Study of Contemporary Issues.****Two sem hours****499 Independent Study of Contemporary Issues.****Three sem hours**

Independent study, under the supervision of the center staff, of one or more selected contemporary issues. Possible approaches include library research, field research and participant-observer experiences with government and community agencies.

Prereq: Nine hours of social science (Group III) courses, junior standing and permission of the department.





INTERNATIONAL STUDIES

OFFICE OF INTERNATIONAL STUDIES

Students at Eastern Michigan University have opportunities to study abroad for a semester or year earning credit toward graduation. Such opportunities occur principally at the junior year. The Office of International Studies maintains information relative to such opportunities and counsels with students on fitting these experiences into their programs.

In addition to the programs described below, many other opportunities to study abroad sponsored by institutions of higher education are available to Eastern Michigan University students. It is important for the student to make plans early in his college career if he wishes to study abroad.

1. Student-Faculty International Exchange Program Trimester in England for Juniors on Teaching Curriculums

A limited number of Eastern Michigan University juniors have the opportunity to exchange places during the fall or winter trimester with a comparable number of second-year students at two colleges of education in England. They are accompanied by an Eastern Michigan University faculty member.

Students pay fees for room, board and tuition directly to Eastern Michigan University. They receive approximately 15 semester hours and three activity hours of credit at EMU during the trimester abroad.

A program is planned for each individual student which takes into account his or her particular needs. Interviews, orientation meetings and individual conferences are held prior to departure.

Selection of students for the exchange program is based upon several factors, including an interview with representatives of the Student-Faculty International Exchange Committee.

The two English colleges which participate in the program are Berkshire College of Education, Reading, and Coventry College of Education, Coventry. Reading is located approximately 38 miles west of London, and Coventry is about 100 miles northwest of London, near Stratford and Birmingham. Each college has a student body of approximately 1,300, and all of the students are preparing to become teachers. Dormitory facilities, food, classrooms, social and recreational opportunities are comparable to those at Eastern Michigan University. In addition, there is the opportunity for living and learning within another culture, including the chance to travel, visit English schools and make new friends and acquaintances.

Students are expected to provide their own transportation costs. This is the only additional required expense of an exchange student beyond that which he would normally spend if he were in residence in Ypsilanti. However, if the student wishes to travel in Great Britain or on the Continent during holidays he may anticipate additional expenses.

2. Trimester at Edinburgh University for Juniors on a Teaching Curriculum

A limited number of Eastern Michigan University juniors have the opportunity to spend the fall or winter trimester at Edinburgh University, Edinburgh, Scotland.

Students pay their tuition at Eastern Michigan University. They arrange for their board and room in Edinburgh with the assistance of University officials.

Up to 15 semester hours credit in education may be earned. A program will be planned for each student which will take into account his or her particular needs.

Students are expected to provide their own transportation costs. This is the only additional required expense beyond that which would normally be spent by a student in residence in Ypsilanti. However, if the student wishes to travel in Great Britain or on the Continent during holidays he may anticipate additional expenses.

3. Programs Sponsored by the American Association of State Colleges and Universities

Eastern Michigan University is a member of the American Association of State Colleges and Universities. Through its Committee on International Programs, the Association develops study programs abroad. Each of these programs is primarily sponsored by one of the member institutions. However, they are available to students of all member institutions and therefore open to Eastern Michigan University students. At present three programs are in operation. They are:

- (a) **A Year's Study in Canada.** This program is sponsored by the State University of New York College at Plattsburg. It offers opportunity to study in the Montreal area at Loyola College, McGill University, Sir George Williams University or the University of Montreal. A wide range of courses is available and the instruction may be in English or French depending on the institution.
- (b) **A Year or an Academic Quarter of Study in Mexico.** The program in Mexico is sponsored by Adams State College, Alamosa, Colorado, and offers the opportunity to study at the University of the Americas at Puebla, Mexico, a short distance from Mexico City. A broad spectrum of studies is available at the University of the Americas.
- (c) **A Year's Study in Rome.** Louisiana Tech University at Ruston, Louisiana, has developed a study center in Rome which is available to Eastern Michigan University students for an academic year. It offers opportunities for study in the humanities, social studies and languages.

Additional information and application forms for the programs above and information about other opportunities for study abroad may be obtained from the Office of International Studies.

GRADUATE SCHOOL

DEAN: Omer Robbins, Jr.
Associate Dean: Clyde Le Tarte
Assistant Dean: Neal F. Hoover

ENROLLMENT IN GRADUATE COURSES BY SENIORS

A student of senior standing at Eastern Michigan University may register for graduate courses if recommended by the department head and approved by the dean of the Graduate School. Seniors applying for permission to enroll in graduate courses should have a cumulative grade point average of 2.50 or better in all course work completed at the University.

The enrollment in graduate courses should not extend beyond the duration of undergraduate study. Registration for a graduate course should not cause the total registration for the semester to exceed fifteen semester hours. The maximum number of units of graduate credit that may be earned during the senior year should not exceed a total of ten hours. Election of graduate courses is limited to courses in the 500 series, exclusive of independent studies. Seniors are not permitted to enroll in 600 series courses.

The granting of permission for a senior to enroll in graduate courses does *not* imply admission to the Degree Program in the Graduate School. Seniors desiring to continue graduate study *must apply for admission to the Graduate School* after receiving their bachelor's degrees and must meet all requirements for admission.

GRADUATE DEGREE PROGRAMS

Programs leading to the Master of Arts Degree

Art Education
 Geography
 Education
 Elementary Education
 Junior High School Education
 Senior High School Education
 Reading
 Educational Administration
 Educational Psychology
 Guidance and Counseling
 Curriculum (Secondary)
 Community Education
 Social Foundations
 Special Education
 Fine Arts
 Economics
 French
 History
 Home Economics
 Literature
 Mathematics
 Music
 Social Studies
 Sociology
 Spanish
 Speech and Dramatic Arts

Programs leading to the Master of Science Degree

Biology
 Chemistry
 Chemistry Education
 General Science
 Geography
 Home Economics
 Industrial Education

Physical Education
 Physics
 Psychology

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

Business Administration
 Business Education

Programs leading to a Specialist of Arts Degree

Educational Administration
 Industrial Education
 Reading
 Special Education

COLLEGE OF ARTS AND SCIENCES

ART

- 500 Masterpieces of Art. Two sem hours
 501 Art Education Workshop. Two sem hours
 509 Design for Tapestry. Two sem hours
 510 Ceramics. Two sem hours
 520 Drawing. Two sem hours
 530 Art History. Two sem hours
 540 Jewelry. Two sem hours
 550 Graphics. Two sem hours
 560 Watercolor. Two sem hours
 570 Sculpture. Two sem hours
 580 Oil Painting. Two sem hours
 608 Exhibition in Art Education. Two sem hours
 610-617 Ceramics. Each two sem hours
 620-627 Drawing. Each two sem hours
 628 Exhibition in Fine Arts. Two sem hours.
 630-637 Art History. Each two sem hours
 640-647 Jewelry. Each two sem hours
 650-657 Graphics. Each two sem hours
 660-667 Watercolor. Each two sem hours
 670-677 Sculpture. Each two sem hours
 680-687 Oil Painting. Each two sem hours

BIOLOGY

- 502 Biology of Man. Two sem hours
 505 Science in the Elementary School. Two sem hours
 506 Methods in Teaching Biology. Two sem hours
 509 Biometry. Three sem hours
 511 Physical Anthropology. Two sem hours
 512 Biogeography. Two sem hours
 513 Principles of Heredity. Two sem hours
 515 Genetics Laboratory. Two sem hours
 516 Radiation Biology. Three sem hours
 517 Radioisotopes in Biology. Three sem hours
 518 History of Biology. Two sem hours
 519 Organic Evolution. Two sem hours
 520 Problems in Functional Biology. Two sem hours
 521 Outdoor Science and Land Laboratories. Four sem hours
 522 Limnology. Three sem hours
 523 Limnological Methods. Two sem hours
 524 Ecology. Three sem hours
 525 Conservation. Two sem hours
 526 Serology. Two sem hours
 527 Introductory Molecular Genetics. Two sem hours
 595 Workshops in Selected Areas.

- 596 Seminar in Biology. One sem hour
 596 Seminar in Limnology. One sem hour
 610 Cytogenetics. Four sem hours
 621 Electron Microscopy Laboratory. Two sem hours
 628 Tropical Ecology. Two sem hours
 695 Workshop in Advanced Biology. Two sem hours
 696 Seminar in Biology; Laboratory Instruction. One sem hour

- 500 Survey of the Plant Kingdom. Two sem hours
 503 Plants and Nature. Two sem hours
 507 Experimental Plant Physiology for Teachers. Two sem hours
 510 General Microbiology Laboratory. Two sem hours
 514 General Microbiology. Two sem hours
 530 Plant Products in Industry. Two sem hours
 531 Plant Anatomy. Three sem hours
 532 Tropical Economic Botany. Two sem hours
 533 Morphology of Algae and Fungi. Four sem hours
 534 Morphology of Mosses Through the Vascular Plants. Four sem hours
 540 Mineral Nutrition of Plants. Two sem hours
 541 Mineral Nutrition of Plants Laboratory. One sem hour
 542 Plant Physiology. Three sem hours
 543 Plant Pathology. Two sem hours
 550 Taxonomy of Tracheophyta. Three sem hours
 551 Freshwater Algae. Three sem hours
 552 Aquatic Tracheophyta. Three sem hours
 553 Mycology. Three sem hours
 596 Seminar in Botany. One sem hour
 620 Virology. Two sem hours
 640 Plant Cell Physiology. Two sem hours
 650 Phycology. Two sem hours
 651 Plant Taxonomy. Two sem hours

- 501 Survey of the Animal Kingdom. Two sem hours
 504 Field Zoology. Two sem hours
 560 Economic Zoology. Two sem hours
 564 Histology. Three sem hours
 565 Parasitology. Two sem hours
 566 Invertebrate Zoology. Four sem hours
 567 Vertebrate Physiology. Three sem hours
 570 Natural History of Invertebrates. Three sem hours
 571 Natural History of Vertebrates. Three sem hours
 572 Ichthyology. Three sem hours
 573 Animal Embryology. Three sem hours
 574 Comparative Morphology and Evolution of Chordates. Four sem hours
 575 Ornithology. Three sem hours
 580 Advanced Field Ornithology. Two sem hours
 581 Tropical Ornithology. Two sem hours
 582 Aquatic Entomology. Three sem hours
 583 Field Parasitology. Three sem hours
 584 Protozoology. Three sem hours
 585 Entomology. Three sem hours
 586 Mammalogy. Three sem hours
 596 Seminar in Zoology. One sem hour
 660 Experimental Animal Embryology. Two sem hours
 670 Animal Behavior. Two sem hours
 671 Comparative Physiology. Four sem hours
 672 Endocrinology. Four sem hours
 673 Animal Cell Physiology. Two sem hours
 674 Animal Cell Physiology Laboratory. One sem hour

CHEMISTRY

- 503 New Approaches to Teaching Chemistry. Two sem hours
 520 Introductory Chemistry.* Two sem hours
 530 X-Ray Crystallography. Three sem hours
 532 Structural Inorganic Chemistry. Three sem hours
 551 Biochemistry. Three sem hours
 552 Biochemistry Laboratory. Two sem hours
 553 Enzymology. Two sem hours
 554 Biochemistry Research Techniques. Two sem hours
 555 Biopolymers. Two sem hours
 561 Advanced Physical Chemistry. Three sem hours
 565 Nuclear Chemistry. Three sem hours
 570 Modern Topics in Organic Chemistry.* Four sem hours
 571 Advanced Organic Chemistry. Three sem hours
 572 Stereochemistry of Organic Compounds. Two sem hours
 575 High Polymer Chemistry. Three sem hours
 576 High Polymer Chemistry Laboratory. Two sem hours
 581 Analytical Chemistry. Three sem hours
 594, 595 Special Topics in Chemistry. Two sem hours
 596 Seminar in Chemistry. One sem hour
 Other Courses for Credit:
 374 Organic Chemistry Laboratory.*
 432 Advanced Inorganic Chemistry.
 461, 462, 463 Physical Chemistry.*
 472 Spectrometric Organic Structure Determination.
 473 Qualitative Organic Chemistry Laboratory.
 481 Instrumental Analysis.
 485 Radiation Techniques in Chemistry and Biology.
 490 Literature of Chemistry.
 491 History of Chemistry.*
 496, 497 Special Topics in Chemistry.

ECONOMICS

- 500 Economics: Principles and Institutions. Three sem hours (Formerly 530)
 501 Economic Theory and Policy I. Three sem hours
 502 Economic Theory and Policy II. Three sem hours
 503 Contemporary Economic Problems. Three sem hours
 506 Development of Economic Analysis. Three sem hours (Formerly 504)
 510 Advanced Economic Statistics. Three sem hours
 522 Collective Bargaining. Two sem hours (Formerly 532)
 524 White Collar and Public Employee Unionism. Two sem hours (Formerly 533)
 534 Regional and Urban Economics. Three sem hours (Formerly 535)
 540 Monetary Economics. Three sem hours
 550 Public Finance: Analysis and Policy. Three sem hours
 551 State and Local Government Finance. Three sem hours (Formerly 528)
 555 Stabilization Policy. Three sem hours
 560 Economics of Industrial Organization. Two sem hours (Formerly 577)
 562 Government and Business. Two sem hours (Formerly 578)
 585 Economic Growth and Development. Three sem hours (Formerly 579)
 586 Economic Development Planning. Three sem hours (Formerly 575)

*No credit given toward the Master of Science in Chemistry degree.

- 587 Economic Development of the Far East. Three sem hours (Formerly 574)
 597, 598, 599 Independent Study. One, two and three sem hours
 601 Macroeconomic Analysis. Three sem hours (Formerly 542)
 602 Microeconomic Analysis. Three sem hours (Formerly 541)
 685 Seminar in Economic Development. Three sem hours (Formerly 696)
 690, 691, 692 Thesis. One, two and three sem hours

ENGLISH LANGUAGE AND LITERATURE

I. General Courses

- 500 Masterpieces of Literature. Two sem hours
 502 Modern Problems as Portrayed in Modern Literature. Two sem hours
 503 Biography as Literature. Two sem hours
 508 Teaching of Children's Literature. Two sem hours
 580 The Making of the Modern Mind. Three sem hours

II. Courses for Master of Arts in Literature

A. MEDIEVAL AND RENAISSANCE

- 530 Studies in Chaucer. Three sem hours
 540 Elizabethan Drama. Three sem hours
 541 Studies in Shakespeare. Three sem hours
 542 Elyot, Sidney, Spenser. Three sem hours

B. SEVENTEENTH AND EIGHTEENTH CENTURIES

- 550 Donne, Browne and Others. Three sem hours
 551 Studies in Milton. Three sem hours
 560 Dryden, Pope. Three sem hours
 562 Boswell and Johnson. Three sem hours
 563 Studies in Eighteenth-Century Comic and Satiric Fiction. Three sem hours
 564 Studies in Eighteenth-Century Sentimental and Gothic Fiction. Three sem hours

C. NINETEENTH AND TWENTIETH CENTURIES

- 570 Wordsworth. Three sem hours
 571 Byron, Keats. Three sem hours
 573 Tennyson and Browning. Three sem hours
 575 Carlyle, Arnold. Three sem hours
 581 Eliot, Jeffers, Auden. Three sem hours

D. AMERICAN LITERATURE

- 510 Problem of Evil in American Literature. Three sem hours
 520 Dickinson, Robinson, Frost. Three sem hours
 521 Whitman and Contrasting American Poets. Three sem hours
 523 Realism and Naturalism in the American Novel. Three sem hours
 525 Henry James. Three sem hours

E. MISCELLANEOUS

- 609 Literary Criticism. Three sem hours
 696 Seminars in Selected Topics. Three sem hours

III. Language, Linguistics and Composition

- 501 Basic Studies for Teachers of Language Arts. Three sem hours
 502 Linguistic Theory. Three sem hours
 509 The Development of Modern English. Three sem hours

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

The following courses for advanced undergraduates are also available to graduate students for either two or three semester hours credit each depending upon the circumstances of the student's registration; on this matter the student should, before completing his registration, have a clear understanding with both the dean of the Graduate School and the chairman of the Committee on Graduate Studies in the Department of English. For descriptions of these courses, see the English Language and Literature Department section of this catalog. Ordinarily a maximum of three undergraduate courses may be approved for graduate credit.

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

FOREIGN LANGUAGES AND LITERATURE

- 511 Methods of Teaching Modern Language. Two sem hours
 512 Methods of Teaching Modern Languages in the Elementary Grades. Two sem hours

I. French

- 516, 517 Reading French for Graduate Students. Each two sem hours
 *519 French Diction. Two sem hours
 *520 French Grammar and Syntax. Two sem hours
 *521 Advanced Conversation in French. Two sem hours
 *522 Stylistics. Two sem hours
 524 Modern French Novel. Two sem hours
 525 Modern French Theatre. Two sem hours
 563, 564 Sixteenth Century French Literature. Each two sem hours
 585, 586 Old French. Each two sem hours

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

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

**Not open to native speakers of the language, except by departmental requirement.*

Graduate Program, the instructor in the course and the student. The descriptions of the courses are given in the Foreign Languages and Literature Department section of this catalog.

- 431 Molière.
- 432 Corneille and Racine.
- 441, 442 Nineteenth Century French Novel.
- 443 French Syntax.
- 444 Advanced French Conversation.
- 447, 448 Nineteenth Century French Theatre.
- 461, 462 Modern French Poetry.
- 471, 472 Eighteenth Century French Literature.
- 481 History of the French Language.
- 491, 492 Seventeenth Century French Literature.

III. Spanish

- *519 Spanish Diction. Three sem hours
- *520 Spanish Grammar and Syntax. Two sem hours
- *521 Graduate Spanish Conversation. Two sem hours
- *522 Stylistics. Two sem hours
- 524 The Spanish Language in the New World. Two sem hours
- 585, 586 Old Spanish. Each two sem hours

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

The following courses for advanced undergraduates are also available to graduate students, for either two or three hours credit depending upon the circumstances of the student'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 Foreign Languages and Literature section of this catalog.

- 431, 432 Survey of Spanish-American Literature.
- 443 Advanced Spanish Composition.
- 444 Advanced Spanish Conversation.
- 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.
- 481 History of the Spanish Language.

GEOGRAPHY AND GEOLOGY

- 507 Resources and Nations. Two sem hours
- 508 Earth Science I. Two sem hours
- 509 Earth Science II. Two sem hours
- 522 Processes of Landform Development. Two sem hours
- 528 Biogeography. Two sem hours
- 529 Common Rocks and Minerals. Two sem hours
- 530 Principles of Earth History. Two sem hours
- 535 The Geography of Energy. Two sem hours
- 541 South American Lands. Two sem hours
- 542 Middle America and the Caribbean World. Two sem hours

- 544 Problems in Urban Geography. Two sem hours
- 545 Problems in Political Geography. Two sem hours
- 546 Problems in Population Geography. Two sem hours
- 552 Historical Geography of Michigan. Two sem hours
- 553 Geography of the Great Lakes. Two sem hours
- 555 Geography of Australia. Two sem hours
- 556 Problems in the Geography of Western Europe. Two sem hours
- 557 Field and Project Geography. Six sem hours
- 558 Geography of the Moslem World. Two sem hours
- 559 Problems in Soviet Geography. Two sem hours
- 561 Physical Landscapes. Two sem hours
- 562 Weather. Two sem hours
- 563 Climate. Two sem hours
- 568 Geography Field Trips. Variable credit
- 569 The American Midwest. Two sem hours
- 571 Teaching of Social Studies. Two sem hours
- 574 Problems of Sub-Saharan Africa. Two sem hours
- 585 City and Regional Planning. Two sem hours
- 596 Seminar in Geography. Two sem hours
- 649 Problems in Economic Geography. Two sem hours
- 655 Field Studies in Michigan. Two sem hours
- 660 Area Analysis. Two sem hours
- 663 Analytical Climatology. Two sem hours
- 670 History of Geographic Thought. Two sem hours
- 696 Seminar in Methods and Research. Two sem hours

Other Courses for Credit toward the M.A. in Geography

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 Geography and Geology concerning the number of semester hours credit each course will carry. For descriptions of these courses see the Geography and Geology section of this catalog.

- 312 Geography of Canada.
- 313 Geography of Michigan.
- 321 Geography of Latin America.
- 322 Geography of Africa.
- 323 Geography of Australia and the Pacific Islands.
- 326 Structural Geology.
- 327 Introduction to Soil Science.
- 329 Lithology.
- 330 Sedimentation and Stratigraphy.
- 331 Introduction to Paleontology.
- 332 Urban Geography.
- 359 Geography of the U.S.S.R.
- 360 Cultural Geography.
- 361 Population Geography.
- 370 Glacial Geology.
- 405 Historical Geography of Europe.
- 423 Problems of Southeast Asia.
- 424 Climatology.
- 425 Near East.
- 426 Problems of Caribbean America.
- 428 Optical Mineralogy.
- 430 Petroleum Geology.
- 431 Historical Geography of the United States.
- 432 Political Geography.
- 433 Case Studies in Political Geography.
- 438 Manufacturing Geography.
- 439 Economic Geology.
- 440 Agricultural Geography.
- 441 Transportation Geography.

*Not open to native speakers of the language, except by departmental requirement.

- 448 Ground Water.
- 449 Mineral Deposits.
- 461 Geomorphology.
- 462 Meteorology.
- 466 Advanced Physical Geology.

HISTORY AND SOCIAL SCIENCES

I. History

A. COURSES FOR THE M.A. IN HISTORY

AREA 1: UNITED STATES

- 531 Studies in Negro History. Three sem hours
- 533 Studies in Michigan History. Two sem hours
- 538 Studies in Colonial American History. Three sem hours.
- 541 The United States, 1825-1860: Ferment and Reform. Two sem hours
- 568 The New Deal. Two sem hours
- 582 Studies in the Constitutional History of the United States. Three sem hours
- 583 Studies in the Civil War and Reconstruction. Two sem hours
- 584 The United States: 1877-1917. Two sem hours
- 586 United States in World Politics. Two sem hours

AREA 2: EUROPE

- 511 Ancient History I. Two sem hours
- 512 Ancient History II. Two sem hours
- 514 Studies in Renaissance and Reformation History. Three sem hours
- 515 Studies in Medieval History. Three sem hours
- 517 Historical Background of Modern Britain. Two sem hours
- 518 Studies in Recent German History. Two sem hours
- 520 French Revolution and Napoleon, 1774-1815. Three sem hours
- 547 Nineteenth Century Ideological Background of the Russian Revolution. Three sem hours
- 548 History Travel-Study Tours. Six sem hours
- 550 Twentieth Century Russia. Two sem hours

AREA 3: OTHER

- 507 History of Religions I: Judaism and Islam. Two sem hours
- 508 History of Religions II: Christianity. Two sem hours
- 509 History of Religions III: Hinduism and Buddhism. Two sem hours
- 543 Nationalism and Modernization in the Middle East and North Africa. Three sem hours
- 554 Studies in Modern India. Two sem hours
- 557 Intellectual History of the Far East. Two sem hours
- 558 Diplomatic History of the Far East. Two sem hours
- 561 Studies in Latin American History I. Two sem hours
- 562 Studies in Latin American History II. Two sem hours
- 585 Emergence of Canada. Two sem hours

SPECIAL COURSES

- 687 Historical Method. Two sem hours
- 688 Historiography. Two sem hours
- 696 Seminar in History. Three sem hours

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 History and Social Sciences section of this catalog.

1. UNITED STATES

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

2. EUROPE

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

3. OTHER

- 301 The Religions of South and East Asia.
- 302 Near Eastern and Western Religions.
- 355 Latin America: Colonial Period.
- 356 Latin America: National Period.
- 371 The Far East to 1800.
- 372 The Far East since 1800.
- 375 Modern India.
- 403 History of the Ancient Near East.
- 438 History of Islamic Lands to 1800.
- 441 Middle Eastern History, 1789 to Present.
- 442 North Africa, 1798 to Present.
- II. Philosophy
- 528 Foundations of Western Thought. Two sem hours
- 529 Studies in the Philosophy of Art. Two sem hours
- 530 Plato. Two sem hours
- 543 Aristotle. Two sem hours

MATHEMATICS

- 500 Modern Mathematics Content, K-6. Two sem hours
 501 New Topics in Modern Mathematics, K-8. Two sem hours
 503 Arithmetic Methods. Two sem hours
 506 Introduction to Mathematical Logic. Two sem hours
 508 Foundations of Mathematics. Two sem hours
 511 Linear Algebra I. Two sem hours
 512 Linear Algebra II. Two sem hours
 515 Elements of Set Theory. Two sem hours
 516 The Theory of Integers. Two sem hours
 518 Group Theory I. Two sem hours
 519 Group Theory II. Two sem hours
 520 The Real Number System. Two sem hours
 522 Fourier Analysis. Two sem hours
 526 Real Analysis I. Two sem hours
 527 Real Analysis II. Two sem hours
 528 Introduction to Topology I. Two sem hours
 529 Introduction to Topology. II. Two sem hours
 531 Modern Mathematics Content, Junior High School. Two sem hours
 536 Introduction to Digital Computers and Fortran. Two sem hours
 537 Introduction to Numerical Analysis. Two sem hours
 542 Non-Euclidean Geometry. Two sem hours
 543 Analytic Projective Geometry. Two sem hours
 546 Graph Theory. Two sem hours
 547 Geometry for High School Teachers. Two sem hours
 548 Introduction to Differential Geometry. Two sem hours
 550 Number Theory II. Two sem hours
 561 Modern Mathematics Content, Senior High School. Two sem hours
 574 Probability. Two sem hours
 575 Statistical Problems. Two sem hours
 576 Selected Topics in Probability and Statistics. Two sem hours
 577 Applied Statistics I. Two sem hours.
 581 Modern Mathematics Methods, K-6. Two sem hours
 583 Modern Mathematics Methods, Junior High School. Two sem hours
 585 Modern Mathematics Methods, Senior High School. Two sem hours
 586 Teaching of Modern High School Mathematics. Two sem hours
 587 Enriching Instruction in Mathematics, Senior High School. Two sem hours
 591 Special Topics in Mathematics. Two sem hours
 610 Rings and Ideals I. Two sem hours
 611 Rings and Ideals II. Two sem hours
 614 First Course in Field Theory. Two sem hours
 626 Complex Analysis I. Two sem hours
 627 Complex Analysis II. Two sem hours
 681 The Teaching of Junior College Mathematics. Two sem hours

MUSIC

I. General Courses

- 501 Masterpieces of Music. Two sem hours

II. Courses for M.A. in Music

A. Basic Course

- 510 Introduction to Graduate Studies. Two sem hours

B. Composition and Theory

- 511 Survey of Harmonic Techniques. Two sem hours
 513 Form and Analysis. Two sem hours
 514 Sixteenth Century Counterpoint. Two sem hours
 517 Music Composition I. Two sem hours
 518 Music Composition II. Two sem hours
 519 Music Composition III. Two sem hours

C. Literature and History

- 504 America's Music. Two sem hours
 525 Choral Literature I. Three sem hours
 526 Choral Literature II. Three sem hours
 531 Renaissance Music. Two sem hours
 532 Baroque Music. Two sem hours
 533 Music in the Classic Era. Two sem hours
 534 Music in the Romantic Era. Two sem hours
 535 Music of the Twentieth Century. Two sem hours
 536 World Music I. Three sem hours
 537 World Music II. Three sem hours
 538 The New Music. Two sem hours
 540 The Symphony. Two sem hours
 541 The Band and Its Literature. Two sem hours
 542 The Organ and Its Literature. Two sem hours
 543 The Piano and Its Literature. Two sem hours
 544 Solo Song Literature. Two sem hours
 545 The Opera. Two sem hours
 596 Seminar: History of Jazz. Two sem hours

D. Music Education

- 551 The General Music Class. Two sem hours
 556 Development of a String Program in the Public Schools. Two sem hours
 558 Supervision and Administration of School Music Education Programs. Three sem hours
 559 Piano Pedagogy. Two sem hours
 560 Vocal Pedagogy. Two sem hours
 652 Advanced Techniques and Materials for Vocal Music in the Elementary Schools. Two sem hours
 653 Advanced Techniques and Materials for Developing the Secondary School Vocal Program. Two sem hours
 654 Advanced Techniques and Materials for Developing the Secondary School Band Program. Two sem hours
 655 Advanced Techniques and Materials for Orchestras in the Secondary Schools. Two sem hours

E. Performance

- 546 Collegium Musicum. One sem hour
 547 Collegium Musicum. Two sem hours
 548 Collegium Musicum. Three sem hours
 549 Collegium Musicum. Four sem hours
 550 Ensemble. One sem hour
 552 Accompanying. Two sem hours
 571, 572, 573, 574, 575, 576 Applied Music (Secondary Instrument or Voice). One sem hour each
 577 Advanced Instrumental Conducting. Two sem hours
 578 Advanced Choral Conducting. Two sem hours
 581, 582, 583, 584, 585, 586 Applied Music (Principal Instrument or Voice). Two sem hours each
 595 University Summer Choir. One sem hour
 596 Chamber Music: Performance Seminar. Two sem hours
 681, 682, 683, 684, 685, 686 Performance. Two sem hours each
 689 Graduate Recital. Two sem hours

PHYSICS AND ASTRONOMY

- 511 Mechanics for Teachers. Two sem hours
 512 Heat and Light for Teachers. Two sem hours
 513 Electricity for Teachers. Two sem hours
 520 Teaching Physical Science. Two sem hours
 521 Physical Science for Secondary Teachers. Two sem hours
 524 Introductory Physical Science I. Two sem hours
 525 Physical Science II. Two sem hours
 527 Introduction to the Use of Radioisotopes. Two sem hours
 550 New Approaches to Teaching Physics I. Two sem hours
 551 New Approaches to Teaching Physics II. Two sem hours
 552 Supervision of the Science Program. Two sem hours
 553 Recent Science Curricular Developments. Two sem hours
 580 Atomic and Nuclear Physics I. Two sem hours
 581 Atomic and Nuclear Physics II. Two sem hours
 631 Advanced Mechanics. Three sem hours
 650 Electromagnetic Theory. Three sem hours
 676 Quantum Mechanics. Four sem hours
 692 Research Techniques. Two sem hours
- 503 Astronomy I. Two sem hours
 504 Astronomy II. Two sem hours

Other Courses for Credit toward the M.A. in Physics

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 Physics and Astronomy concerning the number of semester hours credit each course will carry. For descriptions of these courses see the Physics and Astronomy section of this catalog.

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

POLITICAL SCIENCE

- 505 Problems in Public Administration. Two sem hours
 540 Public Opinion. Two sem hours
 541 Studies in Latin America. Three sem hours
 543 Political Behavior. Two sem hours
 545 International Relations. Two sem hours
 546 Studies in International Law. Two sem hours
 549 Comparative Administrative Systems. Two sem hours
 554 Studies in Canadian Politics. Three sem hours
 580 American Governmental Executives—National. Two sem hours

- 581 Contemporary Problems in American Government. Two sem hours
 587 State and Local Government. Two sem hours
 596 Seminar in Current Affairs. Two sem hours

PSYCHOLOGY

I. Courses primarily for non-psychology majors.

- 520 Human Learning. Two sem hours
 532 Psychology of Adolescence. Two sem hours
 540 Psychology of Adjustment. Two sem hours
 543 Abnormal Psychology. Two sem hours
 550 Dynamics of Human Behavior. Two sem hours
 551 Psychology of Death and Dying. Two sem hours
 552 Theories of Personality. Two sem hours
 553 Existential Psychology. Two sem hours
 570 Consumer Psychology. Two sem hours
 580 Psychology of Individual Differences. Two sem hours
 591 Individual Readings. One sem hour
 592 Individual Readings. Two sem hours
 593 Individual Readings. Three sem hours
 595 Workshop in the Scientific Approach to Problem Solving. Two sem hours

II. Courses primarily for graduate students and psychology majors.

- 600 Psychological Statistics I. Three sem hours
 601 Psychological Statistics II. Three sem hours
 605 Research Design. Three sem hours
 620 Learning. Three sem hours
 623 Experimental Analysis of Behavior. Three sem hours
 626 Motivation and Emotion. Three sem hours
 629 Physiological Psychology. Three sem hours
 632 Sensation and Perception. Three sem hours
 635 Cognitive Processes. Three sem hours
 637 Social Psychology. Three sem hours
 640 Developmental Psychology. Three sem hours
 643 Psychopathology. Three sem hours
 646 Personality: Theory and Research. Three sem hours
 650 Clinical Psychology. Three sem hours
 660 Theory of Psychological Testing. Three sem hours
 662 Individual Testing I. Three sem hours
 663 Individual Testing II. Three sem hours
 670 Personality Evaluation I. Three sem hours
 671 Personality Evaluation II. Three sem hours

SOCIOLOGY

- 500 Man in Society. Two sem hours
 501 Contemporary Society. Two sem hours
 502 Racial and Cultural Minorities. Two sem hours
 503 The Family. Two sem hours
 504 Population. Two sem hours
 505 Cultural Anthropology. Two sem hours
 506 Criminology. Two sem hours
 508 Social Psychology. Two sem hours
 509 Culture and Personality. Two sem hours
 510 Theories of Criminal Behavior. Three sem hours
 511 Sociology of Crime and its Correction. Three sem hours
 513 Social Deviance. Three sem hours
 530 Advanced Social Statistics. Three sem hours

- 535 Advanced Methods in Sociological Research. Three sem hours
- 536 Qualitative Analysis. Three sem hours
- 540 Advanced Sociological Theory. Three sem hours
- 541 Theory Construction and Verification. Three sem hours
- 545 Advanced Social Psychology. Three sem hours
- 551 Research in Family Interaction. Three sem hours
- 555 Contemporary Community Structure. Three sem hours
- 556 Human Ecology and Community Development. Three sem hours
- 558 Sociology of European Cities. Four sem hours
- 594 Supervised Field Experience. Two sem hours
- 595 Workshop in Crime and the Community. (Summer Only) Two sem hours
- 596 Seminar in Research and Theory of Inter-group Relations. Two sem hours
- 596 Seminar in Problems of Criminology. Two sem hours
- 596 Seminar in Sociological Theory. Two sem hours
- 596 Seminar in Social Psychology. Two sem hours
- 596 Seminar in Personality and Culture. Two sem hours
- 596 Seminar in The Family. Two sem hours
- 596 Seminar in Community Behavior and Social Change. Two sem hours
- 596 Seminar in Ecological Theory and Methods. Two sem hours
- 596 Seminar in Selected Population Problems. Two sem hours

SPEECH AND DRAMATIC ARTS

I. GENERAL COURSES

Communication and Public Address

- 509 Communications for Leaders. Two sem hours
- 589 Discussion and Conference. Two sem hours
- 596 Seminar in Directing Speech Activities. Two sem hours

Dramatic Arts

- 503 Play Production-Junior-Senior High School. Two sem hours
- 569 Seminar in Directing High School Dramatics. Two sem hours

Dramatic Arts for Children

- 501 Creative Drama. Two sem hours
- 502 Drama for Children. Two sem hours

Radio, Television and Film

- 536 Broadcast Management. Three sem hours
- 537 Mass Communications. Two sem hours
- 538 Television Techniques for Classroom Teachers I. Two sem hours
- 548 Television Techniques for Classroom Teachers II. Two sem hours
- 595 Workshop in Broadcasting and Film. Two sem hours

II. SPECIALIZATION COURSES

Communication and Public Address

- 570 College Teaching of Speech. One sem hour
- 576 Public Address. Three sem hours
- 581 Rhetorical Theory. Three sem hours
- 582 Modern Rhetorical Theory. Three sem hours
- 584 Studies in Small Group Communications. Three sem hours
- 585 Theories of Argument and Controversy. Three sem hours
- 586 Theories of Persuasion. Three sem hours

- 587 Speech Communication Theory. Three sem hours
- 588 Research Methods in Speech Communication. Three sem hours
- 592 Research Techniques in Speech and Dramatic Arts. Two sem hours

Dramatic Arts

- 551 Theatre Planning. Two sem hours
- 552 Theatre Management. Two sem hours
- 556 Advanced Directing Lab. One sem hour
- 557 Advanced Acting Lab. One sem hour
- 558 Advanced Directing. Two sem hours
- 559 Advanced Acting. Two sem hours
- 560 Ancient Dramatic Theory. Three sem hours
- 561 Modern Dramatic Theory. Three sem hours
- 562 American Theatre History. Two sem hours
- 566 Seminar in Theatre History. Two sem hours
- 567 Seminar in Design and Technical Theatre. Two sem hours
- 568 Seminar in Acting. Two sem hours
- 569 Seminar in Directing. Two sem hours
- 592 Research Techniques in Speech and Dramatic Arts. Two sem hours
- 651 Design I. Two sem hours
- 652 Lighting. Two sem hours
- 653 Costume I. Two sem hours
- 654 Costume II. Two sem hours
- 655 Playwriting I. Two sem hours
- 656 Playwriting II. Two sem hours

Dramatic Arts for Children

- 565 Seminar in Dramatic Arts for Children. Two sem hours
- 657 Advanced Creative Drama. Two sem hours
- 658 Theatre for Children. Two sem hours.

III. Other Courses for Credit toward M.A. in Speech and Dramatic Arts.

The following courses for advanced undergraduates are also available to graduate students for two or three semester hours of credit each, depending upon the circumstances of the student's registration; on this matter the student should, before completing his registration, have a clear understanding with both the dean of the Graduate School and the chairman of the Committee on Graduate Studies in the Department of Speech and Dramatic Arts. For descriptions of these courses, see the Speech and Dramatic Arts section of this catalog.

Communication and Public Address

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

Broadcasting

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

Interpretation

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

Dramatic Arts

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

Dramatic Arts for Children

- 322 Theatre for Children.
- 323 Creative Dramatics.
- 324 Interpretation of Children's Literature.

COLLEGE OF BUSINESS**ACCOUNTING AND FINANCE**

- 501 Accounting Principles. Three sem hours
- 502 Financial Principles. Three sem hours
- 515 Accounting for School Administrators. Two sem hours
- 544 Tax Accounting for International Business. Three sem hours
- 573 Securities Analysis. Three sem hours
- 583 Financial Administration Policies. Two sem hours
- 584 Administrative Controls. Two sem hours
- 610 Accounting System Design and Installation. Three sem hours
- 664 Theory of Accounting. Two sem hours
- 696 Seminar in Accounting Theory and Practice. Two sem hours

BUSINESS EDUCATION

- 555 Teaching Data Processing. Three sem hours
- 562 Cooperative Programs in Business Education. Three sem hours
- 568 Coordination of Cooperative Programs in Business Education. Three sem hours
- 569 Foundations of Business Education. Two sem hours
- 571 Current Problems in Business Education. Two sem hours
- 572 Administration of Business Education. Two sem hours
- 595 Workshop in Business Education. Two sem hours
- 596 Seminar in Business Education. Two sem hours
- 611 Curriculum Models in Business Education. Three sem hours
- 630 Psychological Development of Office Skills. Three sem hours

GENERAL BUSINESS

- 501 Introductory Probability and Statistics for Business. Three sem hours
- 530 Public Law of Business. Three sem hours
- 567 Risk and Risk Management. Three sem hours
- 568 Administrative Communication. Three sem hours

- 570 Problems in Contemporary Economics. Two sem hours
- 586 Quantitative Analysis for Business. Three sem hours
- 588 Managerial Economics. Three sem hours
- 589 Business Conditions: Analysis and Forecasting. Three sem hours

MANAGEMENT

- 501 Management of Human Resources. Three sem hours
- 576 Business in Society. Three sem hours
- 585 Organization Theory and Systems. Three sem hours
- 687 Seminar in Personnel Administration. Three sem hours
- 689 Problems in International Management. Three sem hours
- 696 Seminar in Administrative Policy. Three sem hours

MARKETING

- 501 Marketing. Three sem hours
- 518 Marketing Policies and Problems. Three sem hours
- 592 Business Research. Three sem hours
- 660 International Marketing. Three sem hours
- 680 Application of Quantitative Techniques to the Marketing Process. Three sem hours
- 696 Seminar in Advanced Marketing Theory and Practice. Three sem hours

COLLEGE OF EDUCATION**CURRICULUM AND INSTRUCTION**

- 504 Creative Activities in Early Elementary Education. Two sem hours
- 523 Junior High School Curriculum. Two sem hours
- 530 Education of the Black Man in Contemporary America. Two sem hours
- 532 Elementary School Children and Social Studies. Two sem hours
- 540 Curriculum Foundations. Two sem hours
- 541 Curriculum-Elementary School. Two sem hours
- 542 Curriculum-Secondary School. Two sem hours
- 543 Core Curriculum. Two sem hours
- 546 The Dropout Problem. Two sem hours
- 553 Survey of Recent Science Curricular Developments. Two sem hours
- 566 Improving Instruction. Two sem hours
- 567 Enriching the Early Elementary Classroom Program. Two sem hours
- 571 Teaching of Social Studies. Two sem hours
- 584 Planning the Pre-School Environment. Two sem hours
- 585 Kindergarten Education. Two sem hours
- 586 Trends and Issues in Kindergarten Education. Two sem hours
- 587 Early Childhood Education. Two sem hours
- 591 Supervision of Student Teachers. Two sem hours
- 595 Teaching the Disadvantaged. Two sem hours
- 595 Early American Life—Colonial Williamsburg.
- 595 Workshop in East African Studies. Two sem hours
- 596 Seminar in Secondary Curriculum. Two sem hours
- 696 Seminar in Elementary School Curriculum. Two sem hours
- 696 Seminar: Early Childhood Education. Two sem hours
- 696 Seminar: Reassessing Human Potential. Two sem hours
- 696 Seminar: Changing Process of Elementary Education. Two sem hours

Reading

- 500 Foundations of Reading Development. Four sem hours
- 501 Developmental Reading-Elementary. Two sem hours
- 502 Developmental Reading-Secondary. Two sem hours
- 560 Reading Problems of the Disadvantaged. Two sem hours
- 573 Programs in Language Arts. Two sem hours
- 582 The Nature of Common Reading Problems. Two sem hours
- 589 Developing School-Wide Reading Programs. Two sem hours
- 594 Internship in Reading. Six sem hours
- 595 Workshops in Selected Areas. Two sem hours
- 595 Workshop in Providing for Individual Differences in Reading. Two sem hours
- 596 Seminar: The Teaching of Reading. Two sem hours
- 660 Survey of Resources and Materials in the Language Arts. Two sem hours
- 661 Analysis and Treatment of Common Reading Problems. Two sem hours
- 663 Evaluation of Reading Growth and Development. Two sem hours
- 692 Reading Practicum I. Two sem hours
- 693 Reading Practicum II. Two sem hours
- 696 Seminar: The Reading Process. Two sem hours

EDUCATION

Educational Media

I. Audio-Visual

- 512 Audio-Visual Instruction. Two sem hours
- 522 Administration of Audio-Visual Services. Two sem hours
- 524 TV in Education. Two sem hours
- 526 Radio and TV in the Classroom. Two sem hours
- 595 Production of Instructional Materials-Workshop I. Two sem hours
- 595 Workshop in Television Utilization. Two sem hours
- 596 Seminar in Instructional Materials. Two sem hours
- 596 History and Appreciation of Motion Pictures and Photography. Two sem hours

II. Library Science

- 525 Resource Materials for the Elementary School. Two sem hours
- 595 Workshop in Reading Guidance for Children. Two sem hours
- 596 Seminar: The Administrator and the School Library. Two sem hours

Social Foundations

- 520 Education in Europe and USSR. Two sem hours
- 523 Education in New Nations. Two sem hours
- 524 Development of European Education. Two sem hours
- 525 Philosophy of Education. Two sem hours
- 526 History of American Education. Two sem hours
- 527 Juvenile Delinquency. Two sem hours
- 528 Progressivism in American Education. Two sem hours
- 529 Sociology of Education. Two sem hours
- 548 Workshop in British Education. Four or six sem hours
- 548 Workshop in Education in India and The Philippines. Four sem hours
- 548 Education in Scandinavia. Four sem hours
- 562 Cultural Determinants of Learning. Two sem hours

- 593 International Understanding. Two sem hours
- 594 The Negro in America. Two sem hours
- 595 Workshop on India: Its Culture and Education. Two sem hours
- 595 Workshop in Group Leadership. Two sem hours
- 596 Seminar in Social Foundations I. Two sem hours
- 612 The Logic of Teaching. Two sem hours
- 620 Anthropology of Education. Two sem hours
- 621 Existentialism and Education. Two sem hours
- 622 Pragmatism and Education. Two sem hours
- 625 History of Educational Thought. Two sem hours
- 648 Workshop in East African Education. Four sem hours

EDUCATIONAL LEADERSHIP

- 502 Educational Organization. Two sem hours
- 515 Accounting for School Business Administrators. Two sem hours
- 540 Community Organization. Two sem hours
- 550 Adult Education. Two sem hours
- 553 Economics of Public Education. Two sem hours
- 556 Community Education. Two sem hours
- 560 School and Community Understanding. Two sem hours
- 562 Educational Leadership. Two sem hours
- 563 Philosophy and Purposes of the Community College. Two sem hours
- 566 Supervision of Instruction. Two sem hours
- 580 School Law for Teachers. Two sem hours
- 587 Evaluating Educational Services. Two sem hours
- 596 Seminar in Administration and Supervision. Two sem hours
- 605 Leadership Research and Theory. Two sem hours
- 651 Collective Negotiations in Education. Two sem hours
- 653 Advanced School Finance. Two sem hours
- 655 Problems in School Building Planning. Two sem hours
- 658 School Personnel Administration. Two sem hours
- 671 Elementary School Principalship. Two sem hours
- 672 Junior High School Principalship. Two sem hours
- 673 Senior High School Principalship. Two sem hours
- 674 Community School Administration. Two sem hours
- 675 Organization and Administration of the Community College. Two sem hours
- 677 School Business Management. Two sem hours
- 680 Legal Aspects of Administration. Two sem hours
- 682, 683 Behavioral Science in Administration and Supervision I and II. Two sem hours each
- 693 Practicum in Field Research. Two sem hours
- 694 Internship in Educational Administration. Two sem hours
- 696 Advanced Seminar in Administration and Supervision. Two sem hours
- 696 Interuniversity Seminar. Two sem hours

EDUCATIONAL PSYCHOLOGY

A. Survey

- 502 Basic Concepts. Two sem hours
- 596 Seminar in Educational Psychology. Two sem hours

B. Development

- 500 Human Development. Two sem hours
- 501 Psychology of Adolescence. Two sem hours
- 509 Problems in Child Psychology. Two sem hours

C. Learning and Educational Technology

- 503 Principles of Classroom Learning. Two sem hours

- 504 Essentials of Programmed Instruction. Two sem hours
 506 Technology of Instruction. Two sem hours
 508 Computer Applications in Education. Two sem hours

D. Personality

- 505 Mental Hygiene. Two sem hours
 584 Psychoanalytic Theory and Education. Two sem hours

E. Measurement and Research

- 521 Statistics I: Descriptive Statistics. Two sem hours
 531 Measurement and Evaluation. Two sem hours
 551 Statistics II: Inferential Statistics. Two sem hours
 592 Research Techniques. Two sem hours
 631 Statistics III: Analysis of Variance. Two sem hours

GUIDANCE AND COUNSELING

- 500 Introduction to Guidance and Counseling. Two sem hours
 501 Guidance in Elementary School. Two sem hours
 510 Counseling Principles and Practices. Two sem hours
 520 Standardized Group Testing. Two sem hours
 540 Group Guidance. Two sem hours
 595 Experimental Workshop in Counselor Development. Two sem hours
 601 Student Personnel Services in Higher Education. Two sem hours
 610 Theories of Counseling. Two sem hours
 611 The Elementary School Counselor. Two sem hours
 612 Case Studies in Counseling. Two sem hours
 620 Individual Appraisal in Guidance and Counseling. Two sem hours
 621 Individual Mental Testing for Counselors. Two sem hours
 630 Educational and Occupational Information. Two sem hours
 631 Dynamics of Vocational Development. Two sem hours
 632 Vocational Rehabilitation Counseling. Two sem hours
 650 Organization and Administration of Guidance Services. Two sem hours
 651 Professional Problems of Counselors. Two sem hours
 680 Counseling Practicum I. Two sem hours
 681 Field Work in Guidance, Counseling and Personnel Work. Two sem hours
 685 Counseling Practicum II. Two sem hours
 686 Supervision of Counseling Practicum. Two sem hours
 694 Internship in Guidance, Counseling and Personnel Work. Eight sem hours
 696 Seminar in Guidance, Counseling and Personnel Work I. Two sem hours

HEALTH, PHYSICAL EDUCATION
AND RECREATION

I. General Courses

- 501 Problems in Community Health. Two sem hours
 502 Elementary School Health. Two sem hours

II. Tool Courses

- 505 Basic Statistics. Two sem hours
 506 Test Construction. Two sem hours

III. Athletic Courses

- 510 Administration of Athletics. Two sem hours
 619 Problems in Training for Athletics. Two sem hours

- 696 Seminar in Athletics I. Two sem hours
 696 Seminar in Athletics II. Two sem hours

IV. Recreation Courses

- 520 Trends in Community Recreation. Two sem hours
 522 Social Recreation. Two sem hours

V. Health Courses

- 540 School Health Trends. Two sem hours
 595 Health Education Workshop. Two sem hours
 595 Workshop in Sex Education. Two sem hours
 645 Problems in Sex Education. Two sem hours
 650 Administration of the School Health Program. Two sem hours

VI. Physical Education Courses

- 548 Physical Education Travel Study Tour. Four to six sem hours
 561 Supervision of Physical Education. Two sem hours
 562 Facility Planning and Development. Two sem hours
 565 Problems in Intramural and Extramural Sports. Two sem hours
 570 Critical Analysis of Physical Education. Two sem hours
 585 Physical Education in Elementary Schools. Two sem hours
 586 Physical Education in Secondary Schools. Two sem hours
 587 Philosophy of Physical Education. Two sem hours
 588 Administrative Problems in Physical Education. Two sem hours
 589 Advanced Physical Testing. Two sem hours
 660 Motor Learning and Development. Two sem hours
 670 Current Problems in Physical Education. Two sem hours
 678 Comparative Physical Education. Two sem hours

VII. Research Courses

- 592 Research Techniques. Two sem hours
 595 Workshop in Total Activity. Two sem hours
 595 Workshop in Movement Education. Two sem hours
 595 Workshop in Gymnastics. Two sem hours
 596 Seminar in Current Literature Analysis. Two sem hours
 596 Seminar in International Physical Education. Two sem hours
 596 Seminar in Modern Dance. Two sem hours
 695 Workshop: Trends in Physical Education. Two sem hours
 695 Workshop in Physical Fitness. Two sem hours
 696 Seminar in Physical Fitness. Two sem hours
 696 Seminar in Motor Skills. Two sem hours

SPECIAL EDUCATION AND OCCUPATIONAL
THERAPY

A. General Courses

- 506 Education of Exceptional Children. Two sem hours
 513 The Slow-Learner in the Classroom. Two sem hours
 514 Measurement and Diagnosis in Special Education. Two sem hours
 515 Social Psychology of the Handicapped. Two sem hours
 519 Administration and Supervision of Special Education. Two sem hours
 520 Family-School Relationships in Special Education. Two sem hours
 561 Education of the Gifted Children. Two sem hours
 569 Occupational Information in Special Education. Two sem hours

- 594 Internship for Master's Students in Special Education. Two sem hours
- 595 Education of the Disadvantaged Child. Two sem hours
- 596 Seminar Special Education I. Two sem hours
- 596 Seminar Special Education II. Two sem hours
- 605 Rehabilitation Counseling in Special Education. Two sem hours
- 694 Internships.
- 696 Interdisciplinary Seminar in Special Education. Two sem hours
- B Mentally Handicapped**
- 507 Contemporary Problems in Mental Retardation. Two sem hours
- 555 Physical Education and Recreation for the Mentally Handicapped. Two sem hours
- 557 Mental Deficiency. Two sem hours
- 558 Education of the Mentally Handicapped I. Two sem hours
- 559 Education of the Mentally Handicapped II. Two sem hours
- 565 Habilitation of the Trainable Mentally Retarded Child. Two sem hours
- 568 Secondary Education of the Mentally Handicapped. Two sem hour
- 596 Seminar in Mental Retardation. Two sem hours
- C. Learning Disabilities**
- 567 Education of Children With Learning Disabilities. Two sem hours
- 595 Workshop Diagnostic Procedures Learning Disabilities. Two sem hours
- 595 Diagnostic Practicum Learning Disabilities. Six sem hours
- D. Emotionally Disturbed**
- 511 Methods and Curriculum for Emotionally Disturbed. Two sem hours
- 512 Organization of Programs for the Emotionally Disturbed. Two sem hours
- 519 Emotionally Disturbed Children. Four sem hours
- 563 The Emotionally Disturbed Child in the Regular Classroom. Two sem hours
- 583 Preclinical Experiences.
- 596 Seminar in the Emotionally Disturbed Child. Two sem hours
- 603 Therapeutic Management of Emotionally Disturbed Children. Two sem hours
- 696 Psychological and Educational Techniques for Emotionally Disturbed. Two sem hours
- E. Physically Handicapped**
- 510 Education and Treatment of Cerebral Palsied Children. Two sem hours
- 536 Methods of Teaching Physically Handicapped Children. Two sem hours
- 537 Pathology of the Physically Handicapped. Two sem hours
- 538 Therapeutic Care of the Physically Handicapped Child. Two sem hours
- F. Speech Correction**
- 500 Introduction to Speech Correction. Two sem hours
- 502 Introduction to Audiology. Two sem hours
- 504 Anatomy of the Speech and Hearing Mechanisms. Two sem hours
- 506 Applied Phonetics. Two sem hours
- 508 Black Language in the Educational Process. Three sem hours
- 515 Speech Pathology. Two sem hours
- 516 Speech Pathology Lab. Two sem hours
- 518 Directed Observation. One sem hour
- 520 Speech Correction Clinical Methods I. Two sem hours
- 521 Speech Correction Clinical Methods II. Two sem hours
- 522 Speech Correction Clinical Practice I. Two sem hours
- 523 Speech Correction Clinical Practice II. Two sem hours
- 524 Speech Correction Clinical Practice III. Two sem hours
- 532 Psychology of Speech and Hearing. Two sem hours
- 536 Audiometric Testing. Two sem hours
- 537 Clinical Practice in Hearing Testing. Two sem hours
- 538 Clinical Practice in Hearing Therapy. Two sem hours
- 550 Articulation. Two sem hours
- 552 Voice. Two sem hours
- 554 Stuttering. Two sem hours
- 556 Anatomy of the Head, Neck and Trunk. Two sem hours
- 558 Language Therapy. Two sem hours
- 562 Evaluation and Selection of Hearing Aids. Two sem hours
- 594 Public School Internship in Speech Correction. Four sem hours
- 596 Seminar in Public School Speech Correction. Two sem hours
- 610 Cleft Palate. Two sem hours
- 612 Cerebral Palsy. Two sem hours
- 614 Aphasia. Two sem hours
- 616 Experimental Phonetics. Three sem hours
- 618 Language and Learning Theories. Two sem hours
- 620 Diagnostic Methods in Speech Pathology. Two sem hours
- 622 Diagnostic Methods in Hearing. Two sem hours
- 694 Clinical Internship in Speech Correction. Two sem hours
- 696 Seminar in Speech Pathology. Two sem hours
- G. Deaf and Hard of Hearing**
- 510 Survey of Education and Guidance for the Deaf. Two sem hours
- 514 Speech for the Deaf I. Two sem hours
- 518 Speech for the Deaf II. Two sem hours
- 522 Language for the Deaf. Four sem hours
- 530 School Subjects for the Deaf. Two sem hours
- 554 Auditory Training and Speech Reading for the Deaf and Hard of Hearing. Two sem hours
- 593 Auditory Training and Speechreading Practicum. Two sem hours
- 594 Public School Internship. Four sem hours
- 596 Deaf Education Seminar. Two sem hours
- 596 Advanced Seminar in Education of Child with Impaired Hearing. Two sem hours
- 626 Visual Communication for the Deaf. Two sem hours
- 682 Evaluation and Training of Deaf Infants. Two sem hours
- 686 Secondary School Subjects for the Deaf. Four sem hours
- 688 Advanced Speech for the Deaf and Hard of Hearing. Two sem hours
- 694 Clinical Internship in Deaf Education. Four sem hours
- H. Occupational Therapy**
- 528 Adaptive Equipment and Appliances. Two sem hours
- WORKSHOPS**
- 595 Sensory Training for Perceptually Handicapped Children. Two sem hours
- 595 Rehabilitation in Special Education. Two sem hours

- 595 Gessell Testing. Two sem hours
- 595 Parent-Child Counseling in Special Education. Two sem hours
- 595 Unit Teaching for Exceptional Child. Two sem hours
- 595 Supervising Teaching in Special Education. Two sem hours
- 595 The Application of New Materials in Teaching Special Education. Two sem hours
- 595 Workshop for Training of Supervising Teachers: Special Education. Two sem hours
- 595 Workshop on the Gifted. Two sem hours
- 595 Language Problems of Neurologically Impaired Child. Two sem hours
- 595 Sensory Training for Perceptually Handicapped Children. Two sem hours
- 595 Diagnostic Practicum Learning Disabilities. Six sem hours
- 595 Pre-School Culturally Deprived Mentally Handicapped Child. Two sem hours
- 595 Physical Education and Recreation for the Mentally Handicapped. Two sem hours
- 595 Workshop in Mathematics for the Visually Handicapped. Two sem hours
- 595 Workshop in Stuttering. Two sem hours
- 595 Workshop in Language Development. Two sem hours

APPLIED SCIENCE DEPARTMENTS

HOME ECONOMICS

- 500 The Disadvantaged Family. Two sem hours
- 501 Women in the Modern World. Two sem hours
- 502 Family in Crisis. Two sem hours
- 503 Problems in Family Finance. Two sem hours
- 504 Parent Education. Two sem hours
- 505 Social and Economic Problems in Housing. Two sem hours
- 506 Foods in the Cultures of the World. Two sem hours
- 507 Leisure and the Family. Two sem hours
- 508 Food and Nutrition Problems of the Low-Income Family. Two sem hours
- 509 Family Clothing Management. Two sem hours
- 511 Curriculum Development in Homemaking Education. Two sem hours
- 512 Current Programs in Family Life Education. Two sem hours
- 516 Federal Legislation for Wage Earner Programs in Home Economics. Two sem hours
- 518 Special Problems in Homemaking Education. Two sem hours
- 530 Family Economics and Home Management. Two sem hours
- 531 Recent Developments in Home Equipment. Two sem hours
- 540 Family Development. Two sem hours
- 541 Child Guidance in the Family. Two sem hours
- 544 Preparation for the Later Years. Two sem hours
- 545 Laws Affecting the Family. Two sem hours
- 560 Tailoring. Two sem hours
- 561 Consumer Problems in Clothing and Textiles. Two sem hours
- 562 History of Costume. Two sem hours
- 563 History of Furniture and Contemporary Trends. Two sem hours
- 564 Fashion Design for the Home. Two sem hours

- 565 Clothing Design and Construction. Two sem hours
- 566 Consumer Problems in Home Furnishings. Two sem hours
- 568 The Fashion Field. Two sem hours
- 569 Problems in Interior Design. Two sem hours
- 570 Methods and Materials in Teaching Clothing and Textiles. Two sem hours
- 580 Recent Developments in Foods. Two sem hours
- 581 Special Problems in Meal Management. Two sem hours
- 582 Experimental Foods. Two sem hours
- 584 Advanced Nutrition. Two sem hours
- 592 Research Methods for Home Economics. Two sem hours
- 596 Youth, the Family and the Drug Scene. Two sem hours
- 611 Evaluation in Homemaking Education. Two sem hours
- 613 Supervision in Homemaking Education. Two sem hours
- 633 Home Management Problems for Disabled Homemakers. Two sem hours
- 660 Recent Developments in Textiles. Two sem hours
- 661 Textile Analysis. Two sem hours

INDUSTRIAL EDUCATION

I. Courses for Non-Majors

- 500 Crafts I. Two sem hours
- 501 Crafts II. Two sem hours
- 502 Industrial Arts in Elementary Education. Two sem hours
- 503 Teaching Aids in Secondary School Studies. Two sem hours
- 504 Graphic Representation. Two sem hours
- 505 Graphic Arts. Two sem hours

II. Communication

- 510 Electricity-Electronics. Two sem hours
- 513 Drafting Technology. Two sem hours
- 515 Product Design. Two sem hours
- 516 Architectural Drafting and Design. Two sem hours
- 517 Visual Communication. Two sem hours
- 610 Electronics Circuitry. Two sem hours

III. Transportation

- 520 Power Systems. Two sem hours

IV. Materials Processing

- 530 Forest Products Industry. Two sem hours
- 533 Plastics Technology. Two sem hours
- 536 Metals Technology. Two sem hours

V. Industry and Technology

- 540 Contemporary American Industry. Two sem hours
- 541 Materials of Industry. Two sem hours
- 640 Recent Technological Developments. Two sem hours

VI. History and Philosophy

- 550 The Development of Industrial Education. Two sem hours
- 551 Philosophy of Industrial Education. Two sem hours
- 552 Principles of Vocational and Technical Education. Two sem hours

- 650 Industrial Education in Colleges and Universities. Two sem hours
 652 Technical Programs in Community Colleges. Two sem hours

VII. Curriculum and Instruction

- 560 Content and Method of Industrial Education. Two sem hours
 660 Curriculum Planning in Industrial Education. Two sem hours
 661 Evaluation in Industrial Education. Two sem hours
 662 Cooperative Programs in Industrial Education. Two sem hours
 663 Instructional Media in Industrial Education. Two sem hours

VII. Curriculum and Instruction

- 670 Laboratory Planning. Two sem hours

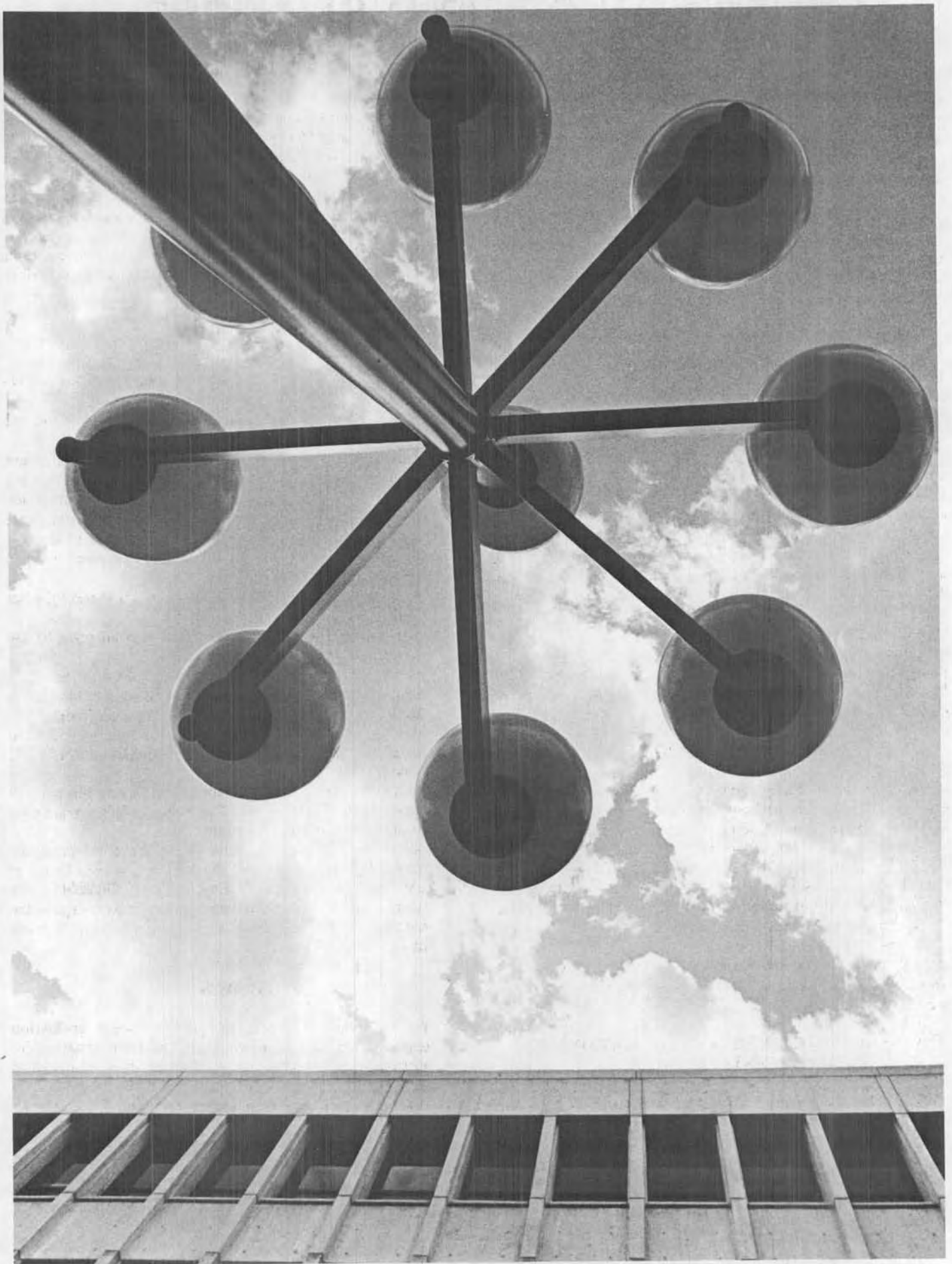
IX. Administration and Supervision

- 680 Supervision of Industrial Education. Two sem hours

X. Research

- 592 Research in Industrial Education. Two sem hours
 593 Practicum in Industrial Education. Two sem hours
 594 Structured Internship in Industrial Education. Two sem hours
 595 Workshops in Selected Areas. Each two sem hours
 596 Seminar in Industrial Education. Two sem hours
 696 Seminar in Industrial Education. Two sem hours





DIVISION OF FIELD SERVICES

DIVISION OF FIELD SERVICES

Director: Earl K. Studt

Associate Director: Ralph A. Gesler

Coordinator University Conferences: Frederick J. Peters

Pupil Transportation Services

Coordinator: Acting, Dale Benjamin

Consultant: Pending

Consultants:

Vocational Education: Jerald A. Griess

Special Services: Ralph L. Steffek

Today, more than ever before, Eastern Michigan University is realizing its responsibility to offer its services and facilities to the community at large. For many years, the Division of Field Services at Eastern Michigan University has maintained extensive correspondence and in-service programs for students unable to complete their education on Eastern's campus and for employed teachers desiring to further their education. In the last few years, the services provided by the Division of Field Services have taken on new dimensions. The in-service courses are now available at 17 centers in 14 counties in southeastern Michigan. The campus is open to the public for conferences, both academic and non-academic, for adult education courses, for lecture series and for training programs. And trained personnel as well as faculty members are available for lectures and consultation services to clubs, organizations and school systems.

The Division of Field Services welcomes inquiries about its program as well as suggestions for other services it might offer. Interested persons should write to the director of the Division of Field Services, Eastern Michigan University, Ypsilanti.

IN-SERVICE COURSES

The Division of Field Services offers credit courses in 17 established centers throughout southeastern Michigan: Adrian, Brighton, Center Line, Cherry Hill, Flint, Jackson, Lapeer, Marlette, Monroe, Mt. Clemens, Plymouth, Port Huron, Sandusky, Southgate, Taylor, Trenton and Wayne. These classes are undergraduate and graduate courses conducted by regular instructors of Eastern Michigan University. Presently, the classes are in practically any field connected with education. A list of the courses offered for fall, spring and summer sessions may be acquired from the director of the Division of Field Services. The following regulations apply to these courses.

GENERAL PROCEDURES AND REGULATIONS OF OPEN CENTER COURSES

1. Students who enroll in off-campus courses must meet the entrance requirements of Eastern Michigan University and must matriculate at Eastern in order to receive credit towards certificates and degrees. Application blanks and details of the admission procedure may be obtained by writing Eastern Michigan University, Admissions Office.
2. Students must make application for in-service courses to the director of the Division of Field Services, Eastern Michigan University, Ypsilanti, Michigan.

3. Students are held to the same requirements concerning distribution of courses taken by students in residence. Students should consult outlines of curriculums as published in the University catalog, should make their selection of work and should consult the registrar.
4. The number of hours of in-service work for credit which one may carry while engaged full time in other work shall not exceed six hours per semester.
5. No course will be offered for credit in in-service courses which is not a part of the regular curriculums of Eastern Michigan University.

FEES

1. The undergraduate and graduate fee for in-service courses is \$32.00 per credit hour.
2. The Division of Field Services makes no provision for partial payment or delayed payment of fees.
3. Enrollment of off-campus courses is handled by mail and should be completed well in advance of the first meeting date of the course in order to insure a place in the class. Enrollments not completed prior to the first meeting date are subject to assessment of \$5.00 late enrollment fee.
4. A \$2.00 charge will be made for payment with a non-negotiable check.
5. A complete refund of fees will be made if requested prior to the date of the third class meeting.
6. Fifty percent will be refunded if requested prior to the date of the fifth class meeting.
7. No refund will be made after the fifth class meeting.
8. Requests for refunds must be made in writing directly to the Division of Field Services (not to the instructor).
9. The effective date of withdrawal is the date on which the request is received at the office of the Division of Field Services.
10. Overpayments will be refunded only when the amount exceeds the charge by \$1.01 or more, unless a request for refund is received from the remitter.
11. All veterans eligible for educational benefits under the new G.I. Bill must furnish the Veterans Affairs Office at the University with their Certificate of Eligibility prior to the first meeting of the classes. They must complete the necessary registration with the Division of Field Services and pay the full fees.

CREDITS

1. To avoid possible loss of credit toward graduation requirements, an Eastern Michigan University student who wishes to take courses at another college or university should secure approval of the department concerned or dean of Records and Teacher Certification.
2. Students regularly enrolled in other colleges or universities may be enrolled as guest matriculants.
3. Students must complete all work on time. Incompletes are given only in extreme cases such as illness. An incomplete must be made up within one month after the beginning of the subsequent semester in which the student is enrolled. Otherwise the course will be recorded with a grade of "E".

4. It is expected that students contemplating certification or degrees will acquaint themselves with the University regulations which are available from the Office of the Registrar.
5. Persons may audit a course without credit upon payment of the regular fees. Under no condition will academic credit be given once a person is enrolled as an auditor.

CONTRACT COURSES

The Division of Field Services also offers courses on a contract basis. These credit courses are arranged between a school system and Eastern Michigan University. They are designed to investigate problems unique to the particular school system and they are usually held at one of the schools.

UNIVERSITY CONFERENCES

Eastern Michigan University opens its campus to the public for conferences and workshops. The Division of Field Services is ready to assist any group in planning a workshop or conference on a credit or a non-credit basis. Trained staff will aid in arranging for meals, housing, suitable meeting facilities and recreation and in securing specialists in the field related to the conferences.

In recent years, groups have been encouraged to plan programs of a continuing nature. The following programs have become annual workshops:

Modern Dance Workshop: This workshop is planned to enrich knowledge and increase skill in modern dance through the development of sound technique and the understanding of dance as a performing art. Curriculum includes beginning and advanced technique, composition and repertory. Special sessions will include films, rehearsals, folk dance and experiences in other dance forms. Graduate seminar in dance offered concurrently with school workshop.

Summer Workshop in Theatre: The workshop in theatre is offered for high school students to work and learn in a collegiate atmosphere. There will be two sessions—one for beginning and one for advanced students. Every phase of play production will be explored in this intensive two-week workshop. Each participant will be actively involved in every phase of play production—acting, directing and technical theatre. A graduate seminar will be conducted in conjunction with the workshop.

Huron Wrestling and Coaching Clinic: The object of the clinic is to increase interest in this sport and improve standards of wrestling. Wrestlers divide into small groups for instruction by an outstanding staff.

Baton Twirling Clinic: A complete, concentrated five-day program presented by the finest professional instructors.

Summer Workshop in Broadcasting and Film: The purpose of the workshop is to give a thorough basic course in the techniques, theories and practices of radio and television performance, direction and programming. A graduate seminar will be conducted in conjunction with the workshop.

Summer Session for High School Instrumental Musicians: Provides attractive opportunity for young musicians to

study and perform under the direction of Eastern Michigan University music faculty and visiting artists.

Annual Choral Arts Workshop for High School Students: An intensive two-week experience emphasizing both group solo performance skills. Class procedure provides daily private lessons in voice as well as classes in theory and music literature. Choral arts students will also study musical production, acting and stage movement. There will be recitals for individual performers, as well as large and small ensembles.

American Scholastic Drill Team: A five-day workshop for precision and drill machine units. Finest collegiate instructors give expert guidance in developing exhibition routines and intricate dance and marching patterns to operate in conjunction with band and drum and bugle units.

"The University of Cheerleading:" Collegiate staff instructors, affiliated with the International Cheerleading Foundation, Inc., teach high school squads every phase of cheerleading, pep and spirit in courses run like regular college classes.

As indicated by this list of annual workshops, Eastern Michigan University offers its facilities for an unlimited variety of conferences. Groups interested in arranging for conferences or workshops should contact the coordinator of University Conferences, Division of Field Services, Eastern Michigan University, Ypsilanti, Michigan.

TRAVEL TOURS AND WORKSHOPS

Each summer, Eastern Michigan University, through the Division of Field Services, conducts a number of travel tours and workshops. Typical of these tours which occur regularly are:

Early American Life in Colonial Williamsburg: Through the cooperation of Colonial Williamsburg and the College of William and Mary, this very popular workshop is offered each year in August. The two-week workshop gives the student an excellent opportunity to study colonial American life in this famous restored capital of the Virginia colony.

European History Tour: This popular tour usually combines several days of travel in Spain, Italy, Greece, Germany, Switzerland and other central European countries with an extended study of German history and geography in Munich.

Workshop in British Education: Through the cooperation of the University of Reading, Reading, England, students are provided with the opportunity of living and studying in England and observing the British educational system in action.

Workshop in East African Education: Offered for the first time during the summer of 1970, this workshop is patterned after the one on British Education with most of the sessions being held in Nairobi, with short sessions in Tanzania, Ethiopia and other areas of East Africa. Plans are to offer this workshop again in 1972.

VOCATIONAL EDUCATION CONSULTATION SERVICES

The Division of Field Services has a half-time consultant who is available for work in intermediate and local districts. Aid is available in establishing vocational programs, evaluation, research, applied data processing and feasibility studies. Fees are charged for this service commensurate with the type and extent of the service rendered.

LECTURERS

Members of the Eastern Michigan University faculty are available for lectures at community meetings, women's clubs, parent-teacher associations and other organizations of an educational character. For information concerning speakers and subjects, write the director of the Division of Field Services.

CONSULTATION SERVICES

Eastern Michigan University is ready to assist any school in Michigan in solving its problems. The Division of Field Services will aid in making school surveys, will advise on school organizations, equipment, courses of study, methods of instruction and will evaluate current programs. Consultants and trained personnel are furnished ordinarily on a fee basis to the public school or other agency requesting them.

LIBRARY SERVICES

The Eastern Michigan University Library places its facilities at the disposal of all students taking classes through the Division of Field Services. While every effort is made to honor all requests for books and periodicals, the library cannot guarantee to furnish all books at a specified time. It is advisable that students requesting books through mail suggest alternates.

Request forms are furnished by the library. Requests for materials should be addressed to the circulation librarian, Eastern Michigan University, Ypsilanti, Michigan; they should include full bibliographic information. Books and periodicals requested by mail will be loaned for one month and may be renewed upon request for two weeks.

Those students borrowing materials from the library directly are subject to the same borrowing regulations as students in residence. They will be asked to present an identification card (identification cards will be sent to students enrolled in off-campus classes and correspondence courses upon request). Books borrowed directly are loaned for a two-week period with a two-week renewal privilege. Periodicals must be used in the library.

Fines will be assessed at the rate of \$.10 per book per day. (Fines are subject to revision following proper notification). Books returned by mail are overdue three days after the date stamped in the book.

CORRESPONDENCE COURSES

Correspondence courses are designed for undergraduate students whose needs cannot be met through a regular classroom program either on or off campus. Students who enroll in correspondence courses receive lesson assignments by mail. The students complete and return these assignments and then take a final examination. Their work is reviewed by faculty members of the University and an earned grade and college credit are recorded.

General Procedures and Regulations

1. Students must be officially admitted to Eastern Michigan University before enrolling in correspondence courses. Application blanks and details of the admission procedure may be obtained by writing Eastern Michigan University, Admissions Office, Ypsilanti, Michigan.
2. Students must make application for correspondence study to the director of the Division of Field Services, Eastern Michigan University, Ypsilanti, Michigan.
3. Students are held to the same requirements concerning distribution of courses taken by those in residence. Students should consult outlines of curriculums published in the University catalog, make their selection of work and consult the dean of records.
4. No course will be offered for credit in correspondence which is not a part of the regular curriculums of Eastern Michigan University.
5. New enrollments may be made at any time. However, work not completed by June the first of the academic year occasionally must be deferred until the opening of the fall semester.
6. Students whose work averaged below "C" will not be permitted to enroll in correspondence courses.
7. Except by special permission, no student may pursue more than six semester hours of correspondence work at any one time.
8. It is recommended, but not required, that the student plan for one meeting on campus with his instructor.
9. The requests of students for assignments to a particular instructor will be given careful consideration, but there can be no assurance that such requests can be granted. Final decision must be determined by local conditions and rests with the director of the Division of Field Services.

Course Requirements

1. Correspondence study courses must be completed within one calendar year from the date of enrollment. In special cases, a limited extension of time may be granted by the director of field services upon student's request.
2. A three hour course may not be completed in less than eighteen weeks, a two hour course in less than twelve, etc.
3. During periods when a student is on vacation and not otherwise employed, assignments may be completed at the rate of one assignment every five days.

Credits

1. Courses which are completed satisfactorily by correspondence will carry the same amount of credit as those pursued in residence. The mark earned is entered on the permanent record, but no honor points are granted.
2. No more than 15 semester hours of correspondence credit may be applied toward a bachelor's degree.

3. No student may enroll for correspondence courses if he is enrolled full time on campus.
4. No student simultaneously enrolled in correspondence study at Eastern Michigan University and in classes at another institution may receive credit here unless he has written permission in advance by the University to pursue such a program. Failure to observe this rule may lead to forfeiture of credit for work done in violation.
5. A student wishing to enroll in a correspondence course at Eastern but expecting to graduate from another institution must present written permission from the latter institution in order to take such courses.
6. No student having once enrolled at Eastern Michigan University may receive credit here for work done elsewhere unless he has written permission in advance from the registrar of this institution to take such work.

Fees

1. A fee of \$32.00 per credit hour will be charged, payable at the time of enrollment.
2. Correspondence fees will be refunded only if requested within 60 days following enrollment, provided no lessons have been submitted to the instructor. In the event of a refund, a charge of \$5.00 will be made to cover office costs.
3. A pre-paid fee may be transferred to some other course if the transfer is made before the completion of an assignment. The transfer privilege ceases, however, at the end of six months from the date of enrollment. A charge of \$5.00 will be made to cover office costs.
4. Postage for written papers sent in must always be fully prepaid by the student at first class rates. Postage should always be fully paid on all books being returned to Eastern Michigan University Library. Credits will be withheld until postage is paid.

LIST OF COURSES

The following courses are now available through correspondence study. Other courses will be added to the lists from time to time. Inquiry is invited concerning courses that are not listed. Courses starred are temporarily unavailable.

Biology

301 Genetics. **Three sem hours**
The basic principles of inheritance, with their application to plants and animals.
Prereq: 221 Botany or 222 Zoology or equivalent.

***405 Organic Evolution.** **Two sem hours**
The processes involved in the origin and evolution of life, and the implication for biology and our current world view.
Prereq: 221 Botany, 222 Zoology, 301 Genetics (230 Historical Geology desirable).

Economics

200 The American Economy. **Three sem hours**
(Formerly Econ 290)
A one semester survey of the basic principles of economics for those students who seek a basic knowledge of the functioning of the present-day American economy but plan to take no other course in economics.
Not open to students with 201 or 202 Principles of Economics.

201 Principles of Economics I. **Three sem hours**
(Formerly Econ 220)

The first half of an introduction to basic principles of economics. Emphasis is on macroeconomic concepts of national income, fiscal and monetary policy and problems of unemployment, inflation and economic growth.

320 Labor Problems. **Two sem hours**
(Formerly Econ 324)

A study of supply and demand factors in the labor market, collective bargaining, types and policies of labor organizations and employer organizations, recent legislation relating to labor.

Prereq: 201 and 202 Principles of Economics or equivalent.

375 Economic History of the United States. **Three sem hours**
(Formerly Econ 260)

A study of the economic development of the United States.

Education

302 Educational Psychology.
Applies the general psychological principles to learning and to the development of personality.

***303 Principles of Teaching.** **Three sem hours**
Application of the principles of psychology and teaching to the classroom. (Must be taken semester immediately preceding student teaching).

***321 Child Psychology.** **Three sem hours**
The study of mental, physical, social and emotional aspects of child development from conception to adolescence. (Not open to students in early elementary or junior-senior school curriculums).

***340 Evaluation of Pupils.** **Two sem hours**
The study of kinds of administration of scoring of and interpreting results of tests used in elementary and secondary schools.

Prereq: 326 School and Society or 303 Principles of Teaching.

252 (Women) Methods and Materials in Physical Education **Three sem hours**

A study of the methods and the use of materials used in the teaching of indoor activities. Opportunity is given to do practice teaching and to receive constructive criticism. Observations and reports of the work carried on in the laboratory schools are required.

367 (Men) Methods and Materials in Physical Education. **Three sem hours**

A study of the techniques and aids used in teaching physical education activities in the elementary and secondary grades.

English

101 The Reading of Literature. **Three sem hours**
Reading and discussion of narratives and essays from representative literature of the present as well as of the past: short stories, novels, narrative poems and essays from American and other literatures.

***102 The Reading of Literature.** **Three sem hours**

121 English Composition. **Three sem hours**
The fundamental skills of reading and writing, including a

study of grammar, sentence structure, punctuation and organization of simple material; the reading and analysis of prose selections; frequent papers.

122 English Composition. **Three sem hours**
A study of the forms of discourse with emphasis upon the organization of long papers and with a culmination in a library research paper.

Prereq: 121 English Composition

207 Introduction to Children's Literature. **Three sem hours**

A concentrated reading course design to impart the knowledge necessary for an appreciation and understanding of children's literature and its use in the schools. In addition to reading the classics and the critically acclaimed works of both fiction and non-fiction by modern writers, students will study poetry, folklore and mythology, and examine the relationship between illustration and text. Does not count toward major or minor in curriculums for teachers in junior and senior high school.

Prereq: Sophomore standing.

210 Shakespeare. **Three sem hours**

An intensive study of five of the principal tragedies with supplementary study of Shakespeare's handbook.

***215 Journalism.** **Three sem hours**

Study of the elements of journalism with practice in the writing of news stories, feature articles and editorials.

Prereq: Sophomore standing.

222 Expository Writing. **Three sem hours**

Writing and analysis of several forms of exposition.

Prereq: Sophomore standing.

302 English Grammar. **Three sem hours**

Study of the forms and functions of words and word groups in modern English.

305 Shakespeare: The Major Comedies and Histories. **Three sem hours**

Study of at least eight of the principal comedies and histories.

Prereq: Three literature courses.

319 English Literature, 1744-1798. **Three sem hours**

Study of poetry, essays, letters, novels, dramas of Fielding, Johnson, Goldsmith, Gray, Collins, Smollett, Sheridan, Cowper, Burns, Blake, etc.

Prereq: Three literature courses.

331 The Nineteenth Century Novel. **Three sem hours**

A critical reading of the English novel from Scott to Hardy.

Prereq: 101 and 102 Reading of Literature.

401 Modern American and British Poetry. **Three sem hours**

A study of the chief poets of England and America since 1900.

Prereq: Three literature courses.

***403 Modern Drama.** **Two sem hours**

404 English Literature 1793-1832. **Three sem hours**

A study of English romantic writers: Wordsworth, Coleridge, Lamb, DeQuincey, Hazlitt, Byron, Shelley, Keats.

Prereq: Four courses in literature.

***407 Victorian Prose.** **Three sem hours**

Geography

108 Earth Science. **Four sem hours**

The important aspects of the physical environment of man. The earth as a planet, landforms, weather and climate, water, soil, vegetation and mineral resources. *A requirement for both the major and minor in geography and geology.*

110 World Regions. **Three sem hours**

An attempt to develop a tolerant understanding of peoples through an appreciation of the cultural and natural environments in which they live. Background information on selected world regions with emphasis on economic and social geography. The present occupations and activities of the population in each region. *A requirement for both the major and minor in geography.*

***211 Geography of the United States and Canada.** **Three sem hours**

***313 Geography of Michigan.** **Two sem hours**

History and Social Sciences

World History

101 History of Civilization. **Three sem hours**

The classical heritage and the civilization of the Middle Ages and the Renaissance in historical perspective. Cultural development and institutional growth are emphasized.

102 History of Civilization. **Three sem hours**

A continuation of 101 History of Civilization. The study of cultural developments and the growth of institutions in the 17th and 18th centuries; social and economic changes in modern times.

201 The Comparative Study of Religion. **Three sem hours**

An introduction to the systematic study of religious experience and expression, organized around representative motif, phenomena and institutions and illustrated with relevant examples from the various historical religious traditions.

American History

123 Evolution of American Democracy. **Three sem hours**

A study of American democracy through the rise of our political institutions. The influence of the frontier, frontier individualism, sectionalism, the implication of disunion in the Civil War, the growth of industry, the labor movement, social reform programs and present world responsibility and leadership. *Not open to students who have taken either 223 or 224 American History.*

223 American History to 1877. **Three sem hours**

A study of United States history from the period of exploration through the Reconstruction of the South following the Civil War. *Not open to students who have taken 123 Evolution of American Democracy.*

224 American History, 1877 to the Present.**Three sem hours**

A study of United States history from the end of Reconstruction to the present.

Not open to students who have taken 123 Evolution of American Democracy.

313 Michigan History.**Three sem hours**

A survey of major economic, social and political developments in Michigan from prehistoric times to the present. Emphasis is placed on the period prior to the twentieth century.

315 History of Black Americans.**Three sem hours**

A history of Americans of African ancestry from colonial times to the present. Special attention will be given to slavery, the post-Civil War South, northward migration and urban settlement and philosophies of racial progress.

Prereq: One course in American history.

Ancient and Medieval History

323 Greek History.**Three sem hours**

Ancient Greece from the Bronze Age to the Roman conquest.

324 Roman History.**Three sem hours**

Ancient Rome from prehistoric background through the age of Justinian.

European History

331 Modern Europe, 1500-1815.**Three sem hours**

Emphasis rests on the commercial revolution and political development in European nations. The Renaissance and Protestant Reformation are studied in relation to the Puritan Revolution in England, the ideas of the Enlightenment, the French Revolution and the career of Napoleon Bonaparte.

332 Modern Europe, 1815-1919.**Three sem hours**

A study of the development and conflicts of the national states of Europe from the Congress of Vienna to the Treaty of Versailles.

333 Europe since 1919.**Three sem hours**

A history of Europe since Versailles with emphasis upon the Communist, Fascist and Nazi revolutions, their impact on the world; the origins and outbreak of the Second World War and the post 1945 era.

Prereq: Junior standing or permission of the department.

343 History of Russia to 1855.**Three sem hours**

A survey of political, economic and cultural trends in the history of Russia from Rurik to the death of Tsar Nicholas I, with special emphasis on the growth of Tsarist absolutism.

Prereq: Junior standing or permission of the department.

Political Science

113 Michigan Government.**One sem hour**

A brief study of Michigan's government and its contemporary changes.

Sociology

105 Introductory Sociology.**Three sem hours**

A number of basic sociological concepts are used to analyze

selected aspects of American society in intergroup relations, rural and urban communities, social classes and in family, educational, religious, governmental and economic institutions.

202 Social Problems.*Three sem hours****204 Marriage and Family.****Three sem hours**

Information pertinent to the position and significance of the family in our changing society.

Prereq: 105 Introductory Sociology or sophomore standing.

210 Rural Sociology.**Two sem hours**

Social situation in rural America today.

240 Concepts of Sociology.**Three sem hours**

Scientific analysis of human behavior through variety of sociological studies.

Prereq: 105 Introductory Sociology.

Home Economics

113 Textiles for Consumers.*Three sem hours*****301 Economic Problems of Consumers.****Two sem hours**

Mathematics

104 Higher Algebra I.*Three sem hours**

Review of elementary algebra and a continuation into the study of functions, graphs and quadratic equations.

Prereq: One year of high school algebra.

105 Higher Algebra II.*Three sem hours**

Review of elementary algebra and a continuation into the study of functions, graphs and quadratic equations.

Prereq: One year of high school algebra.

107 Plane Trigonometry.*Two sem hours*****166 Finite Mathematics for Business.****Three sem hours*****222 Integral Calculus.****Four sem hours*****400 History of Mathematics.****Three sem hours**

Health

320 Health Education in the Elementary Grades.**Two sem hours**

For students preparing to teach primary and intermediate grades. Health observation of school children, survey of environmental conditions and other methods of determining the health needs of the child are taught. A study is made of the application of educational principles in health instruction. Practice is given in evaluating the newer courses in health education.

430 Community Health Problems.**Two sem hours**

Exploration and study of community health programs and resources as they apply to the school health program.

Prereq: 320 Health Education in the Elementary Grades or 330 Health Work in Schools.

Physical Education

242 (Women) Organization and Administration of Physical Education.**Three sem hours**

The study of principles and objectives in physical education in the light of the needs, interests and characteristics of public school students. Principles of organization and administration of programs in departments, classes, clubs,

intramurals, athletics and leadership are studied. Functional construction of gymnasiums, swimming pools, athletic fields and various facilities are reviewed and discussed.

441 (Men) Organization and Administration of Physical Education. Three sem hours

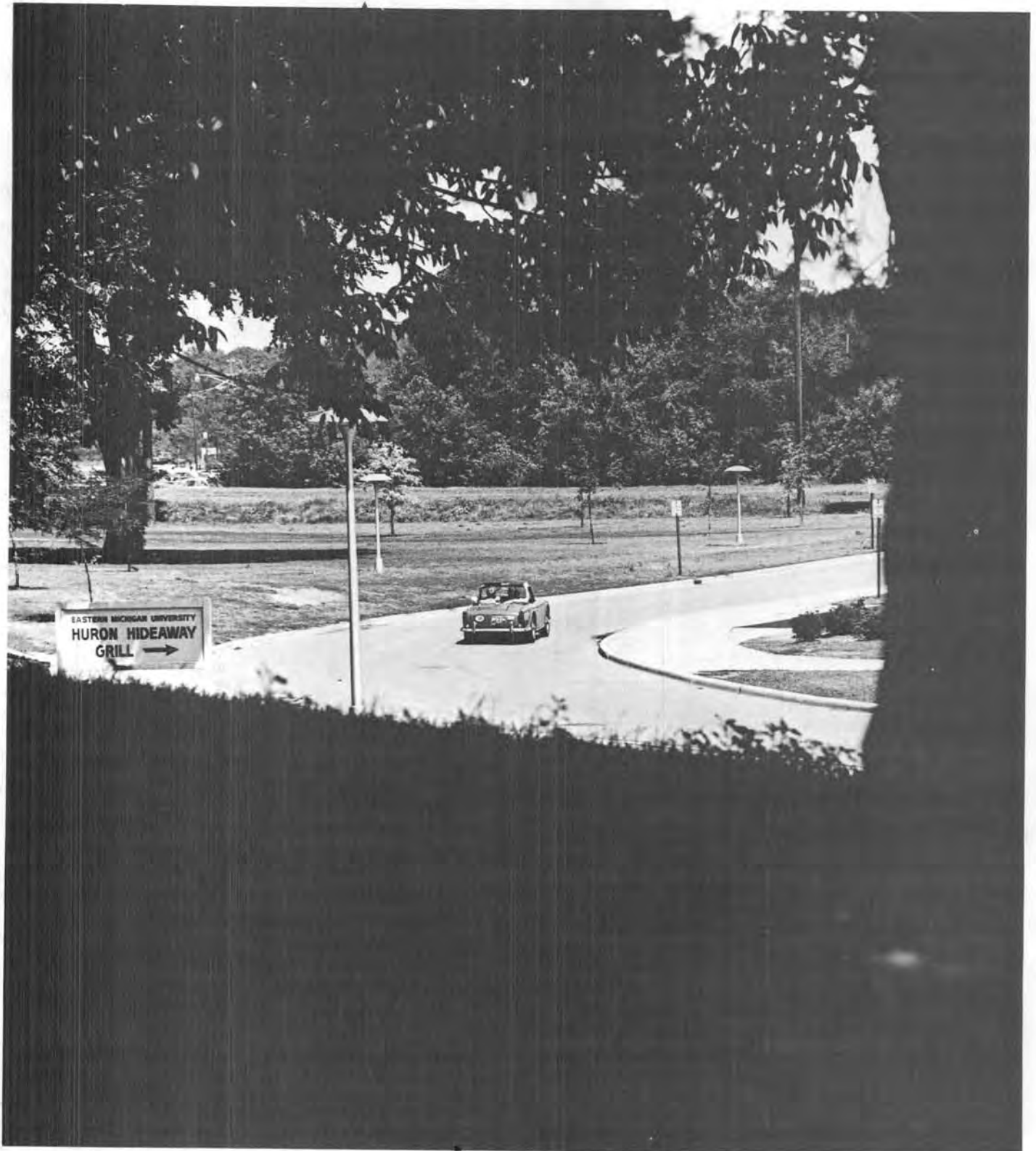
The study of principles and objectives in physical education in the light of the needs, interests and characteristics of public school students. Principles of organization and administration of programs in departments, classes, clubs,

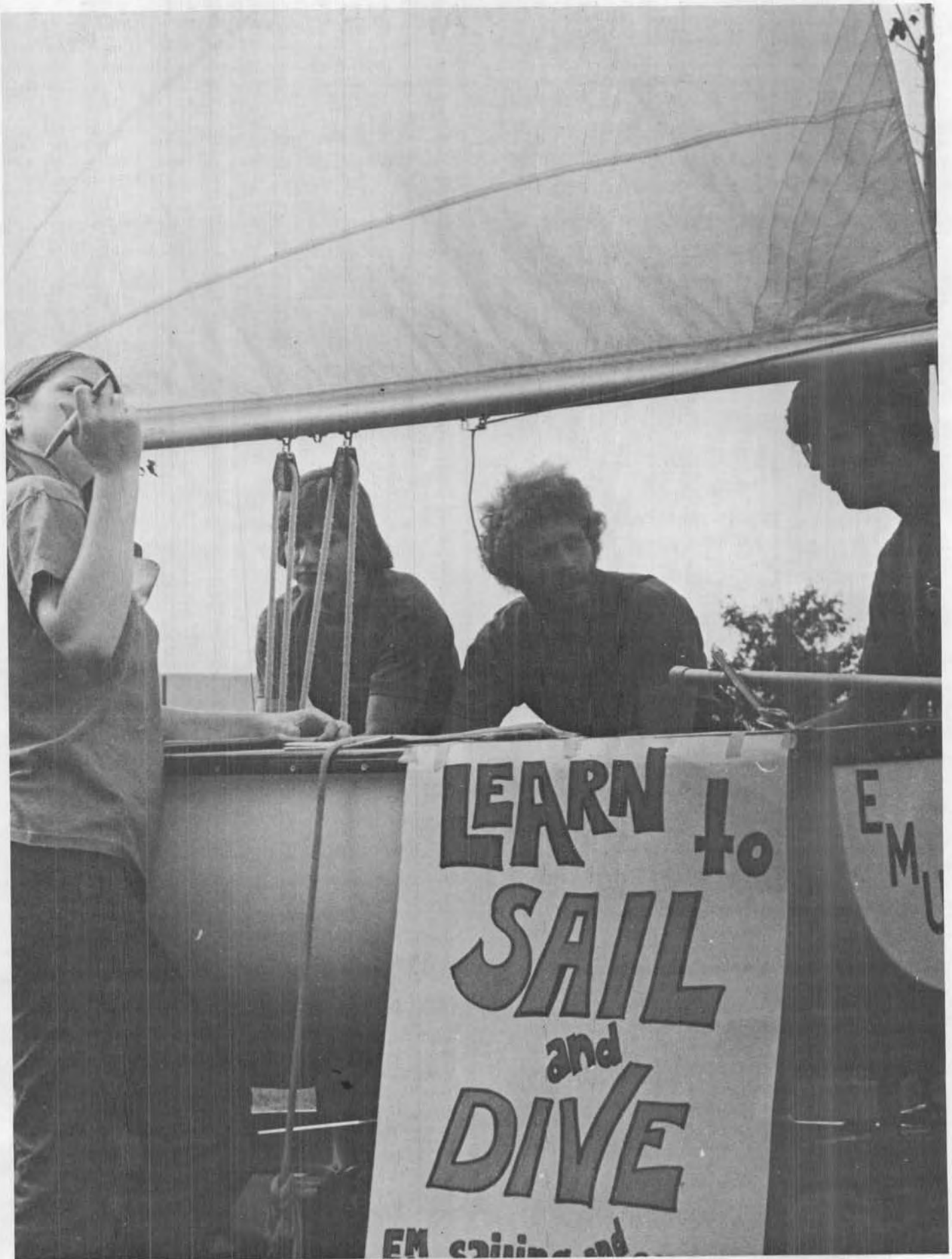
intramurals, athletics and leadership are studied. Functional construction of gymnasiums, swimming pools, athletic fields and various facilities are reviewed and discussed.

Psychology

101 General Psychology. Three sem hours

Scientific methods, principles and theories evolving from the analysis of the behavior of man and other animals.





CO-CURRICULAR PROGRAM

The co-curricular program expands in depth and breadth the educational experiences available in the curriculum. In a sense, it acts as a laboratory. As such, it provides student-directed opportunities for growth in leadership, adherence to group goals, initiative, creativity and self-evaluation. Defined in these terms, the co-curricular program moves with the intellectual life and liveliness of the academic community, as well as with the socio-cultural dynamics in the communities outside of the University.

The University co-curricular program is under the direction of the Office of the Dean of Students with primary coordination in the Office of Student Activities. Among offices providing direction to the co-curricular program are those which comprise the Co-Curricular Committee: dean of students, student activities, housing program, international students, McKenny Union, religious affairs and student publications.

STUDENT GOVERNMENT

The voice of students in University affairs is the Student Senate. Members are elected to the senate within their living units, at large or represent major organizations.

JUDICIAL SYSTEM

The major discipline hearing board at EMU is the University Judicial Board (UJB). A majority of its members are students. The appellate board of the UJB is the Disciplinary Review Board. Its membership includes equal numbers of faculty, students and administrative appointees.

STUDENT ORGANIZATIONS

Advisory and Coordinating

Hospitality Committee
Major Events Committee
McKenny Union Directorate
Model UN
Programming Coordinating Council
Student Advisory Council to the College of Arts and Sciences
Student Activities Board

Associations, Clubs

Accounting Club
Associated Foreign Language Students
Agora (Philosophy)
Associated Resident Advisers
Associated Women Students
Black Students Association
Cadet Wives Club
Campus Service Corps
Cheerleaders

Chemistry Club
College Republicans Club
Eastern Association of Student of English
"E" Club
Eastern Michigan Personnel and Guidance Association
Economics Club
E.M.U. Council for the Model United Nations
E.M.U. Flying Club
E.M.U. Marketing Club
E.M.U. Players
E.M.U. Tae Kwan Do Club
E.M.U. Wives
Film Experience
Geography and Geology Club
Home Economics Chapter
Huronettes
Huron Ski Racing Club
International Student Associations
Isshinryu Karate Club
Kappa Beaver Sigma
Le Cercle Francais
Movement of the Mind
Music Educators National Conference
Occupational Therapy Club
Political Science Association
Sailing Club
Ski Laufen
Society Against Violation of the Environment
Society of Motion Picture and Television Engineers
Student Council for Exceptional Children
Students for a Democratic Society
Student Mobilization Committee to End the War in Vietnam
Veterans Association
WHUR Radio Station - WEMU (FM)
William O. Darby Company of the United States Army
Women's Recreation Association
Young Democrats
Young Socialist Alliance
Youth International Party Community

Fraternal

Honorary and Professional

Professional and Honorary Organizations Mainline is the co-ordinating body for professional and honorary organizations.

Adahi (Senior Women)
Alpha Kappa Psi (Men's Business)
Alpha Psi Omega
Delta Psi Kappa (Women's Physical Education)
Delta Sigma Pi (Men's Business)
Gamma Theta Upsilon (Geography)
Kappa Delta Pi (Education)
Kappa Kappa Psi (Men's Band)
Mu Phi Epsilon (Women's Music)
Phi Delta Kappa (Men's Education)
Phi Gamma Nu (Women's Business)
Phi Mu Alpha Sinfonia (Men's Music)
Pi Omega Pi (Business Education)

Pi Theta Epsilon (Occupational Therapy)
Scabbard and Blade (Military)
Sigma Alpha Eta
Sigma Pi Epsilon (Special Education)
Stoic Society (Honor Students)
Tau Beta Sigma (Women's Band)

Sororities

Panhellenic Council is the governing and coordinating body for social sororities.

Alpha Epsilon Phi
Alpha Kappa Alpha
Alpha Omicron Pi
Alpha Sigma Tau
Alpha Xi Delta
Delta Sigma Theta
Delta Zeta
Sigma Gamma Rho
Sigma Kappa
Sigma Nu Phi
Sigma Sigma Sigma
Zeta Tau Alpha

Fraternities

Interfraternity Council is the governing and coordinating body for social fraternities.

Alpha Epsilon Pi
Alpha Phi Alpha
Alpha Sigma Phi
Arm of Honor
Delta Sigma Phi
Kappa Alpha Psi
Kappa Phi Alpha
Omega Psi Phi
Phi Sigma Epsilon
Phi Sigma Kappa
Sigma Pi
Sigma Tau Gamma
Tau Epsilon Phi
Tau Kappa Epsilon
Theta Chi

Service

Alpha Phi Omega (Men)
Omega Phi Alpha (Women)

Religious

Bahai Club
Baptist Student Union
Campus Crusade for Christ
Campus Lutheran Association
Christian Science Organization
Eastern Christian Fellowship (IVCF)
Eastern Orthodox Student Fellowship
Hillel
Newman Apostolate
Religious Affairs Council
United Christian Students
Wesley Foundation

Residence Hall Councils

Residence Hall Association is the governing body for residence hall councils (RHA).

Residential Hall Educational and Cultural Council (RHECC)
Best Hall
Brown Hall
Buell Hall
Downing Hall
Goddard Hall
Goodison Hall
Hill Hall
Hoyt Hall
Jones Hall
King Hall
Munson Hall
Phelps-Sellers Living Center
Pittman Hall
Walton-Putnam Living Center
Wise Hall

Student Publications

Aurora
Eastern Echo
Eastern Writer



FINANCIAL AIDS AND ENDOWMENT FUNDS

Four forms of financial aid available to Eastern Michigan University undergraduates—scholarships, grants, loans and part-time campus employment—are administered under a coordinated program of financial assistance, the purpose of which is to assist qualified students who have limited funds and resources.

Scholarships and grants range from small awards up to and including amounts covering full tuition and living costs. Scholarships and grants for any school year are awarded in the spring preceding that year. Qualifications may vary but, in general, scholarships and grants are awarded on the basis of academic record, personal qualifications and financial need.

All incoming students are eligible to apply for financial aid. Application forms and further information concerning financial aid may be obtained by writing to the dean of Admissions and Financial Aids, Eastern Michigan University, Ypsilanti, Michigan. Applications should be submitted to the University along with or immediately following the application for admission. Final consideration for financial assistance cannot be given until the applicant has paid his enrollment validation deposit. Although the normal due date for applications is March 1, emergency requests are considered at any time.

The University is a participant in the College Scholarship Service. Students should obtain the Parents' Confidential Statement form from their high school to be completed by parents and mailed to College Scholarship Service, Box 881, Evanston, Illinois, 60204, with instruction to send a copy to Eastern Michigan University.

STUDENT AID BOARD OF DIRECTORS*

	Term Expires
Haydn Morgan, President	Oct. 4, 1975
Atwood R. McAndrew, Jr., Vice President ..	Oct. 4, 1975
Bernard M. Treado, Secretary-Treasurer ...	Oct. 4, 1973
Leslie Butler	Oct. 4, 1975
Augusta Harris	Oct. 4, 1976
Leonard Menzi	Oct. 4, 1972
John W. Sattler	Oct. 4, 1974

The Student Aid Board of Directors serves as a committee of the Board of Regents to make recommendations concerning loan and scholarship funds and to receive gifts and contributions to be deposited with the Board of Regents in accordance with the wishes of the donors.

Members of the Board of Directors are appointed for a five year term by the president of Eastern Michigan University.

The Board of Regents welcomes at all times additions to existing funds as well as the establishment of new loan and scholarship funds.

SCHOLARSHIP FUNDS

Scholarship funds are available as indicated below. Only those scholarships specifically indicated are open to all students, other scholarships are awarded to members of particular societies or departmental majors as indicated. The status of the loan and scholarship funds are given as of the end of the fiscal year, June 30, 1970.

**Honored, June 4, 1965, by the Board of Regents for having "continually sought and diligently invested funds received by the University."*

Scholarship	Principal	Amount and Frequency	Awarded By
American Association of University Women	\$ 1,166.32	Annual *	American Association of University Women, Ypsilanti Branch
Fannie Beal	2,699.00	Annual \$90.	
Estelle Downing	2,699.00	Annual \$90.	
Susan B. Hill	2,746.92	Annual \$90.	
Lydia I. Jones	3,124.00	Annual \$90.	
Janice Lockwood	3,210.00	Annual \$90.	
Mary Winters	2,699.00	Annual \$90.	
Bess L. Hyde	556.94	Annual *	Brown Hall Residents
Ande P. Pearson	10,000.00		Department of Art
Bert W. Peet	2,864.00	Annual *	Department of Chemistry

*As income allows

Margaret M. Robinson	2,223.25	Annual *	Department of Education Library Science Faculty
R. Clyde Ford	1,000.00	Annual *	Department of Foreign Languages
Mark Jefferson	1,113.00	Annual *	Department of Geography
Fred Ericson	3,011.00	Annual *	Department of History
Susan M. Burson	1,152.00		Department of Home Economics
Grace Fuller	1,000.00	Annual	
Frances G. Sanderson	3,124.31	Annual	
Industrial Arts		Emergency	Department of Industrial Education
George A. Willoughby	1,176.50	Annual	
Hilton G. Falahee	1,588.79	Annual *	Department of Mathematics
Mabel Jarvis Leib	40,207.26	Annual *	
Dorothy James	1,000.00	Annual *	Department of Music
Carl Lindegren	1,311.00	Annual *	
Carl Lindegren Rotary	1,556.35	Annual *	
Joseph Remington	1,418.09	Annual *	
Mary A. Goddard	1,987.34		Department of Natural Science
Ruth Boughner	1,657.70	Annual *	Department of Physical Education
Wilbur P. Bowen	1,500.00	Annual *	
Fannie C. Burton	1,545.00	Annual *	
Paul B. Samson	2,391.04	Annual *	
Chloe M. Todd	1,951.98	Annual *	
L. W. Olds	4,360.15	Annual *	Men's Division
Elton J. Rynearson	1,000.00	Annual *	
Gussie Harris	4,075.25	Annual *	Women's Division
Floyd Leib	36,990.26	Annual *	Department of Physics and Astronomy
Harry L. Smith	2,670.00	Annual	Department of Speech and Dramatic Arts
Dramatics Arts and Speech	2,433.33	Annual *\$100	Department of Special Education
Ann Thomson Hubbell	1,310.00	Annual *	Downing Hall Residents
Charles Elliott	1,008.00	Annual *	Eastern Michigan Wives Organization
Verna M. Carson	5,850.00	Annual *	
Eastern Michigan University Wives	3,629.00	Annual	
Student Religious Organization	2,692.73	Annual *	Faculty Board for Religious Affairs
Alpha Sigma Tau	1,000.00	Annual *	University Scholarship Committee
Carl D. Basler	1,000.00	Annual *	
James M. Brown	2,609.00	Annual *	
Mary E. Campbell	1,000.00	Annual *	
Eastern Michigan University	3,214.01	Annual *	
Eugene B. Elliott	1,015.00	Annual *	
Carl M. Erikson	1,000.00	Annual *	
Eudora Estabrook	1,200.00	Annual *	
Bernice L. Farley	1,020.00	Annual *	
Ralph Gerganoff	5,000.00	Annual *	
Millie Gorman	1,000.00	Annual *	
Clara Hosie	6,883.83	Annual *	
Adella R. Jackson	1,074.22	Annual *	
John F. Kennedy	1,444.54	Annual *	
Arthur F. Lederle	25,000.00	Annual *	
George Marshall Track Fund	5,000.77	Annual	
Elizabeth McCrickett	1,000.00	Annual *	

*As income allows

Marjory Cleary McKenny and Arthur McKenny	11,963.39	Annual *	
Albert A. Riddering	2,965.00	Annual *	
Mary Rohn	1,250.00	Annual *	
Ruth Mary Selleck	1,612.47	Annual	
H.A. Tape	3,414.83	Annual *	
Mr. and Mrs. Horace Z. Wilber	2,923.50	Annual *	
Margaret E. Wise I	1,000.00	Annual *	
Margaret E. Wise II	2,038.00	Annual *	
Florentine O. Isbell	2,230.04	Annual	
Jones Hall	1,291.50	Annual \$75.	Institute of International Education Jone Hall Residents
Roger Arnett	1,015.00	Annual *	Kappa Delta Pi
Martha Best	1,030.00	Annual *	
Lyman Lindquist	36,756.51	Annual *	
Martha Rosentreter	1,000.00	Annual *	
King Hall	2,354.15	Annual \$70	King Hall Residents
Sarah A. George	2,714.31	Annual \$150.	Ladies Literary Club of Ypsilanti
Marvin S. Pittman	4,479.76	Annual \$100.	Lincoln Alumni Association
Elizabeth R. Stewart		Annual (2) \$250.	Michigan Congress of Parents and Teachers for Juniors and Seniors in Teacher Education
Frederick B. McKay	2,033.01	Annual *	Pi Kappa Delta
Pontiac Senior High School	6,000.00	Annual \$300.	Pontiac Senior High School
Residence Hall Educational and Cultural Council	1,000.00	Annual	Residence Hall Educational and Cultural Council, Sub- Committee
Vinora Beal	1,000.00	Annual *	Roosevelt High School Faculty and University Scholarship Committee
Susanne Stinson	1,620.56	Annual \$50.	Sigma Sigma Sigma
American Legion Honor Award	6,725.26	Annual *	Special Committee
Edwin D. Cushman	1,000.00	Annual	
Helen E. Dunning	4,954.05	Annual	
Jane Dunning	2,000.00	Annual	
Kappa Phi Alpha	9,373.94	Annual	
Katherine Maher	1,500.00	Annual *	
Malcolm X and Martin L. King	1,441.16	Annual *	
John M. Munson	1,933.92	Annual *	
Sigma Nu Phi	1,763.41	Annual *	
Benjamin L. D'Ooge	1,800.00	Dependent	Stoic Society
Nathan A. Harvey	1,800.00	upon	
Milton J. Hover	1,800.00	earnings	
L. H. Jones	4,800.00		
Julia Ann King	1,800.00		
J. Stuart Lathers	1,810.00		
Lucy Osband	1,800.00		
Carl E. Pray	1,800.00		
Mary and Daniel Putnam	2,400.00		
Margaret Robinson	1,161.85		

*As income allows

Elizabeth Simpson	1,800.00	Dependent upon earnings	Stoic Society (Cont'd)
E. A. Strong	1,800.00		
Rotary Memorial	2,755.13	Annual *	Ypsilanti Rotary Club
Best Hall	483.15	Not yet available	
David Brady	379.74		
Olive L. Davis	712.80		
Goddard Hall	888.20		
Robert L. Hannon	864.91		
Carl Hood	412.76		
Lydia I. Jones II	491.67		
Joseph P. Kelly	408.27		
Jean MacKenzie Steele	500.00		
Quinn Tyler	634.71		
Total	384,646.84		

*As income allows

LOAN FUNDS

	Principal		
Frederick Alexander	1,576.85	Charles O. Hoyt	2,854.72
Anonymous	1,618.71	Kappa Psi Alumni—Mary E. Hatton	3,823.25
Associated Women Students	4,941.69	Kellogg Foundation	3,633.99
Estelle Bauch	326.03	Samuel B. Laird	3,834.50
Joseph M. Bertotti	3,104.82	John Jacob Lamb	826.51
Martha Best	2,333.31	Paul Mancell	494.50
Carrie B. Bockheim	3,104.78	Joyce Roser McKibbon	821.12
Mildred A. Bolt	396.77	Allen L. Miserez	440.36
James M. Brown	559.19	Oscar David Morrill	9,169.92
Elizabeth Carey	1,093.19	Marshall O'Berg	1,436.40
Chadsey Senior High School	662.41	Frederick Newton	968.41
Glenn O. and Mary P. Chappell	531.48	John D. Pierce	2,997.89
Marinetta Goodell Coryell	3,874.95	Bessie Leach Priddy	1,008.67
Creole Petroleum Corporation	2,238.38	Estabrook Rankin	2,051.70
Ethan B. Cudney	4,128.40	Dimon H. Roberts	1,038.26
Daughters of American Revolution	2,257.01	Grace E. Roberts	7,667.02
Rachel J. Davidson	2,694.37	Abigail Roe	3,342.83
Effie Belle Dean	7,148.64	Roosevelt High School	281.02
Detroit Panhellenic	585.36	Senior Classes	5,030.85
Anna Dobbins	337.75	Sigma Nu Phi	1,027.52
English Club of Eastern Michigan University	169.54	Geraldine C. Snow	169.50
Forum Club of Ypsilanti	416.83	Florence Crane Sterner	2,549.38
General Students of Eastern Mich. Univ.	1,078.07	Mary Ilo Swift	581.05
May Olivia George	156.61	Genevieve M. Walton	2,058.08
Orlo M. Gill	589.29	Bessie Whitaker	306.83
Mary A. Goddard	1,305.25	Ella M. Wilson	2,249.75
Bertha Goodison	261.68	Joseph Conrad Worzniak	2,516.21
		Ypsilanti Womens Study Club	3,780.75
			114,452.35

Small Loan Fund

The Small Loan Fund provides small, short-term, interest free loans to meet the requirements of an emergency.

Student Aid Loans

Student Aid Loans may be obtained for emergency purposes only. Loans from this fund are short term and the period of repayment may not exceed 12 months. A maximum of \$250 may be borrowed at an interest rate of 3 percent. Student Aid Loans are available to part-time or full-time

students who (1) are currently enrolled at the University, (2) have earned previous academic credit at Eastern and (3) who qualify academically (minimum 2.0 "C" undergraduate, 5.0 "B" graduate). Additional information is available in the Office of Admissions and Financial Aids.

General and Special Scholarships

Scholarships offered by associations, clubs, agencies and corporations are available to Eastern Michigan University students. Some are offered to entering freshmen, some to students already in the University. Qualifications and eligibil-

ity for these scholarships vary considerably. Among such scholarships currently offered are Detroit Edison and General Motors scholarships. Further information about these and other scholarships is available from the Office of the Dean of Admissions and Financial Aids.

Board of Regents Scholarships

The Board of Regents has established a number of educational scholarships open to qualified students. These grants, in the amount of 60% of full tuition each semester, are awarded to individuals producing evidence of financial need and superior scholarship. Scholarships are available to students enrolled in the teaching and non-teaching curriculums. Students should apply directly to the Office of the Dean of Admissions and Financial Aids.

Educational Opportunity Grants

The purpose of this program is to assist students of exceptional financial need who for lack of financial means of their own or of their families would be unable to enter or remain in college without an Educational Opportunity Grant. All full-time undergraduate students admitted to the University are eligible for consideration, with approval and amount of each award determined by the student's need for funds. Educational Opportunity Grants must be matched in dollar amount by some other type (or combination) of aid (e.g., scholarship, loan, employment income).

National Defense Loans

The National Defense Student Loan program makes available low interest, long term repayment funds up to \$1,000 each academic year (\$2,500 for graduate students) to full-time students at Eastern Michigan University. The amount of the loan award will vary with the student's financial need. Students should apply directly to the Office of the Dean of Admissions and Financial Aids.

The College Work-Study Program Under the Higher Education Act of 1965

The College Work-Study Program provides full-time students with funds through employment. The student may be employed on-campus or at one of the participating off-campus agencies. Students may work a maximum of fifteen (15) hours per week during the fall and spring semester when the University is in session and a maximum of forty (40) hours per week when the University is not in session. The hourly rate of pay is determined by the skills required for the job. Approval for employment under College Work-Study Program is based on student need.

State of Michigan Competitive Scholarships

The State of Michigan has established a State Competitive Scholarship Program. State scholarship awards shall not exceed the amount of tuition and fees for the full college year to a maximum of \$800.00. Only graduating Michigan high school seniors with no previous college experience are eligible for state scholarships. Interested students should obtain further information from his high school. Annual renewals may be applied for providing the student maintains a satisfactory

academic record in an accredited college or university in the state of Michigan.

Act 245, Public Acts of 1935

Act 245, Public Acts of 1935, was created to provide educational opportunities for children of certain soldiers, sailors, marines and nurses. Students applying for benefits, remission of tuition and registration fee under Act 245 must file an application with the Michigan Veterans Trust Fund, Board of Trustees. Those students who qualify under the terms of the legislation are eligible to submit a University application form. Students receive applications from and submit applications to the Office of the Dean of Admissions and Financial Aids.

Law Enforcement Loans and Grants

This federal program makes available loans and grants to students enrolled in undergraduate or graduate programs leading to degrees in areas directly related to or suitable for law enforcement careers. All applicants must intend to pursue, continue or resume full-time employment in a law enforcement agency unit of local government, the state or the federal government upon completion of his studies. The amount of the loan or grant will vary with the student's financial need.

Further information and applications are available in the Office of Admissions and Financial Aids.

Michigan Veterans Trust Fund

The Michigan Veterans Trust Fund is available to Michigan veterans as defined in Act No. 9 of the Public Acts of 1946 as amended, or his legal dependent or the child of a deceased veteran. The applicant must be enrolled as a fulltime student and have need for a loan. The loan may not exceed \$600 and is repayable, without interest, within six months. Additional information is available in the Office of Admissions and Financial Aids.

Michigan Higher Education Assistance Authority Loans

Eastern Michigan University is cooperating with the Michigan Higher Education Assistance Authority and Michigan banks to make loans available to Eastern Michigan University students. Applications may be obtained from a participating bank, savings and loan association or credit union or by writing to the Executive Director, Michigan Higher Education Assistance Authority, Lansing, Michigan, 48902.

Veterans

All veterans eligible for education benefits under the New G.I. Bill must furnish the Veteran's Affairs Office at the University with their Certificate of Eligibility (if available) at or prior to the start of classes.

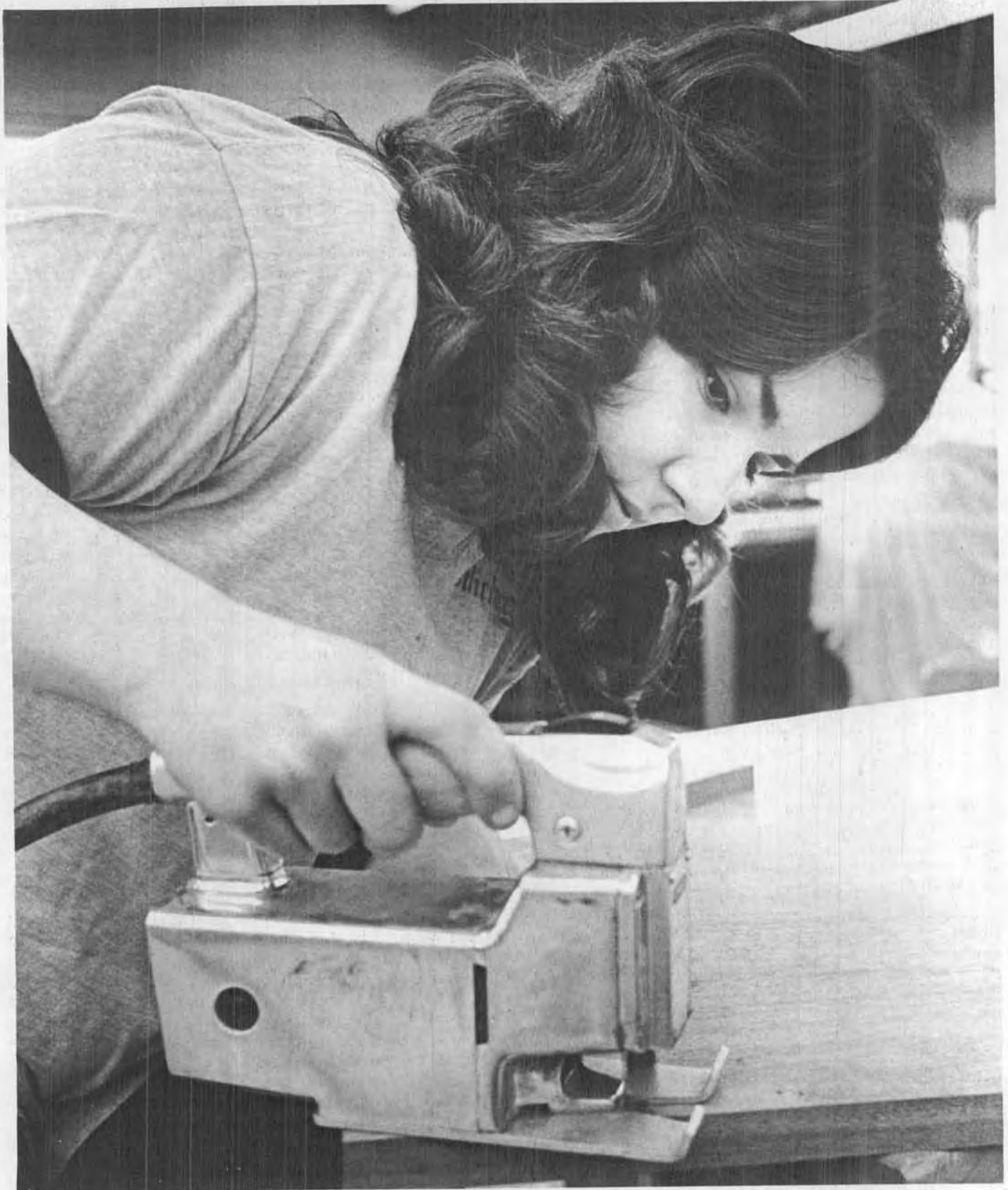
They must complete the necessary registration with the University and pay the full tuition and fees.

Army ROTC Scholarship Programs

Two programs are designed to offer financial assistance to outstanding young men who are interested in completing the ROTC program and pursuing the Army as a career. Scholar-

ships may be awarded for one, two, three or four-year periods to any male citizen of the United States who meets the criteria. The four-year program is open on a selective basis to high school seniors who apply and intend to pursue ROTC at a college or university. The one to three-year scholarships are reserved for those students who are enrolled in the ROTC program on campus. Nominations for

two-year scholarships are made by a faculty board. All scholarships provide full tuition, textbooks and laboratory fees in addition to pay of \$100.00 per month for the period the scholarships are in effect. The scholarships are provided under the provisions of Public Law 88-647. For further information contact the Military Science Department.



PHYSICAL PLANT

THE UNIVERSITY CAMPUS

Eastern Michigan University is located on the northwestern side of Ypsilanti on high ground overlooking the city of Ypsilanti and the Huron River Valley. The central campus consists of approximately 217 acres and an additional 203 acres have been purchased to provide room for an expanding plant to meet the needs of a rapidly growing University. Rolling wooded grounds on campus provide many scenes of natural beauty.

THE UNIVERSITY BUILDINGS AND PLANT

Richard G. Boone Building

Built in 1914 as an administration building, the Boone Building now houses the College of Education Offices and classrooms.

John D. Pierce Hall

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

Frederic H. Pease Auditorium

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

Frederick Alexander Music Hall

Immediately adjacent to Pease Auditorium, this building, completed in 1960, houses the Department of Music offices, practice studios and large rehearsal halls.

Adonijah S. Welch Hall

The first section of this building was erected in 1896 and was substantially enlarged in 1909. It is named for Adonijah S. Welch, first head of the University, and was originally used as the University laboratory school. It now houses home economics, University business offices and the ROTC unit.

Included in the Department of Home Economics are kitchens and practice rooms. In the ROTC area is a small caliber rifle range and in the University Business Office area are the Departments of Personnel, Accounting, Payroll, Purchasing and Management Services.

William H. Sherzer Hall

This building, erected in 1903, houses the Field Services Department and classrooms for industrial education and art.

J. M. Hover Laboratory

The building, completed in 1941, houses laboratories of the Department of Biology. Attached to it is a greenhouse and plant laboratory.

Edwin A. Strong Physical Science Building

This building opened in the fall of 1957, houses the Departments of Physics and Geography. Now in operation are the laboratory and lecture hall units. Classroom and museum-planetarium wings are to be added. The building is named after Edwin A. Strong, head of the Physical Science Department between 1885-1916.

Daniel L. Quirk, Jr. Dramatic Arts Building

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

A classroom and office wing was added in the spring of 1966 along with studios and facilities for the University F.M. station.

Walter O. Briggs Building

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

University Library

The University Library, which opened at the beginning of the spring semester, 1967, provides more than five times the floor space and double the book capacity of the old Mark Jefferson Library. The seating capacity is 1,800, and there are more than 480,000 items available for use, including books, bound periodicals, documents and microforms. Most materials are readily available for home or library use when not on reserve. The Audio-Visual Center complements the library collection with non-book materials and a listening center.

Joseph E. Warner Physical Education Building

This facility, completed in 1964 and immediately adjacent to Bowen Field House, provides an athletic and physical education plant which contains the most modern and adequate facilities available. Housed in this building are gymnasiums, classrooms, offices, special-purpose rooms and a swimming pool.

Wilbur P. Bowen Field House

The field house was completed in December, 1955, and was named for the founder and long-time head of the Department of Physical Education. It is one of the largest and most modern in the state. The complete field house floor has been hard surfaced and the eight-lap to mile track has been surfaced with Grasstex, providing one of the finest indoor tracks found anywhere. This facility also has a basketball court, three tennis courts, eight badminton and three volleyball courts in the infield. The present seating capacity for basketball is 4,350.

Glenadine C. Snow Health Center

The Health Center, completed in 1959, houses the clinical services of the University health service as well as an infirmary for in-patient treatment. The Student Counseling Center is also located there.

Charles McKenny Hall

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

This facility was completely remodeled in 1964-65 and a large addition added, doubling its original size. It now houses cafeteria and dining services, snack bar, University bookstore, bowling alley, billiard room, offices for student organizations, lounges, meeting rooms and a large ballroom.

Mary Ann Starkweather Hall

This building, the gift of Mrs. Mary Starkweather, was erected in 1897 as the home of student religious activities at the University. Its operations are financed and directed jointly by the University and by the local community. It was remodeled and modernized in 1961.

J. M. B. Sill Building

J. M. B. Sill Building houses classrooms and offices for the Departments of Fine Arts and Industrial Education, as well as University Printing, The University Bookstore Annex, art galleries and large lecture halls used for classes in English, history, biology and earth sciences.

R. Clyde Ford Hall

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

Pray-Harrold Classroom Building

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

Mark Jefferson Hall

This building completed in the fall of 1970, to house the Departments of Chemistry, Biology and Psychology. This new building has completely equipped modern laboratories for each of the above departments and greatly enhances these departments in preparing the students in this field of study.

King Hall

Renovated in 1971 to house the Music Department, head of the department, music practice rooms and faculty; also, additional offices for the Special Education Department.

Goodison Hall

Renovated in 1971 to house the Counseling Center, Dean of Students, Student Government and Student Publications.

STUDENT HOUSING

The University residence halls and student apartments are operated on a self-liquidating plan, i.e. construction is financed from revenue bonds and these plus the operational costs are paid from the rental revenue.

Jones-Goddard and Brown-Munson Residence Halls were constructed around a central court with a common kitchen and separate dining rooms for each hall. These residence halls contain 983 student areas.

Downing-Buell-Wise-Best is a four-unit complex with a central dining commons providing separate dining rooms for each residence hall. These halls contain 1246 student areas.

Phelps-Sellers-Walton-Putnam is a four-unit complex with an attached central dining commons providing a single large dining room for all residence halls. These halls contain 1200 student areas.

The newest residence halls, **Hoyt-Pittman-Hill**, were completed in the fall of 1969. These halls consist of three eleven-story high residence halls and a one-story dining hall. All buildings are separate and not attached, centered around a landscaped court. These residence halls contain 1404 student areas.

STUDENT APARTMENTS

The Pine Grove Terrace located on the northwest corner of the main campus contains 169 apartments. These units were built in 1955 and 1957 and are two-story, masonry units with exterior balconies. Each building contains laundry facilities. There are 140 one-bedroom units and 29 two-bedroom units.

The Cornell Courts Apartments, located on the west side of the north campus, were built in 1960 and 1966 and include six buildings containing 90 apartments and three buildings containing 45 apartments. The units are two-story masonry units with exterior balconies and each building contains laundry facilities. There are 69 one-bedroom units and 66 two-bedroom units.

The Westview Apartments, located on the west campus about one mile west of the main campus, are different from the other housing projects. These apartments are of the townhouse style giving the occupant a front and back yard with the bedrooms generally located on the second story above the living area. There are seven buildings containing 45 apartments completed in 1968 and 15 additional units containing 100 apartments were ready for the fall of 1969. There is a total of 73 one-bedroom units and 72 two-bedroom units.

OTHER FACILITIES**PLACEMENT CENTER**

Formerly the D'Ooge residence, this facility, located on the corner of Forest and Lowell, provides offices, records and interview rooms for placing graduating seniors and former graduates seeking new employment.

RICHARDS HOUSE

Formerly the Home Management House, named for Ellen H. Richards, the founder of organized home economics, this facility provides offices and practice rooms for the Department of Music.

PARKING STRUCTURE

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

LOWELL STREET BUILDINGS

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

FIELDS AND OUTDOOR FACILITIES

WEST CAMPUS

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

BRIGGS FIELD

This new facility is a baseball field with a grandstand seating 2000 people under covered stands. The facility, first used in the spring of 1968, is the finest baseball facility in inter-collegiate competition.

RYNEARSON STADIUM

This new facility was ready for the 1969 fall football season and contains 12,500 permanent seats on the west side of the field allowing for temporary bleachers which expand the seating on the east side of the field to 17,000. Also included are complete press box and locker room facilities.

FISH LAKE PROPERTY

This property was purchased in 1965 as a Biological Research Field Laboratory and will be developed into a Conference and Field Laboratory Complex as funds permit. It is located in Lapeer County, has a natural lake for aquatic biology and is surrounded on three sides by Michigan Conservation property and is 241 acres in area. Presently, classes are held on the site in a converted school house. Facilities to house and feed 24 on site students are available.

MAIN CAMPUS

Remaining on the main campus are 16 tennis courts, six large play fields suitable for field hockey, football, practice baseball diamonds and women's sports. They are used by the physical education classes, by the intramural program and for general recreational purposes. The main campus consists of 217 acres.

CLARENCE M. LOESSELL FIELD LABORATORY

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

LABORATORY SCHOOL

HORACE H. RACKHAM SCHOOL OF SPECIAL EDUCATION

This building houses both a laboratory school for handicapped children and the Department of Special Education. It contains a new speech and hearing clinic, a pool and other facilities for physical therapy. It was constructed in 1938.

CLOSED-CIRCUIT TELEVISION

Many University buildings are linked by coaxial cable in a closed-circuit television system, which has been in operation since 1960. Closed circuit TV is used for direct instruction, observation and demonstration. Equipped television studios are located in the Ford Building. Equipment includes six vidicon cameras, audio and projection devices.



UNIVERSITY PRESS

The Eastern Michigan University Press, founded in 1967, has as its purpose the publication of scholarly books. The press is currently administered by an acting director, Curtis K. Stadtfeld, Office of Information Services. An editorial advisory board, comprised of deans and department heads ranked among the leading scholars on the University campus, has been

established as a governing board responsible, with the director, for establishing directions for the press and for maintaining quality of publications. The press' first title was published in 1968. The press will consider publication of works by members of the Eastern Michigan University faculty and by scholars from other institutions.

INFORMATION SERVICES

The Office of Information Services is responsible for the University news bureau, the publications office and sports information.

The news bureau is the focal point for all contact with news media. Events and activities of the University are publicized through this office and inquiries from newsmen are generally directed to the news bureau. The news editor also is responsible for Faculty-Staff News.

All formal publications are produced by the publications office and production of all printed materials of the University are coordinated by the publications editor.

The sports information director is responsible for all news and printed material relating to athletic activities.

This office offers professional assistance and counsel to individuals, organizations, faculty and administrators planning to conduct and promote activities of benefit to the University.

THE ALUMNI ASSOCIATION

Eastern Michigan University was founded in 1849. Since then, thousands of students have graduated from its various academic programs. These students are now engaged not only in the teaching profession but also in many fields of endeavor.

The Alumni Association, incorporated in 1926, serves as a bond between the University and its former students. Membership is available to graduates, former students and members of the faculty.

The Association has been active. This has been evidenced by its accomplishments and contributions to the University. The Memorial Chimes and Pierce Hall clocks given in former years and in more recent years, gifts to the University Library, gifts to various established funds and scholarships, additional scholarships and aid to student organizations, have exemplified the willingness of alumni to invest in the University.

Meetings held throughout the year provide an opportunity for alumni in various cities and states to meet with representatives of the University and discuss mutual concerns. Each year, many alumni and friends return to the campus for Homecoming and the traditional Alumni Day held each spring.

The Board of Directors consists of twenty-three members who are appointed and chosen by a vote of the alumni at the annual meeting in May, two of whom are students selected and appointed by a student committee. The University president is an ex-officio member.

Charles McKenny Union, completed in 1931, was built through the efforts of alumni and the University and stands as a visible symbol to all that the Association is proud to serve Eastern.

EASTERN MICHIGAN UNIVERSITY ALUMNI ASSOCIATION

OFFICERS

President.....Frederic W. Bennetts ('42)
Vice President.....Charles A. Wilkins ('68)
Secretary.....Lonny J. Head ('67)
Treasurer.....Abe Karam ('62)
Director Emeritus.....Leslie A. Butler ('00)

DIRECTORS

Sponberg, Harold E.....Ex-Officio
Beatty, C. Eugene ('34).....Term expires June, 1973
Bennetts, Frederic W. ('42).....Term expires June, 1972
Cole, Edyth Bryant ('45).....Term expires June, 1973
Currie, Donald M. ('47).....Term expires June, 1974
Duvall, Elven E. ('47).....Term expires June, 1973
Ebersole, Clare E. ('50).....Term expires June, 1973
Gaiss, Alfred ('65).....Term expires June, 1974*
Hamilton, Vanzetti ('49).....Term expires June, 1974
Jones, Judith Bates ('57).....Term expires June, 1974
Karam, Abe ('62).....Term expires June, 1974*
LeAnderson, Robert E. ('30).....Term expires June, 1972
Madar, Olga M. ('38).....Term expires June, 1972*
Maschke, Arthur ('42).....Term expires June, 1972
Moffett, Valerie Turner ('49).....Term expires June, 1973
Olds, Lloyd W. ('16).....Term expires June, 1972
Rynewson, E. James ('52).....Term expires June, 1974
Shoemaker, Paul ('32).....Term expires June, 1974
Sims, Robert ('52).....Term expires June, 1973*
Smiley, Robert K. ('48).....Term expires June, 1972
Studt, Earl K. ('32).....Term expires June, 1972
Wilkins, Charles A. ('68).....Term expires June, 1973*

*Appointed members

SPARD

The Special Projects and Research Development Office was organized for the purpose of stimulating, initiating and developing special projects and research. The SPARD office works cooperatively with faculty, administration and students who are interested in obtaining funds for independent research, demonstration programs, experimental projects and

other efforts directed at expanding the scope and quality of the University.

SPARD maintains an information resource center on funding agencies, serves as a liaison office for the funding agencies and assists in editing, reviewing and preparing proposals that are to be submitted to funding agencies.

FACULTY AND STAFF

A

Abbott, Richard H. (1966), *Associate Professor, History and Social Sciences.*

B.A., Grinnell College
M.A., University of Missouri
Ph.D., University of Wisconsin

Abramson, Armand R. (1967), *Associate Professor, Music.*

B.M., University of Louisville
M.M., Eastman School of Music

Adams, Georgia (1967), *Nurse, Health Service.*

R.N., Englewood Hospital, Chicago

Adams, J. Richard (1960), *Associate Professor, Health, Physical Education and Recreation.*

B.S., Eastern Illinois University
M.S., University of Illinois
Ph.D., University of Michigan

Adams, Leah (1969), *Assistant Professor, Curriculum and Instruction.*

B.S., Ohio State University
M.A., Wayne State University
Ph.D., Wayne State University

Albritton, Thelma P. (1961), *Assistant Professor, Special Education and Occupational Therapy.*

B.A., Greensboro College
M.Ed., University of Oregon

Allen, Irene A. (1968), *Assistant Professor, Curriculum and Instruction.*

B.S., Johnson Teachers College
M.A., Ball State University
Ed.D., Ball State University

Allen, Thomas P. (1966), *Assistant Professor, English Language and Literature.*

B.A., St. Vincent College
M.A., University of Detroit
Ph.D., Rice University

Allison, M. James (1968), *Art Director, Information Services.*

B.F.A., Pennsylvania Academy of Fine Arts
M.F.A., University of Michigan

Anderson, Charles T. (1955), *Professor, Chemistry.*

B.A., Fairmont State College
Ph.D., Ohio State University

Anderson, Frederick M. (1970), *Professor, History and Social Sciences.*

B.A., Wesleyan University
M.A., Cornell University
Ph.D., Harvard University

Anderson, I. Normajean. (1948), *Associate Professor, Business Education.*

B.S., Eastern Michigan University
B.C.S., Cleary College
M.A., University of Michigan

Anderson, Marvin C. (1963), *Associate Professor, Art.*

B.F.A., Wayne State University
M.F.A., Cranbrook Academy of Art

Anderson, Robert F. (1969), *Associate Professor, Foreign Languages and Literature.*

B.A., Western Reserve University
M.A., University of Michigan
Ph.D., Case-Western Reserve University

Anderson, Robert L. (1957), *Professor, Psychology.*

B.A., Northern Michigan University
M.A., Columbia University
Ph.D., New York University

Andrew, Ann (1969), *Instructor, Library.*

B.A., University of Michigan
M.A.L.S., University of Michigan

Andrews, Robert A. (1958), *Special Operations Analyst.*

B.A., Michigan State University

Angelocci, Angelo A. (1965), *Professor, Special Education and Occupational Therapy.*

B.S., Eastern Michigan University
M.A., University of Michigan
Ph.D., Wayne State University

Angle, James B. (1964), *Assistant Professor, English Language and Literature.*

B.A., University of Michigan
M.A., Kansas State University

Antiochia, Sergio (1968), *Assistant Professor, General Business.*

Dr. Ing., University of Rome (Italy)
M.B.A., Wayne State University

Ashton, Charles (1965), *Assistant Professor, Marketing.*

B.A., University of Michigan
M.B.A., University of Michigan

Atabug, Alejandra (1971), *Assistant Professor, Music.*

B.M., University of Santo Tomas
M.S., University of Illinois

Avedon, Barry (1966), *Assistant Professor, Art.*

B.F.A., Rochester Institute of Technology
M.F.A., Rochester Institute of Technology

Avner, Lillian L. (1969), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., Texas Women's University
M.A., Texas Women's University

B

Badalow, Vaskin (1968), *Instructor, Health, Physical Education and Recreation.*

B.S., Eastern Michigan University
M.S., Eastern Michigan University

Badii, Larry L. (1965), *Associate Professor, Mathematics.*

B.A., San Jose State College
M.A., San Jose State College
Ph.D., Oregon State University

Baird, Ronald J. (1966), *Professor, Industrial Education.*

B.S., Bowling Green State University
M.Ed., University of Missouri
Ed.D., Michigan State University

Bajwa, Ranjit S. (1963), *Professor, Education.*

B.A., Punjab University
B.T., Punjab University
Ed.D., Wayne State University

Ballard, Blaine (1960), *Associate Professor, Music.*

B.S., Mansfield State College
M.E., Mansfield State College
M.M., Indiana University

Banciu, Charles G. (1971), *Administrative Assistant, Vice-President for Instruction.*

B.S., Wayne State University
M.B.A., University of Michigan

Banks, Gary C. (1969), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., University of Detroit
M.S., University of Wisconsin

Barach, George J. (1969), *Assistant Professor, Special Education and Occupational Therapy.*

B.S., Wayne State University
M.Ed., Boston College
Ph.D., Wayne State University

Barbee, W. Louise (1967), *Assistant Professor, Mathematics.*

B.A., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan

Barber, Betty Lou (1969), *Assistant Professor, Home Economics.*

A.A., Jackson Junior College
B.S., Michigan State University
M.A., Eastern Michigan University

Barnes, Geraldine K. (1964), *Assistant Professor, Health, Physical Education and Recreation.*

B.A., Adrian College
M.A., Michigan State University

Barnes, James M. (1955), *Department Head, Professor, Physics and Astronomy.*

B.S., Eastern Michigan University
M.S., Michigan State University
Ph.D., Michigan State University

Bartin, Norma G. (1970), *Assistant Professor, Curriculum and Instruction.*

B.A., State University of New York at Fredonia
Ph.D., State University of New York at Buffalo

Bates, John M. (1966), *Associate Professor, Biology.*

B.S., Hillsdale College
M.A., University of Michigan

Bates, Morton, M.D. (1969), *Staff Physician, Health Services.*

B.S., Hillsdale College
B.M., Wayne State University
M.D., Wayne State University

Beagen, Dennis M. (1968), *Instructor, Speech and Dramatic Arts.*

B.S., Eastern Michigan University
M.A., University of Michigan

Beal, Sarrel (1970), *Instructor, Library.*

B.A., Michigan State University
M.A.L.S., Rosary College

Beck, Mary C. (1970), *Assistant Professor, Library.*

B.A., University of Chicago
M.A.L.S., University of Denver

Beecher, Michael D. (1971), *Assistant Professor, Psychology.*

B.A., Reed College
A.M., Boston University
Ph.D., Boston University

Beeler, Kent D. (1970), *Assistant Professor, Guidance and Counseling.*

B.S., Ball State University
M.A., Ball State University
Ed.D., Indiana University

- Beginin, Igor** (1968), *Assistant Professor, Art*.
B.A., Wayne State University
M.A., Wayne State University
- Begres, Forrest M.** (1971) *Assistant Professor, Biology*.
B.S., Eastern Michigan University
M.S., Eastern Michigan University
- Belcher, Robert O.** (1946), *Professor, Biology*.
B.A., Berea College
M.S., University of Michigan
Ph.D., University of Michigan
- Belcher, Ruby B.** (1957), *Nurse, Health Service*.
B.A., Berea College
R.N., Kahlen Methodist School of Nursing
- Bell, Margaret E.** (1968), *Instructor, Health, Physical Education and Recreation*.
B.S., Eastern Michigan University
- Bell, Mary I.** (1949), *Associate Professor, Health, Physical Education and Recreation*.
B.S., Eastern Michigan University
M.A., University of Michigan
- Belskus, Albert** (1969), *Assistant Professor, Business Education*.
B.S., Indiana State University
M.S., Indiana State University
- Belt, Gordon A.** (1968), *Assistant Professor, Curriculum and Instruction*.
B.S., Central Michigan University
M.A., Michigan State University
Ed.S., Wayne State University
- Beltsos, Nicholas J.** (1962), *Assistant Professor, Management*.
B.S., Marquette University
M.A., Michigan State University
- Benden, Robert A.** (1953), *Assistant Professor, Industrial Education*.
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Benjamin, Dale** (1968) *Coordinator, Pupil Transportation Systems, Field Services*.
- Bennett, Normajean M.** (1956), *Assistant Professor, Special Education and Occupational Therapy*.
B.S., Western Michigan University
M.A., University of Michigan
- Bensen, Alice R.** (1947), *Professor, English Language and Literature*.
B.A., Washington University
M.A., Washington University
Ph.D., University of Chicago
- Berger, Jennifer** (1970), *Instructor, Library*.
B.A., University of Michigan
M.A.L.S., University of Michigan
- Berry, Leona P.** (1957), *Assistant Professor, Library*.
B.A., York College
M.S., Fort Hays Kansas State College
M.A.L.S., University of Denver
- Bertram, Neil C.** (1966), *Publications Editor, Information Services*.
B.A., University of Michigan
M.A., University of Michigan
- Bidwell, Jean S.** (1962), *Assistant Professor, Foreign Languages and Literature*.
B.A., Brown University
M.A., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Bilsky, Manuel** (1960), *Professor, History and Social Sciences*.
B.A., Wayne State University
M.A., Wayne State University
M.A., University of Michigan
Ph.D., University of Michigan
- Bird, George P.** (1955), *Technical Director, Quirk Theatre; Professor, Speech and Dramatic Arts*.
B.S., University of Wisconsin
M.S., University of Wisconsin
- Birleson, Clifford** (1951), *Associate Professor, Curriculum and Instruction*.
B.A., Western Michigan University
M.A., University of Michigan
- Bishop, Nadean H.** (1966), *Instructor, English Language and Literature*.
B.A., Baylor University
M.A., University of Louisville
- Blair, John** (1970), *Assistant Professor, Educational Psychology*.
B.S., Indiana University
M.S., Indiana University
Ph.D., University of Michigan
- Bobinski, Casimir A.** (1967), *Instructor, History and Social Sciences*.
B.A., San Francisco State College
M.A., Michigan State University
- Bock, Ralph A.** (1971) *Director, Auxiliary Services*.
B.S., Central Michigan University
M.A., Central Michigan University
- Boisture, Daniel P.** (1967), *Assistant Professor, Health, Physical Education and Recreation*.
B.A., University of Detroit
M.S., Michigan State University
- Booth, Howard D.** (1967), *Assistant Professor, Biology*.
B.S., Eastern Michigan University
M.S., Eastern Michigan University
- Bornemeier, Betty L.** (1965), *Professor, Home Economics*.
B.S., Texas Women's University
M.A., Texas Women's University
Ph.D., Texas Women's University
- Borroff, Edith** (1966), *Professor, Music*.
B.M., American Conservatory of Music
M.M., American Conservatory of Music
Ph.D., University of Michigan

- Borusch, Barbara J.** (1950), *Professor, Curriculum and Instruction.*
B.S., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Bowe, Joan** (1970), *Instructor, Special Education and Occupational Therapy.*
B.S., University of Wisconsin
- Bowen, Harry W.** *Associate Professor, Speech and Dramatic Arts.*
B.A., Westminster College
M.A., Ohio State University
Ph.D., University of Pittsburgh
- Boyd, Donald C.** (1965), *Assistant Director, Placement.*
B.S., Hillsdale College
M.A., Wayne State University
- Boyer, Lee R.** (1970), *Assistant Professor, History and Social Sciences.*
B.A., Mount Union College
M.A., University of Notre Dame
Ph.D., University of Notre Dame
- Braden, Joseph** (1970), *Assistant Professor, Marketing.*
B.S.C.E., Purdue University
M.B.A., Indiana University
D.B.A., Indiana University
- Branstator, Robin A.** (1971), *Instructor, Library.*
B.A., Lewis and Clark College
M.L.S., University of Oregon
- Braun, Sandra** (1971), *Assistant Professor, Art.*
B.A., Barnard College
M.A., University of Michigan
- Brazell, Troy V.** (1969), *Instructor, Library.*
B.A., University of New Mexico
M.A.L.S., University of Michigan
- Brazil, David L.** (1971), *Assistant Coach, Health, Physical Education and Recreation.*
B.S., University of Detroit
M.A., Wayne State University
- Breedlove, Charles B.** (1964), *Coordinator, Science Education; Professor, Physics and Astronomy.*
B.S., McMurry College
M.S., Southern Methodist University
Ed.D., Wayne State University
- Breitner, Glen A.** (1967), *Director of Accounting.*
B.S., Eastern Michigan University
- Brenner, Anton** (1968), *Professor, Educational Psychology.*
University of Munich
Ph.D., University of Tuebingen
- Brewer, Stephen** (1969), *Assistant Professor, Chemistry.*
B.S., University of Florida
Ph.D., University of Wisconsin
- Brewer, Thomas L.** (1969), *Assistant Professor, History and Social Sciences.*
B.A., Wabash College
M.A., Yale University
Ph.D., State University of New York
- Briggs, William D.** (1965), *Assistant Professor, History and Social Sciences.*
B.A., University of California
M.A., Sacramento State College
- Brower, George** (1954), *Department Head, Professor, Educational Leadership.*
B.S., Western Michigan University
M.A., University of Michigan
Ph.D., Cornell University
- Brown, Clarence** (1971), *Counselor, Admissions and Financial Aids.*
B.A., Eastern Michigan University
- Brown, Donald F. M.** (1956), *Professor, Biology.*
B.A., University of Michigan
M.S., University of Michigan
Ph.D., University of Michigan
- Brown, Leland** (1964), *Professor, General Business.*
B.A., Indiana State University
M.A., Indiana State University
- Bruss, Paul** (1969), *Assistant Professor, English Language and Literature.*
B.A., University of Wisconsin
M.A., University of Rochester
Ph.D., University of Rochester
- Bryan, William C.** (1960), *Associate Professor, Accounting and Finance.*
B.S., Oklahoma State University
M.B.A., University of Michigan
- Brylowski, Walter M.** (1955), *Professor, English Language and Literature.*
B.A., Kalamazoo College
M.A., University of Connecticut
Ph.D., Michigan State University
- Buckeye, Donald A.** (1968), *Associate Professor, Mathematics.*
B.S., Ashland College
A.M.T., Indiana University
Ed.D., Indiana University
- Buckholts, Paul O.** (1961), *Professor, Geography and Geology.*
B.A., Oklahoma University
M.A., Oklahoma University
Ph.D., Harvard University
- Bufford, Samuel L.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., Wheaton College
Ph.D., University of Texas
- Bumbulis, Valija** (1971), *Instructor, Music.*
B.M., Chicago Conservatory
M.M., Chicago Conservatory

- Burnham, Sharon** (1970), *Instructor, Special Education and Occupational Therapy.*
B.S., University of Michigan
- Burns, Joanne M.** (1967), *Counselor, Counseling Center.*
B.S., St. Norbert College
M.A., Michigan State University
Ed.S., Michigan State University
- Burson, Ruth F.** (1962), *Assistant Director, Placement.*
B.S., University of North Carolina
- Bush, Russell L.** (1957), *Assistant Professor, Health, Physical Education and Recreation.*
B.A., State College of Iowa
M.P.E., Purdue University
- Bushey, James T.** (1969), *Assistant Professor, Educational Psychology.*
Ph.B., University of Detroit
M.A., University of Detroit
Ed.D., Wayne State University
- Butterfield, Mary J.** (1968), *Instructor, Library.*
B.A., Arizona State University
M.A.L.S., University of Michigan
- C**
- Cabrera, Haydee M.** (1966), *Assistant Professor, Library.*
B.S., Marywood College
M.P.H., University of Michigan
M.A.L.S., University of Michigan
- Calkins, Kingsley M.** (1950), *Department Head, Professor, Art.*
B.S., Eastern Michigan University
M.A., University of Michigan
- Camacho, Jaime E.** (1971), *Coordinator, Campus Assistance Center.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Campbell, James B.** (1971), *Vice-President for Student Affairs.*
B.S., Carroll College
M.S., Indiana University
Ed.D., Indiana University
- Canter, Francis M.** (1967), *Professor, Psychology.*
B.A., Washington University, St. Louis
Ph.D., Washington University, St. Louis
- Caputo, George E.** (1965), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Washington and Jefferson College
M.Ed., University of Pittsburgh
- Carpenter, Arthur L.** (1964), *Assistant Professor, Education.*
B.S., Eastern Michigan University
M.S., Michigan State University
- Carr, Mildred W.** (1955), *Nurse, Health Service.*
R.N., St. Vincent's Infirmary School of Nursing
- Carroll, Charles** (1969), *Associate Professor, Accounting and Finance.*
B.B.A., Western Reserve University
M.B.A., Western Reserve University
C.P.A., State of Ohio
- Carter, Giles F.** (1967), *Associate Professor, Chemistry.*
B.S., Texas Technological College
Ph.D., University of California
- Carter, Larry** (1971), *Instructor, Education.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Casanave, Don S.** (1965), *Instructor, English Language and Literature.*
B.A., Principia College
M.A., University of Leeds
- Case, Franklin D.** (1962), *Associate Professor, English Language and Literature.*
B.A., University of Connecticut
M.A., University of Michigan
- Cassar, George H.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., University of New Brunswick
M.A., University of New Brunswick
Ph.D., McGill University
- Cassell, Kenneth K.** (1970), *Assistant Professor, General Business.*
B.B.A., University of Michigan
M.B.A., University of Michigan
J.D., University of Michigan
- Caswell, Herbert H., Jr.** (1955) *Professor, Biology.*
B.S., Harvard University
M.A., University of California at Los Angeles
Ph.D., Cornell University
- Cavanaugh, Patric L.** (1968), *Department Head, Professor, Health, Physical Education and Recreation.*
B.A., Oberlin College
M.S., University of Michigan
Ph.D., University of Michigan
- Cawi, Edward C.** (1967), *Coordinator of Information Systems.*
B.S., University of Notre Dame
M.A., University of Detroit
- Chamberlain, Marjorie** (1967), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Wayne State University
M.A., Wayne State University
- Chapman, Ralph** (1967), *News Editor, Information Services.*
- Chew, Robert E.** (1969), *Instructor, Art.*
B.F.A., Maryland Institute
M.F.A., University of Illinois
- Christian, Ursula** (1954), *Director, Registration.*
B.A., Eastern Michigan University
M.A., Eastern Michigan University
Sp.A., Eastern Michigan University
- Chung, Young-Iob** (1966), *Department Head, Professor, Economics.*
B.S., University of California at Los Angeles
M.A., Columbia University
Ph.D., Columbia University
- Cichanski, Allen** (1965), *Assistant Professor, Geography and Geology.*
B.S., Ohio State University

Cione, Jean S. (1963), Assistant Professor, Health, Physical Education and Recreation.

B.S., Eastern Michigan University
M.S., University of Illinois

Cline, William (1970), Assistant Professor, Foreign Languages and Literature.

B.A., University of California
M.A., State University of New York at Buffalo

Cobb, Gilbert H. (1965), Manager, McKenny Union.

B.S., Cornell University

Cocco, Victor (1964), Assistant Professor, Curriculum and Instruction.

B.A., Eastern Michigan University
M.A., University of Michigan
Ed.S., Wayne State University

Cohen, Gerald L. (1966), Instructor, English Language and Literature.

B.A., Detroit Institute of Technology
M.A., Wayne State University

Cohen, Lynne G. (1969), Instructor, Art.

B.S., University of Wisconsin
M.A., Eastern Michigan University

Cohen, Neal P. (1970), Assistant Professor, Economics.

B.S., Georgetown University
M.S., University of Wisconsin

Collins, Ronald W. (1965), Professor, Chemistry.

B.S., University of Dayton
Ph.D., Indiana University

Collins, W. Oscar (1957), Professor, General Business.

B.S., Southwest Missouri State College
M.Ed., University of Missouri
Ed.D., Indiana University

Compere, Edward L., Jr. (1964), Professor, Chemistry.

B.S., Beloit College
M.S., University of Chicago
Ph.D., University of Maryland

Compton, Gail W. (1969), Associate Professor, Speech and Dramatic Arts.

B.A., University of Evansville
M.S., University of Wisconsin
Ph.D., University of Wisconsin

Conley, James (1969), Associate Professor, General Business.

B.A., Otterbein College
B.D., United Theological Seminary
Ph.D., Michigan State University

Cook, Frances C. (1960), Assistant Professor, Education.

B.A., University of Michigan
M.A.L.S., University of Michigan

Cooper, Virginia A. (1946), Assistant Professor, English Language and Literature.

B.A., University of Michigan
M.A., University of Michigan

Cormican, John D. (1967), Instructor, English Language and Literature.

B.A., Ball State University
M.A., Ball State University

Coso, Nick Jr. (1968), Assistant Professor, Health, Physical Education and Recreation.

B.S., Western Reserve University
M.Ed., Kent State University

Cowan, Ralph H. (1967), Counselor, Admissions and Financial Aids.

B.S., University of Maryland

Cowles, David E. (1970), Assistant Professor, Mathematics.

B.A., Oberlin College
M.A., University of Michigan
Ph.D., University of Michigan

Coyner, Joseph E. (1971), Assistant Professor, Special Education and Occupational Therapy.

B.S., Eastern Michigan University
M.S., Eastern Michigan University
Ed.S., Eastern Michigan University

Creighton, David L. (1968), Assistant Professor, History and Social Sciences.

B.A., Union College

Cross, B. Gilbert (1966), Assistant Professor, English Language and Literature.

B.A., Manchester University (England)
Certificate of Education—London University
M.A., University of Louisville
Ph.D., University of Michigan

D

Daly, Francis M., Jr. (1964), Assistant Dean, College of Education, Professor, Educational Leadership.

B.S., Wayne State University
M.A., Wayne State University
Ed.D., Wayne State University

Danak, Jagdish T. (1969), Associate Professor, Management.

B.S., University of Bombay
B.B.A., Lamar State College of Technology
M.B.A., Texas State University
Ph.D., University of Oklahoma

Dart, Jane M. (1942), Associate Professor, Art.

B.F.A., Ohio State University
M.A., Ohio State University

Davenport, Roselle W. (1971), Counselor, Counseling Center.

B.A., Michigan State University
M.A., Michigan State University

Davis, Dale A. (1971), Academic Budget Officer.

B.S., Eastern Michigan University
M.B.A., University of Michigan

- Decker, Bernard C.** (1971), *Assistant Professor, English Language and Literature.*
B.S., Boston College
M.S., Boston University
- Deihl, Lincoln W.** (1959), *Professor, Management.*
B.S., Bowling Green State University
M.S., Indiana University
Ph.D., Ohio State University
- Dellas, Marie** (1969), *Assistant Professor, Educational Psychology.*
B.S., State University of New York
M.Ed., State University of New York
Ph.D., State University of New York
- DeLoach, Rosemary L.** (1967), *Professor, Business Education.*
B.A., Northern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Delprato, Dennis J.** (1969), *Assistant Professor, Psychology.*
B.A., Washington and Jefferson College
M.S., Ohio University
Ph.D., Michigan State University
- Delventhal, Norman L.** (1964), *Assistant Professor, Industrial Education.*
B.A., Colorado State College
M.A., Colorado State College
- Dempster, Andrew C.** (1966), *Associate Professor, Mathematics.*
B.S., University of Michigan
M.S., University of Michigan
Ph.D., University of Michigan
- Devers, James** (1968), *Assistant Professor, English Language and Literature.*
B.S., University of California at Los Angeles
M.A., University of California at Los Angeles
Ph.D., University of California at Los Angeles
- Dickson, Kathleen M.** (1968), *Associate Publications Editor, Information Services.*
B.A., University of Michigan
M.A., University of Michigan
- DiGiovanni, Robert N.** (1968), *Instructor, English Language and Literature.*
B.A., Cornell University
M.A., University of Michigan
- DiMattia, Pearl E.** (1965), *Assistant Professor, Biology.*
B.A., University of Michigan
M.S., University of Michigan
- Disbrow, Donald W.** (1956), *Professor, History and Social Sciences.*
B.A., Haverford College
Ph.D., University of Rochester
- Dittemore, Edgar E.** (1968), *Assistant Professor, Music.*
B.Mus.Ed., University of Kansas
B.M., University of Kansas
M.Mus.Ed., University of Kansas
Ph.D., University of Iowa
- Doll, Dixon R.** (1971), *Assistant Professor, General Business.*
B.S., Kansas State University
M.S.E., University of Michigan
Ph.D., University of Michigan
- Doll, Nelly E.** (1970), *Assistant Professor, Library.*
B.A., Smith College
M.S., Cornell University
M.S., University of Michigan
M.A.L.S., University of Michigan
- Dornbos, Sanford J.** (1963), *Assistant Professor, Health, Physical Education and Recreation.*
B.A., Calvin College
M.A., University of Michigan
- Dorsey, Rosita J.** (1971), *Counselor, Admissions and Financial Aids.*
B.S., Eastern Michigan University
- Douglas, A. Wayne** (1969), *Director of Personnel.*
B.A., Hillsdale College
- Drake, Mary A.** (1961), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.A., University of Michigan
- Drake, Raymond J.** (1965), *Associate Professor, Marketing.*
B.S., Michigan State University
M.B.A., Xavier University
- Drummond, Donald F.** (1958), *Dean, College of Arts and Sciences; Professor, History.*
B.A., Western Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Dume, Thomas L.** (1957), *Professor, English Language and Literature.*
B.A., University of Michigan
M.A., Columbia University
Ph.D., Temple University
- Duncan, Charles H.** (1965), *Department Head, Professor, Business Education.*
B.S., Indiana State College
M.Ed., University of Pittsburgh
Ed.D., University of Pittsburgh
- Duncan, Jeffrey L.** (1971), *Associate Professor, English Language and Literature.*
B.A., Santa Monica City College
M.A., University of Virginia
Ph.D., Long Beach State College
- Dutcher, James D.** (1966), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., University of Michigan
M.S., University of Michigan

Duvall, Elven E. (1968), *Professor, Educational Leadership*.
 B.A., Eastern Michigan University
 M.A., University of Michigan
 Ed.D., Columbia University

E

Earl, David M. (1965), *Professor, History and Social Sciences*.
 B.A., Oberlin College
 M.A., Wayne State University
 Ph.D., Columbia University

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

Easto, Patrick (1970), *Assistant Professor, Sociology*.
 B.S., Eastern Michigan University
 M.A., Wayne State University

Eggers, Carter (1967), *Assistant Professor, Music*.
 B.A., State University of South Dakota
 M.Mus., Ithaca College

Ehrlich, Allen S. (1968), *Assistant Professor, Sociology*.
 B.A., University of Cincinnati
 M.A., University of Minnesota
 Ph.D., University of Michigan

Eide, Margaret A. (1967), *Assistant Professor, Library*.
 B.A., University of Minnesota
 M.A., University of Michigan
 M.A.L.S., University of Michigan

Einstadter, Werner J. (1967), *Associate Professor, Sociology*.
 B.A., University of California at Berkeley
 M.A., University of California at Berkeley
 D.Crim., University of California at Berkeley

Eller, Daniel R. (1966), *Associate Professor, Music*.
 B.Mus., University of Illinois
 M.Mus., University of Illinois

El-Safty, Ahmed (1971), *Assistant Professor, Economics*.
 B.S.C., Alexandria, U.A.R.
 M.A., Wayne State University

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

Emery, Anne C. (1969), *Assistant Professor, Psychology*.
 B.A., Carleton College
 M.A., State University of Iowa
 Ph.D., Wayne State University

England, Robert W. (1968), *Instructor, Health, Physical Education and Recreation*.
 B.A., University of Michigan
 M.A., University of Michigan

Ernst, Robert (1970), *Assistant Professor, Geography and Geology*.
 B.S., St. Louis University
 M.A., St. Louis University

Evans, Arlys K. (1970), *Instructor, Library*.
 B.A., University of Oregon
 M.A.L.S., University of Oregon

Evans, Gary (1970), *Assistant Professor, Speech and Dramatic Arts*.
 B.A., Wayne State University
 M.A., University of Michigan

Evenhuis, Francis D. (1969), *Professor, English Language and Literature*.
 B.A., Western Michigan University
 M.A., University of Iowa
 Ph.D., University of Iowa

F

Fadiman, Jeffrey A. (1971), *Assistant Professor, History and Social Sciences*.
 B.A., Stanford University
 M.A., American University

Fairfield, Richard T. (1963), *Associate Professor, Art*.
 B.F.A., Bradley University
 M.F.A., University of Illinois

Falcon, Carlos M. (1971), *Assistant Dean, Admissions and Financial Aids*.
 B.B.A., Eastern Michigan University
 M.B.A., Eastern Michigan University

Farias, Antonio (1970), *Assistant Professor, Mathematics*.
 B.S., University of Michigan
 M.A., University of Michigan
 Ph.D., University of Michigan

Fauman, S. Joseph (1958), *Professor, Sociology*.
 B.A., University of Michigan
 M.A., University of Michigan
 Ph.D., University of Michigan

Fawcett, Lee C. (1971), *Associate Dean, Admissions and Financial Aids*.
 B.A., University of Chicago
 M.A., Wayne State University

Fennel, William E. (1970), *Professor, Biology*.
 B.A., University of Missouri
 M.A., University of Missouri
 Ph.D., University of Michigan

Fensch, Charles (1966), *Associate Professor, Art*.
 B.A., Kent State University
 M.A., Wayne State University

Fenwick, Ruth G. (1952), *Associate Professor, Music*.
 B.Sch. Mus., Bluffton College
 M.A., Ohio State University

- Fenz, Emanuel Gerson** (1969), *Assistant Professor, History and Social Sciences.*
B.A., Walla Walla College
M.A., Andrews University
Ph.D., University of Colorado
- Ferman, Patricia R.** (1966), *Assistant Professor, Sociology.*
B.A., Wayne State University
M.A., University of Michigan
Ph.D., University of Michigan
- Ferzacca, F. L.** (1966), *Athletic Director, Professor, Health, Physical Education and Recreation.*
B.S., Lake Forest College
M.S., University of Wisconsin
- Ferzacca, Marion** (1967), *Nurse, Health Service.*
R.N., Mercy School of Nursing, Wisconsin
- Field, Jan M.** (1965), *Assistant Professor, Art.*
B.F.A., School of the Art Institute of Chicago
M.F.A., School of the Art Institute of Chicago
- Fielder, Anita L.** (1963), *Department Head, Professor, Home Economics.*
B.Ed., Eastern Illinois State College
M.S., University of Illinois
Spec.Ed., University of Illinois
- Fielder, Gordon W.** (1954), *Professor, Curriculum and Instruction.*
B.S., University of Kansas
M.S., University of Illinois
M.Ed., University of Illinois
Ed.D., University of Illinois
- Fillmore, Howard C.** (1971), *Counselor, Counseling Center.*
B.S., Florida State University
M.A., University of Michigan
- Finzel, James N.** (1969), *Director, Administrative Systems.*
B.S., Wayne State University
- Fish, Barry** (1970), *Assistant Professor, Psychology.*
B.A., University of Michigan
M.A., Wayne State University
Ph.D., Wayne State University
- Fisher, John A.** (1967), *Assistant Professor, General Business.*
B.S., University of Detroit
M.B.A., Wayne State University
- Fisher, Robert J.** (1955), *Professor, Curriculum and Instruction.*
B.A., Stanford University
M.A., Stanford University
Ed.D., Stanford University
- Fishman, Walter** (1971), *Assistant Professor, Library.*
B.A., Wayne State University
M.Ed., Wayne State University
- Fitch, William D.** (1944), *Professor, Music.*
B.S., Kansas State University
M.M., University of Michigan
Ph.D., University of Michigan
- Fletcher, Robert C.** (1971), *Instructor, History and Social Sciences.*
B.S., United States Naval Academy
M.A., University of Michigan
- Flusche, Della M.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., North Texas State University
M.A., Marquette University
Ph.D., Loyola University
- Foster, Milton P.** (1947), *Department Head, Professor, English Language and Literature.*
B.A., Waynesburg College
M.A., University of Pittsburgh
Ph.D., University of Michigan
- Found, Ruth E.** (1971), *Associate Professor, Home Economics.*
B.A., University of Toronto
M.A., University of Wisconsin
Ph.D., University of Wisconsin
- Fountain, Gwen A.** (1971), *Assistant Professor, Economics.*
B.A., Kalamazoo College
M.A., University of Michigan
Ph.D., University of Michigan
- Fountain, John C.** (1966), *Director, Sports Information.*
B.S., Adrian College
- Fox, Donald R.** (1966), *School Consultant Services, Associate Professor, Educational Leadership.*
B.S., Central Michigan University
M.A., Central Michigan University
Ph.D., University of Michigan
- Franks, Thomas H.** (1967), *Assistant Professor, History and Social Sciences.*
B.A., Franklin and Marshall College
M.A., University of Michigan
- Freeman, Lawrence L.** (1969), *Assistant Professor, Art.*
B.A., Mankato State College
M.F.A., University of Oregon
- French, Sophia L.** (1948), *Assistant Professor, Special Education.*
B.A., Bryn Mawr College
M.A., Columbia University
- Freund, Allan P.** (1967), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Friedman, Monroe P.** (1964), *Director, Contemporary Issues Center, Professor, Psychology.*
B.S., Brooklyn College
Ph.D., University of Tennessee
- Friedman, Ruth A.** (1971), *Counselor, Counseling Center.*
B.A., University of Michigan
M.A., University of Michigan
Ed.S., University of Michigan

Fulford, Gerald E. (1963), *Director, Fiscal Analysis and Internal Audit.*

B.S., University of Detroit
M.B.A., Eastern Michigan University

Fulton, C. Wayne (1956), *Professor, Special Education and Occupational Therapy.*

B.A., Grinnell College
M.A., Western Reserve University
Ph.D., Western Reserve University

Fulton, Mary S. (1968), *Instructor, English Language and Literature.*

B.A., Indiana State University
M.A., Indiana State University

G

Galetti, Jeannine M. (1965), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., Bowling Green State University
M.A., University of Michigan

Gallatin, Judith E. (1968), *Assistant Professor, Psychology.*

B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan

Garber, Carl E. (1967), *Associate Professor, Special Education and Occupational Therapy.*

B.S., Manchester College
M.A., University of Michigan
Ph.D., Ohio State University

Garfield, Robert L. (1965), *Associate Dean, Admissions and Financial Aids.*

B.S., University of Michigan
M.A., University of Michigan

Gaston, Hugh P. (1963), *Assistant Professor, Guidance and Counseling.*

B.A., University of Michigan
M.A., University of Michigan

Geffen, Lawrence F. (1968), *Assistant Professor, Special Education and Occupational Therapy.*

B.Ed., Fredonia State Teachers College
M.A., New York University
Ph.D., George Peabody College

Geherin, David (1969), *Assistant Professor, English Language and Literature.*

B.A., University of Toronto
M.A., Purdue University
Ph.D., Purdue University

Gendin, Sidney (1970), *Associate Professor, History and Social Sciences.*

B.A., Brooklyn College
M.A., New York University
Ph.D., New York University

Gesler, Ralph A. (1952), *Associate Director, Field Services; Assistant Professor, Curriculum and Instruction.*

B.S., Western Michigan University
M.A., University of Michigan

Gessert, Walter L. (1961), *Professor, Physics and Astronomy.*

B.S., Eastern Michigan University
M.S., Wayne State University
Ph.D., Michigan State University

Gex, R. Stanley (1954), *Dean, Center for International Studies; Professor, Guidance and Counseling.*

B.S., Northwest Missouri State College
M.A., University of Missouri
Ed.D., University of Missouri

Ghosheh, Najati S. (1965), *Associate Professor, Biology.*

B.S., Kansas State University
M.S., Kansas State University
Ph.D., University of Illinois

Gibbons, James R. (1967), *Associate Professor, Economics.*

B.S., University of Illinois
M.S., University of Illinois
Ph.D., Iowa State University

Gibilisco, Fred (1971), *Assistant Professor, Sociology.*

B.A., San Jose State College
M.S.W., University of Michigan

Gibson, Eugene M. (1956), *Professor, Foreign Languages and Literature.*

B.A., University of Oklahoma
M.A., University of Oklahoma
Ph.D., University of California

Gibson, Sibylla A. (1958), *Assistant Professor, Library.*

B.A., University of Oklahoma
M.A., University of Oklahoma
M.A.L.S., University of California at Berkeley

Gilden, Ralph F. (1942), *Dean, Admissions and Financial Aids; Associate Professor, Industrial Education.*

B.S., Eastern Michigan University
M.A., University of Michigan

Giles, Elizabeth V. (1956), *Assistant Professor, Chemistry.*

B.S., Central Michigan University
M.S., Michigan State University

Giles, Richard A. (1947), *Professor, Biology.*

B.S., Massachusetts State College
M.S., Michigan State University
Ph.D., Michigan State University

Gilson, Fred T. (1964), *Assistant Professor, Accounting and Finance.*

B.S., University of Illinois
M.B.A., University of Michigan

Gimelli, Louis B. (1966), *Associate Professor, History and Social Sciences.*

B.S., State University of New York, Oswego
M.A., New York University
Ph.D., New York University

Ginther, John L. (1965), *Professor, Mathematics.*

B.Ed., University of Toledo
M.Ed., University of Illinois
Ph.D., University of Illinois

- Godfrey, Elaine C.** (1962), *Assistant Professor, Art.*
B.S., Central Michigan University
M.A., University of Michigan
- Goff, Richard D.** (1964), *Professor, History and Social Sciences.*
B.A., Duke University
M.A., Cornell University
Ph.D., Duke University
- Gohn, Ernest S.** (1958), *Professor, English Language and Literature.*
B.A., Johns Hopkins University
Ph.D., Johns Hopkins University
- Goines, Valmore R.** (1969), *Dean of Academic Services, Professor, Psychology.*
B.A., Northwestern University
M.A., Northwestern University
Ph.D., Northwestern University
- Goings, Edmond W.** (1946), *Director of Instructional Computing Services, Associate Professor, Mathematics.*
B.A., Eastern Michigan University
M.S., University of Michigan
- Goldschmidt, Erich P.** (1955), *Professor, Music.*
Swiss Musicpaedagogical Society
Basel Conservatory, Zurich
Schola Cantorum Basiliensis, Basel
- Goldsmith, William E.** (1962), *Assistant Professor, Curriculum and Instruction.*
B.A., Michigan State University
M.A., Michigan State University
- Goodnow, James D.** (1970), *Assistant Professor, Marketing.*
B.A., Albion College
M.B.A., Indiana University
D.B.A., Indiana University
- Goosey, Bob L.** (1959), *Assistant Professor, Mathematics.*
B.S., Montana State University
M.A., Pennsylvania State University
Ph.D., University of Michigan
- Gosseaux, Emile F.** (1956), *Assistant Professor, Education.*
B.S., California State Teachers College
M.A., University of Michigan
- Gotts, M. Margaret** (1938), *Associate Professor, Mathematics.*
B.A., Eastern Michigan University
M.A., University of Michigan
- 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
- Gousseff, James W.** (1963), *Director of Theatre; Professor, Speech and Dramatic Arts.*
B.S., Iowa State College of Agriculture and Mechanic Arts
M.A., Cornell University
M.F.A., Yale University
Ph.D., Northwestern University
- Gousseff, Marla** (1969), *Instructor, Special Education and Occupational Therapy.*
B.S., Milwaukee Downer College
R.P.T., Milwaukee Downer College
- Grady, Robert C.** (1971), *Assistant Professor, History and Social Sciences.*
B.A., Centre College
M.A., Vanderbilt University
Ph.D., Vanderbilt University
- Graves, Bruce B.** (1968), *Associate Professor, Chemistry.*
B.A., Swarthmore College
M.S., University of Louisville
Ph.D., University of Louisville
- Gray, Ruth A.** (1966), *Assistant Professor, Library.*
B.A.Ed., University of Michigan
M.A.L.S., University of Michigan
- Graziano, Louis R.** (1967), *Assistant Professor, Business Education.*
B.A., Fairmont State College
M.Ed., Wayne State University
- Green, Edward** (1963), *Department Head, Professor, Sociology.*
B.A., University of Pennsylvania
M.A., University of Pennsylvania
Ph.D., University of Pennsylvania
- Green, James E.** (1947), *Associate Professor, History and Social Sciences.*
B.A., University of Michigan
M.A.L.S., University of Michigan
M.A., University of Michigan
- Greene, Bert I.** (1963), *Professor, Curriculum and Instruction.*
B.S., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Gregerson, Harvey H.** (1959), *Principal, Rackham School, Assistant Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.A.Ed., University of Michigan
- Griess, Jerald A.** (1967), *Associate Professor, Industrial Education.*
B.A., Nebraska Wesleyan University
M.S., Oklahoma State University
D.Ed., Pennsylvania State University
- Grills, Marguerite E.** *Associate Professor, Health, Physical Education and Recreation.*
B.S., Ohio State University
M.A., University of Michigan
- Grinstead, Kenneth L.** (1964), *Professor, Educational Leadership.*
B.A., Iowa Wesleyan College
M.A., University of Michigan
Ph.D., University of Michigan
- Gurt, Joseph** (1967), *Associate Professor, Music.*
B.S., Juilliard School of Music
M.S., Juilliard School of Music

Gwaltney, Thomas M. (1964), *Associate Professor, Education.*
 B.S., Southeast Missouri State College
 M.S., Southern Illinois University
 Ph.D., Southern Illinois University

H

Hackett, Penny (1969), *Instructor, Health, Physical Education and Recreation.*
 B.S., Michigan State University
 M.S., University of California-Santa Barbara

Haddan, Eugene E. (1965), *Professor, Educational Psychology.*
 B.A., North Texas State College
 M.A., North Texas State College
 Ed.D., North Texas State College

Haftner, Daryl M. (1969), *Assistant Professor, History and Social Sciences.*
 B.A., Smith College
 M.A., Yale University
 Ph.D., Yale University

Hall, E. Lorene (1960), *Assistant Professor, Geography and Geology.*
 B.S., Eastern Michigan University
 M.S., University of Michigan

Hall, Richard W. (1967), *Controller.*
 B.B.A., University of Michigan
 M.B.A., University of Michigan

Hamilton, Theophilus, E. (1967), *Assistant Director, Placement.*
 B.Mus., Eastern Michigan University
 M.Adm., Eastern Michigan University
 Sp.A., Eastern Michigan University

Hansen, Joanne J. (1965), *Assistant Professor, Library.*
 B.M.E., Eastern Michigan University
 M.S.L.S., Western Reserve University
 M.A., Eastern Michigan University

Hansz, James E. (1966), *Assistant Professor, Marketing.*
 B.A., Albion College
 M.B.A., Michigan State University
 Ph.D., University of Cincinnati

Harbison, Shirley A. (1969), *Assistant Director, Academic Advising.*
 B.A., Bethany College
 M.S., Eastern Michigan University

Harbison, Stanley L. (1965), *Instructor, History and Social Sciences.*
 B.A., Bethany College
 B.D., Yale University

Harley, Rachel *Assistant Professor, Music.*
 B.A., University of North Carolina
 M.A., University of North Carolina

Harris, Arthur J. (1967), *Associate Professor, English Language and Literature.*
 B.S., Central Michigan University
 M.A., University of Birmingham (England)
 Ph.D., University of Birmingham

Hassell, Jo H. (1971), *Instructor, Home Economics.*
 B.S., University of North Carolina
 M.S., University of North Carolina

Hauer, William R. (1969), *Assistant Professor, English Language and Literature.*
 B.S., College of the Holy Cross
 M.A., University of Illinois

Haun, F. Eugene (1966), *Professor, English Language and Literature.*
 B.A., Hendrix College
 M.A., Vanderbilt University
 Ph.D., University of Pennsylvania

Hause, James B. (1971), *Department Head, Professor, Music.*
 B.M., University of Michigan
 M.M., University of Michigan
 Ed.D., University of Michigan

Hauser, Rene E., P.E., (1964), *Assistant Vice President for Business and Finance.*
 B.S.M.E., Michigan State University

Hawkins, Roger E. (1970), *Department Head, Professor, General Business.*
 B.A., Western Michigan University
 M.A., University of Akron
 Ph.D., Illinois Institute of Technology

Hawks, Gary D. (1964), *Vice-President for University Relations.*
 B.A., Michigan State University

Head, Lonny J. (1968), *Director, Alumni Relations.*
 B.S., Eastern Michigan University
 M.S., Eastern Michigan University

Hebert, Catherine A. (1947), *Professor, English Language and Literature.*
 B.A., Eastern Michigan University
 M.A., University of Michigan
 Ph.D., University of Michigan

Hechlik, John E. (1971), *Assistant Dean, Counseling Center.*
 B.S., Wayne State University
 M.A., University of Michigan
 Ph.D., University of Michigan

Hee, Christopher E. (1969), *Assistant Professor, Mathematics.*
 B.Ch.E., University of Detroit
 Ph.D., University of Notre Dame

Heezen, Alan (1967), *Assistant Professor, Mathematics.*
 B.A., University of Notre Dame
 M.A., University of Michigan
 Ph.D., University of Michigan

- Hefley, J. Theodore** (1956), *Professor, History and Social Sciences.*
B.S., University of Oklahoma
M.A., University of Oklahoma
Ph.D., University of Minnesota
- Helbig, Alethea K.** (1966), *Assistant Professor, English Language and Literature.*
B.A., University of Michigan
M.A., University of Michigan
- Helppie, Charles E.** (1965), *Professor, Economics.*
B.S., Eastern Michigan University
Ph.D., Ohio State University
- Henle, Jeanne L.F.** (1964), *Assistant Professor, Library.*
B.A., University of Michigan
M.A.L.S., University of Michigan
- Hennings, Thomas P.** (1969), *Assistant Professor, English Language and Literature.*
B.A., Mt. St. Mary's
M.A., John Carroll University
Ph.D., University of Wisconsin
- Henry, Oscar M.** (1968), *Professor, Music.*
B.A., Fisk University
M.A., Harvard University
Ph.D., Ohio State University
- Herrick, Frances E.** (1950), *Associate Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
B.A., University of Michigan
M.A., University of Michigan
- Hicks, Kenneth** (1970), *Assistant Professor, Chemistry.*
B.A., Miami University
M.S., Miami University
Ph.D., Howard University
- Hildebrandt, Wilfried R.** (1967), *Assistant Professor, Foreign Languages and Literature.*
B.A., University of Michigan
M.A., University of Michigan
- Hill, Helen M.** (1963), *Assistant Professor, English Language and Literature.*
B.A., Wheaton College
M.A., Brown University
- Hill, Rodney** (1969), *Instructor, Music.*
B.M., University of Kentucky
M.M., University of Cincinnati
- Hines, Harold R.** (1964), *General Operations Analyst.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Hislop, Robert I.** (1970), *Director, MBA Program, Professor, General Business.*
L.L.B., Brooklyn Law School
L.L.M., Brooklyn Law School
Ph.D., University of Colorado
- Hitch, Lawrence J.** (1964), *Instructor, English Language and Literature.*
B.S.Ed., Kent State University
M.A., Colorado State University
- Hoexter, Robert H.** (1964), *Associate Professor, Curriculum and Instruction.*
B.S., University of Michigan
M.A., University of Michigan
Ph.D., Michigan State University
- Hoft, Hartmut** (1970), *Assistant Professor, Mathematics.*
B.A., University of Munster, Munster, Germany
M.A., University of Bonn, Bonn, Germany
Ph.D., University of Houston
- Hogan, Lucille O.** (1971), *Instructor, Library.*
B.A., University of Michigan
B.A.L.S., University of Michigan
- Holkeboer, Robert** (1971), *Assistant Professor, English Language and Literature.*
B.A., Calvin College
M.A., Ohio University
Ph.D., Ohio University
- Holloway, William** (1968), *Instructor, Foreign Languages and Literature.*
B.A., University of Michigan
M.A., University of Michigan
- Holmes, Peter A.** (1968), *Assistant Professor, Psychology.*
B.A., Franklin and Marshall College
M.A., Bryn Mawr College
Ph.D., University of Delaware
- Holtman, Eugene A.** (1967), *Associate Professor, Library.*
B.A., Eastern Michigan University
B.A.L.S., University of Michigan
M.A.L.S., University of Michigan
- Homel, Michael W.** (1970), *Assistant Professor, History and Social Sciences.*
B.A., Grinnell College
M.A., University of Chicago
- Hoover, Neal F.** (1953), *Assistant Dean, Graduate School, Assistant Professor.*
B.A., Coe College
M.A., State University of Iowa
- Hortin, David** (1970), *Assistant Professor, History and Social Sciences.*
B.A., Southern Illinois University
L.L.B., University of Michigan
- Hostiuck, K. Tim** (1970), *Assistant Professor, Management.*
B.S., Miami University
M.B.A., Miami University
Ph.D., Ohio State University
- Houtras, Peter T.** (1970), *Dean, Counseling Center.*
B.A., University of Toledo
M.A., University of Michigan
Ph.D., University of Michigan

Hourani, Benjamin T. (1968), *Associate Professor, History and Social Sciences.*

B.A., American University, Beirut
M.A., American University, Beirut
Ph.D., Michigan State University

Howard, Eunice L. (1970), *Assistant Professor, English Language and Literature.*

B.A., Mercy College
M.A., Wayne State University

Howard, Paul (1970), *Assistant Professor, Mathematics.*

B.A., University of Missouri
Ph.D., University of Michigan

Howe, Frederick C. (1969), *Assistant Professor, Educational Psychology.*

B.A., Michigan State University
M.A., Michigan State University
Ph.D., Michigan State University

Howe, George M. (1969), *Professor, Geography and Geology.*

B.S., California Institute of Technology
M.A., Oberlin College
Ph.D., Clark University

Howe, Marvin C. (1966), *Associate Professor, Music.*

B.M., Oberlin College
M.S., Ithaca College
M.F.A., State University of Iowa
Ph.D., University of Iowa

Hubacher, Donald L. (1971), *Assistant Art Director, Information Services.*

B.F.A., Ohio University

Hubbard, John (1970), *Instructor, Foreign Languages and Literature.*

B.A., Hope College
M.A., Michigan State University

Hunter, Frederick C. (1967), *Assistant Professor, Art.*

B.S., Wisconsin State University
M.F.A., University of Wisconsin

Hurd, John D. (1969), *Assistant Professor, General Business.*

B.B.A., University of Michigan
M.B.A., University of Michigan

Husain, Safdar (1965), *Foreign Student Adviser, Student Affairs.*

B.A., Aligarh Muslim University
M.A., Aligarh Muslim University
M.S., Southern Illinois University
LL.B., Aligarh Muslim University
Ed.S., Southern Illinois University

Huston, Carole (1970), *Instructor, Health, Physical Education and Recreation.*

B.S., Bowling Green
M.S., University of Akron

Hyde, H. Greydon (1971), *Instructor, Speech and Dramatic Arts.*

B.S., Eastern Michigan University
M.A., Wayne State University

I

Iannaccone, Anthony J. (1971), *Instructor, Music.*

B.M., Manhattan School of Music
M.M., Manhattan School of Music

Iden, Sheldon S. (1968), *Assistant Professor, Art.*

B.F.A., Wayne State University
M.F.A., Cranbrook Academy of Art

Ikehara, Hide I. (1963), *Assistant Professor, Library.*

B.A., Tsuda College, Tokyo, Japan.
M.A.L.S. University of Michigan
M.A.L.A. University of Michigan
Ph.D., University of Michigan

Ingersoll, Sheila M. (1971), *Assistant Professor, English Language and Literature.*

B.A., Florida Presbyterian College
M.A., Northwestern University
Ph.D., Northwestern University

Ingram, Betty J. (1967), *Assistant Professor, English Language and Literature.*

B.A., University of Western Ontario
M.A., University of Western Ontario
Ph.D., University of Pennsylvania

Irish, Joan W. (1971), *Assistant Professor, Biology.*

B.A., Central Michigan University
M.S., Eastern Michigan University

Irwin, Martha E. (1964), *Associate Professor, Curriculum and Instruction.*

B.A., Bowling Green State University
M.Ed., Bowling Green State University
Ed.D., Western Reserve University

J

Jackson, Dennis C. (1967), *Associate Professor, Biology.*

B.S., Arizona State University
M.S., Michigan State University
Ph.D., Michigan State University

Jackson, Donald E. (1967), *Professor, Psychology.*

B.A., University of Alabama
M.A., University of Alabama
Ph.D., University of Alabama

Jacobson, Elaine R. (1968), *Assistant Professor, Music.*

B.Mus., University of Michigan
M.Mus., University of Michigan

Jantz, Alfred H. (1966), *Assistant Professor, Management.*

Ph.B., University of Detroit
M.B.A., University of Detroit

Jaworski, Eugene (1971), *Assistant Professor, Geography and Geology.*

B.S., University of Wisconsin
Ph.D., Louisiana State University

- Jennings, Gerald L.** (1963), *Professor, Industrial Education*.
B.S., Ball State University
M.A., Ball State University
Ph.D., Michigan State University
- Jernigan, E. Jay** (1965), *Associate Professor, English Language and Literature*.
B.S., Kansas State Teachers College
B.A., Kansas State Teachers College
M.S., Kansas State University
Ph.D., Kansas State University
- Jhung, Stuart M.T.**, (ASCP) 1967, *Health Service*.
B.S., Lander College
B.A., Lander College
- Johnson, Bert M.** (1951), *Department Head, Professor, Biology*.
B.S., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Johnson, Fred T.** (1967), *Associate Professor, Physics and Astronomy*.
B.A., Johns Hopkins University
Ph.D., Johns Hopkins University
- Johnson, James D.** (1968), *Assistant Professor, History and Social Sciences*.
B.A., Jamestown College
M.A., University of North Dakota
M.A., University of Michigan
- Johnson, Marvin J.** (1963), *Associate Professor, Health, Physical Education and Recreation*.
B.S., University of Michigan
B.S., P.E., McGill University
M.A., University of Michigan
Ph.D., University of Michigan
- Johnson, Thomas M.** (1971), *Associate Professor, General Business*.
B.A., University of Chicago
J.D. University of Chicago
Ph.D., Columbia University
- Jones, Alan H.** (1968), *Assistant Professor, Education*.
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Jones, Edgar L., Jr.** (1957), *Director, Academic Advising; Assistant Professor, English Language and Literature*.
B.S., Northwestern University
M.A., Northwestern University
- Jones, Hebert M.** (1964), *Associate Professor, Curriculum and Instruction*.
B.S., Ball State University
M.A., Ball State University
Ed.D., Indiana University
- Jones, Imo-Gene** (1969), *Assistant Professor, Curriculum and Instruction*.
B.A., Jarvis Christian College
M.A., Ball State Teachers College
- Jones, Michael H.** (1967), *Assistant Professor, Health, Physical Education and Recreation*.
B.S., Eastern Michigan University
M.S., Eastern Michigan University
- Jones, Vernon H.** (1952), *Associate Professor, Curriculum and Instruction*.
B.Ed., State University of New York Teachers College
M.A., State University of Iowa
- Jordan, Hoover H.** (1939), *Professor, English Language and Literature*.
B.A., Yale University
M.A., Cornell University
Ph.D., Cornell University
- Jordan, Jeanne B.** (1962), *News Writer, Information Services*.
B.S., Eastern Michigan University
- Joy, William C.** (1971), *Assistant Professor, Business Education*.
B.S., Wayne State University
M.E., Wayne State University
- Judnick, William E.** (1971), *Assistant Professor, General Business*.
B.S., Massachusetts Institute of Technology
M.S., Massachusetts Institute of Technology

K

- Kalib, Sylvan** (1969), *Assistant Professor, Music*.
B.Mus., DePaul University
M.Mus., DePaul University
- Kallenbach, Jessamine S.** (1962), *Assistant Professor, Library*.
B.A., Mount Holyoke College
M.A.L.S., University of Michigan
- Kaminsky, Mildred** (1970), *Assistant Professor, Educational Psychology*.
B.B.A., City College of New York
M.Ed., Wayne State University
Ph.D., Wayne State University
- Kamler, Howard F.** (1967), *Assistant Professor, History and Social Sciences*.
B.A., Washington and Jefferson College
M.A., University of Michigan
- Karabenick, Stuart A.** (1966), *Associate Professor, Psychology*.
B.A., University of Michigan
Ph.D., University of Michigan
- Karson, Samuel** (1966), *Department Head, Professor, Psychology*.
B.S., Long Island University
Ph.D., Washington University
- Katz, Lee** (1967), *Director, SPARD*.
B.A., Illinois University
M.A., Syracuse University

- Kaufman, Alvin S.** (1968), *Associate Professor, Speech and Dramatic Arts.*
 B.A., Ohio Wesleyan University
 M.A., University of Washington
 Ph.D., Stanford University
- Keller, Clyde** (1971), *Instructor, Music.*
 B.S., Eastern Michigan University
 M.A., Eastern Michigan University
- 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.*
 B.B.A., University of Michigan
 M.B.A., University of Michigan
 C.P.A., State of Indiana
- Kersten, Lawrence K.** (1968), *Associate Professor, Sociology.*
 B. Arch., University of Michigan
 M. City Planning, University of Michigan
 Ph.D., Wayne State University
- Kicklighter, Clois E.** (1966), *Associate Professor, Industrial Education.*
 B.S.E., University of Florida
 M.S., Indiana State University
 Ed.D., University of Maryland
- Kieft, Lewis D.** (1971), *Assistant Professor, Industrial Education.*
 B.S., Eastern Michigan University
 M.A., Eastern Michigan University
 Ph.D., Ohio State University
- Kilanski, Doris** (1970), *Assistant Professor, Educational Leadership.*
 B.A., Mount Mary College
 M.A., Eastern Michigan University
 Ed.S., Eastern Michigan University
 Ph.D., University of Michigan
- Kimball, William** (1970), *Department Head, Professor, Accounting and Finance.*
 B.S., Marquette University
 MBA, University of Wisconsin
 Ph.D., Northwestern University
 C.P.A., State of Wisconsin
- King, H. Roger** (1967), *Associate Professor, History and Social Sciences.*
 B.A., Bates College
 M.A., University of Connecticut
 Ph.D., Vanderbilt University
- Klatt, Lawrence A.** (1969), *Associate Professor, Management.*
 B.S., University of Detroit
 M.B.A., University of Detroit
 Ph.D., University of Missouri
- Klaus, Meredith M.** (1966), *Assistant Professor, English Language and Literature.*
 B.A., University of Michigan
 M.A., University of Michigan
 Ph.D., University of Michigan
- Klein, George** (1970), *Instructor, English Language and Literature.*
 B.A., San Diego State College
 M.A., San Diego State College
- Kloosterman, Winton A.** (1962), *Professor, Guidance and Counseling.*
 B.A., Beloit College
 M.A., Columbia University
 Ed.D., Wayne State University
- Knapp, John R.** (1971), *Assistant Professor, Psychology.*
 B.A., Hope College
 M.A., University of Denver
 Ph.D., University of Denver
- Knight, Richard R.** (1969), *Assistant Professor, Psychology.*
 B.S., Michigan State University
 M.A., Michigan State University
 Ph.D., Michigan State University
- Knowles, Patricia A.** (1970), *Instructor, Health, Physical Education and Recreation.*
 B.A., Florida State University
 M.A., Florida State University
- Koepke, Ben J.** (1969), *Assistant Professor, Curriculum and Instruction.*
 B.A., Andrews University
 M.A., Michigan State University
 Ed.S., Michigan State University
- Koo, Delia** (1965), *Associate Professor, Mathematics.*
 B.A., St. Johns University
 M.A., Radcliffe College
 M.A., Michigan State University
 Ph.D., Radcliffe College
- Kornbluth, Martin** (1966), *Professor, English Language and Literature.*
 B.A., University of Missouri
 M.A., University of Missouri
 Ph.D., Penn State University
- Koste, Virginia G.** (1962), *Associate Professor, Speech and Dramatic Arts.*
 B.A., Vassar College
 M.A., Wayne State University
- Kraft, Robert G.** (1969), *Assistant Professor, English Language and Literature.*
 B.A., St. John's University
 M.A., University of Minnesota
 Ph.D., University of Washington
- Krebs, Robert E.** (1968), *Associate Professor, Curriculum and Instruction.*
 B.S., Kent State University
 M.A., Western Reserve University
 Ed.D., Columbia University, Teachers College

- Krieger, Mary M.** (1964), *Assistant Professor, Home Economics.*
B.S. Ed., Central Michigan University
M.A., Eastern Michigan University
- Kromer, William F.** (1971), *Assistant Professor, Educational Leadership.*
B.A., Central Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Kruse, Geraldine M.** (1965), *Assistant Professor, Accounting and Finance.*
B.A., Duke University
M.B.A., University of Michigan
C.P.A., State of North Carolina
- Kureth, Elwood J. C.** (1968), *Assistant Professor, Geography and Geology.*
B.A., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Kurtz, David L.** (1967), *Associate Professor, Marketing.*
B.A., Davis and Elkins College
M.B.A., University of Arkansas
Ph.D., University of Arkansas
- Kuwik, Paul D.** (1970), *Assistant Professor, Industrial Education.*
B.S., State University of New York at Buffalo
M.S., State University of New York at Buffalo
Ph.D., Ohio State University
- L**
- LaBenne, Wallace D.** (1967), *Associate Professor, Educational Psychology.*
B.S., Temple University
M.A., University of Michigan
Ph.D., University of Michigan
- Laboda, Patricia A.** (1968), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Western Michigan University
M.A., Western Michigan University
- LaBounty, Raymond A.** (1945), *Department Head, Professor, Industrial Education.*
B.S., Eastern Michigan University
M.A., University of Michigan
Ed.S., University of Michigan
- Lafferty, John F.** (1969), *Assistant Professor, Accounting and Finance.*
B.A., Providence College
M.B.A., Dartmouth College
- Lake, Marylyn** (1967), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Lamiman, Floyd R.** (1951), *Associate Director, Housing.*
B.S., Eastern Michigan University
M.A., University of Michigan
- Lamming, Dorothy H.** (1947), *Professor, Art.*
B.A., Minot State Teachers College
M.A., University of Washington
- Laney, Maurice I.** (1968), *Professor, Music.*
B.A., Albion College
M.M., Eastman School of Music
Ph.D., Indiana University
- Lansing, Marjorie J.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., Florida University
M.A., Columbia University
Ph.D., University of Michigan
- Larcom, Helen S.** (1971), *Assistant Professor, English Language and Literature.*
B.A., Wheaton College
M.A., Smith College
- Larsen, Delmar L.** (1964), *Associate Professor, Industrial Education.*
B.A., State College of Iowa
M.A., Ball State University
Ph.D., Ohio State University
- Larson, Russell R.** (1970), *Assistant Professor, English Language and Literature.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Lauckner, Kurt F.** (1963), *Assistant Professor, Mathematics.*
B.S., University of Michigan
M.S., University of Michigan
Ph.D., University of Michigan
- Lavigne, Marilyn E.** (1970), *Assistant Professor, Health, Physical Education and Recreation.*
B.A., Taylor University
M.A., University of Michigan
- Lawniczak, Donald A.** (1967), *Assistant Professor, English Language and Literature.*
B.A., University of Toledo
M.A., University of Toledo
Ph.D., Kent State University
- Laws, Duane M.** (1971), *Professor, Home Economics.*
B.A., Brigham Young University
M.A., Brigham Young University
Ed.D., Columbia University
- Leffler, Judith A.** (1971), *Instructor, Health, Physical Education and Recreation.*
B.A., Butler University
M.A., University of North Carolina
- Lerner, Richard M.** (1969), *Assistant Professor, Psychology.*
B.A., Hunter College of the City University of New York
M.A., Hunter College of the City University of New York
Ph.D., City University of New York

LeTarte, Clyde (1969), *Associate Dean, Graduate School, Assistant Professor, Educational Leadership.*

B.A., Hope College
M.A., Michigan State University
Ph.D., Michigan State University

Lewis, Hildred J. (1971), *Director, Upward Bound Program.*

B.S., Eastern Michigan University
M.A., Eastern Michigan University

Lindenberg, Karen E. (1968), *Assistant Professor, History and Social Sciences.*

B.S., University of Oregon
Ph.D., University of Oregon

Linn, George W. (1955), *Associate Dean, Records and Teachers Certification; Assistant Professor, Education.*

B.A., Albion College
M.A., University of Michigan
Ph.D., University of Michigan

Liu, Stephen C. Y. (1965), *Associate Professor, Biology.*

B.S., National Taiwan University
M.S., National Taiwan University
Ph.D., University of Minnesota

Lloyd, Madeleine M. (1963), *Professor, Home Economics.*

B.A., Montclair State College
M.A., Columbia University
Ed.D., Columbia University

Loeber, Adolph P. (1964), *Professor, Physics and Astronomy.*

B.S., Wayne State University
M.A., Wayne State University
Ph.D., Michigan State University

Loree, John P. (1962), *Professor, Art.*

B.S., Fordham University
M.F.A., Alfred University

Lowe, David M. (1971), *Instructor, Education.*

B.A., Western Michigan University
M.A., University of Michigan

Lowe, Emily B. (1961), *Assistant Professor, Music.*

B.A., Duke University

Luther, Robert (1967), *Head Adviser, Phelps Hall.*

B.S., Eastern Illinois University
M.S., Eastern Illinois University

Lutz, Donald F. (1970), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., University of Colorado
M.A., Northwestern University

M

Macdonald, Alan L. (1970), *Assistant Professor, Mathematics.*

B.S., Wayne State University
M.S., University of Michigan
Ph.D., University of Michigan

MacDonald, Alister (1948), *Assistant Professor, Curriculum and Instruction.*

B.A., University of Minnesota
M.A., University of Minnesota

MacDonald, Mary L. (1965), *Assistant Professor, English Language and Literature.*

B.A., University of Michigan
M.A., University of Michigan
Ph.D., Wayne State University

MacLean, Lowe S. (1970), *Dean of Students.*

B.A., Indiana University
M.A., Michigan State University
Ed.D., Northern Michigan University

MacLeod, Martha A. (1965), *Assistant Professor, English Language and Literature.*

B.A., Texas Christian University
M.A., Ohio State University

MacMahan, Horace A. (1969), *Associate Professor, Geography and Geology.*

B.A., University of Maine
M.S., University of Utah
Ed.D., University of Colorado

MacVey, Wayne H. (1971), *Instructor, History and Social Sciences.*

B.A., Occidental College

Madgett, Naomi L. (1968), *Associate Professor, English Language and Literature.*

B.A., Virginia State College
M.Ed., Wayne State University

Madigan, J. Michael (1967), *Instructor, English Language and Literature.*

B.A., University of Michigan
M.A., University of Michigan

Madley, Susan M. (1966), *Assistant Professor, Health, Physical Education and Recreation.*

B.Sc., Nonington College of Physical Education, University of London, England
M.A., Nonington College of Physical Education, University of London, England

Magoon, Donald W. (1965), *Associate Professor, Management.*

B.S., University of Michigan
M.S., University of Michigan
M.B.A., University of Michigan

Mancell, Robert B. (1969), *Assistant Professor, Geography and Geology.*

B.A., University of Michigan
M.A., University of Michigan

Marshall, Albert P. (1969), *Department Head, Professor, Library.*

B.A., Lincoln University
B.S.L.S., University of Illinois
M.A., University of Illinois

- Marshall, Everett L.** (1938), *Dean, Records and Teacher Certification; Professor, Education.*
B.Ed., Northern Illinois University
M.A., University of Iowa
Ph.D., University of Iowa
- Marshall, Joan M.** (1970), *Assistant Professor, Psychology.*
B.A., University of Toronto
M.A., University of Toronto
Ph.D., Western Reserve University
- Marshall, Richard W.** (1968), *Assistant Professor, Mathematics.*
B.S., University of Pittsburgh
M.A., University of Michigan
Ph.D., University of Michigan
- Martin, Annette** (1968), *Assistant Professor, Speech and Dramatic Arts.*
B.A., Eastern Michigan University
M.S., University of Wisconsin
- Martin, Nora** (1967), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Masters, Mable F.** (1964), *Nurse, Health Service.*
R.N., Crouse Irving Hospital
- Mattice, Lawrence** (1969), *Assistant Professor, General Business.*
B.B.A., University of Michigan
J.D., University of Michigan
- Maxfield, Grace K.** (1958), *Assistant Professor, Library.*
B.A., New York State University at Albany
B.S.L.S., Columbia University
- May, George S.** (1965), *Professor, History and Social Sciences.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Mayer, Roger R.** (1967), *Assistant Professor, Art.*
B.F.A., Rhode Island School of Design
M.F.A., Syracuse University
- Mayo, R. Deming** (1971), *Instructor, Education.*
B.A., Albion College
M.A., Michigan State University
- McCarthy, Mary F.** (1959), *Assistant Professor, Economics.*
B.A., Vassar College
M.A., Columbia University
M.A., Eastern Michigan University
- McClennon, Sandra E.** (1971), *Instructor, Special Education and Occupational Therapy.*
B.S., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- McCloud, George E.** (1970), *Instructor, Speech and Dramatic Arts.*
B.A., Eastern Michigan University
M.A., University of Michigan
- McCracken, Sally R.** (1968), *Assistant Professor, Speech and Dramatic Arts.*
B.A., Muskingum College
M.A., Bowling Green State University
Ph.D., Wayne State University
- McDaniel Fred R.** (1956), *Assistant Dean, Admissions and Financial Aids.*
B.A., Maryville College
M.A., Eastern Michigan University
- McDaniel, Thelma L.** (1961), *Assistant Professor, Speech and Dramatic Arts.*
B.F.A., State University of Iowa
M.A., Eastern Michigan University
- McDonald, James R.** (1965), *Professor, Geography and Geology.*
B.A., Antioch College
M.A., University of Illinois
Ph.D., University of Illinois
- McElya, Mitchell R.** (1967), *Associate Professor, Speech and Dramatic Arts.*
B.S., University of Wisconsin
M.F.A., University of Wisconsin
- McGee, Charles W.** (1969), *Instructor, Art.*
Artist in residence
Graduate, Society of Arts and Crafts
- McGlynn, Paul D.** (1964), *Associate Professor, English Language and Literature.*
Ph.B., University of Detroit
M.A., University of Detroit
Ph.D., Rice University
- McGraw, James T.** (1971), *Counselor, Counseling Center.*
B.A., University of Michigan
M.A., University of Michigan
- McHugh, Frank** (1958), *Assistant Professor, English Language and Literature.*
B.A., Harvard University
M.A., Northwestern University
- McKee, Judy A.** (1971), *Assistant Professor, Educational Psychology.*
B.A., Central Michigan University
M.A., Columbia University
Ph.D., Columbia University
- McLarty, R. Neil** (1958), *Department Head, Professor, History and Social Sciences.*
B.A., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan

- McLean, William D.** (1967), *Instructor, English Language and Literature.*
B.A., Michigan State University
M.A., University of Michigan
Ph.D., University of Michigan
- McLennan, Marshall** (1970), *Assistant Professor, Geography and Geology.*
B.A., University of California at Los Angeles
M.A., San Francisco State College
- McLeod, Cecil R.** (1956), *Assistant Professor, Library.*
B.A., University of California at Los Angeles
M.S.L.S., Western Reserve University
M.A., University of Michigan
- McWilliams, Robert O.** (1956), *Professor, History and Social Sciences.*
B.A., University of Michigan
M.P.A., Wayne State University
Ph.D., University of Michigan
- Meeske, C. John** (1969), *Assistant Professor, General Business.*
B.A., University of Michigan
M.B.A., University of Detroit
- Mehta, Dady** (1969), *Assistant Professor, Music.*
Ecole Normale de Musique, Paris; State Academy of Music, Vienna
- Meis, Ruby L.** (1964), *Professor, Home Economics.*
B.S., Central Michigan University
M.A., University of Michigan
Ed.D., Pennsylvania State University
- Meisels, Murray** (1965), *Associate Professor, Psychology.*
B.A., Brooklyn College
Ph.D., State University of New York at Buffalo
- 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
- Metler, John W.** (1964), *Associate Professor, Educational Psychology.*
B.A., University of Western Ontario
B.D., Emmanuel College, Victoria University
M.A., Union Theological Seminary
Ed.D., Teacher's College, Columbia University
- Meyer, Eva** (1966), *Assistant Professor, Special Education and Occupational Therapy.*
B.A., Radcliffe College
- Michael, Calvin B.** (1956), *Professor, Education.*
B.A., Albion College
M.A., University of Michigan
Ph.D., University of Michigan
- Miller, Gary M.** (1969), *Assistant Professor, Guidance and Counseling.*
B.S., Slippery Rock State College
M.Ed., Duquesne University
Ph.D., Case-Western Reserve University
- Miller, Karen L.** (1970), *Assistant Professor, Home Economics.*
B.S., Indiana State University
M.A., Indiana State University
- Miller, Marjorie M.** (1946), *Professor, English Language and Literature.*
B.A., Nebraska State Teachers College
M.A., University of Michigan
- Miller, William A.** (1971), *Assistant Professor, History and Social Sciences.*
B.A., St. Louis University
- Mills, Madolia E.** (1969), *Instructor, Geography and Geology.*
B.A., Wayne State University
M.A., Wayne State University
- Mills, Robert** (1969), *Assistant Professor, Mathematics.*
B.S.E., University of Michigan
M.S.E., University of Michigan
- Milne, William P.** (1970), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., University of Illinois
M.S., University of Illinois
- Milske, Paul W.** (1967), *Assistant Professor, Biology.*
B.S., College of St. Thomas
M.A., University of Michigan
- Minick, Merlyn C.** (1966), *Associate Professor, Biology.*
B.S., Eastern Michigan University
M.A., University of Michigan
Ph.D., Wayne State University
- Minneman, Charles E.** (1959), *Director, Religious Affairs.*
B.A., Capital University
B.D., Evangelical Lutheran Theological Seminary, Capital University
S.T.M., Yale University
- Minton, Gene D.** (1968), *Assistant Professor, Industrial Education.*
B.S., Ball State University
M.A., Ball State University
Ed.D., University of Maryland
- Minzey, Jack D.** (1968), *Associate Professor, Educational Leadership.*
B.A., Eastern Michigan University
M.A., University of Michigan
Ed.D., Michigan State University
- Misiewicz, Joseph P.** (1971), *Instructor, Speech and Dramatic Arts.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Moffett, Valerie T.** (1961), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University

- Mohl, Ronald A.** (1968), *Associate Professor, English Language and Literature.*
B.A., University of Nebraska
M.A., University of Nebraska
Ph.D., University of Connecticut
- Monahan, Thomas O.** (1953), *Professor, Education.*
B.S., Willimantic State Teachers College
M.A., University of Connecticut
Ed.D., Teachers College, Columbia University
- Monsma, Charles M.** (1971), *Assistant Professor, History and Social Sciences.*
B.A., Calvin College
M.P.A., University of Michigan
- Moon, Kenneth W.** (1971), *Associate Dean of Students.*
B.S., Western Michigan University
M.A., Eastern Michigan University
- Moore, Jean R.** (1968), *Assistant Professor, Physics and Astronomy.*
B.S., Indiana University
M.S., Indiana University
M.A., University of Michigan
Ph.D., University of Michigan
- Moore, John W.** (1971), *Associate Professor, Chemistry.*
B.S., Franklin and Marshall College
Ph.D., Northwestern University
- Moore, Noel S.** (1965), *Associate Professor, Curriculum and Instruction.*
B.A., Central Michigan University
M.A., University of Michigan
Ed.D., Wayne State University
- Moore, Sarah E.** (1964), *Assistant Professor, Home Economics.*
B.S., Ball State University
M.A., Ball State University
- Moore, Thomas V.** (1970), *Instructor, English Language and Literature.*
B.A., Yale University
M.A., University of California at Berkeley
- Morgan, E. Wayne** (1971), *Manager, University Bookstore.*
B.A., William Penn College
- Morgan, Willie B.** (1969), *Assistant Professor, Speech and Dramatic Arts.*
B.A., University of Richmond
M.A., University of Virginia
- Moses, Fredric** (1970), *Instructor, Music.*
B.S., Eastern Montana College
M.M., Michigan State University
- Moses, Gerald** (1969), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Loyola, Chicago
M.A., Western Michigan University
Ph.D., Ohio State University
- Moss, Gordon E.** (1971), *Assistant Professor, Sociology.*
B.S., Brigham Young University
M.A., Rutgers University
- Moss, Walter** (1970), *Assistant Professor, History and Social Sciences.*
B.S., Xavier University
Ph.D., Georgetown University
- Motto, Joseph J.** (1961), *Professor, Special Education and Occupational Therapy.*
B.S., Central Michigan University
M.A., University of Detroit
Ph.D., University of Michigan
- Motto, Natalie D.** (1971), *Supervisor, Cashier's Office.*
B.B.A., Cleary College
- Muckenhirn, Erma F.** (1963), *Professor, Education.*
B.S., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Mueller, Twyla** (1968), *Assistant Professor, Library.*
B.A., University of Toledo
M.S.L.S., Case Western Reserve University
- Muller, Brigitte D.** (1967), *Assistant Professor, Foreign Languages and Literature.*
Ecole Supérieure de Journalisme, University of Paris
B.A., Eastern Michigan University
M.A., University of Michigan
Ph.D., Université d'Aix-Marseille, France
- Murray, Thomas J.** (1963), *Department Head, Professor, Speech and Dramatic Arts.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Myers, Allen** (1958), *Dean, College of Education; Professor, Special Education and Occupational Therapy.*
B.M., North Texas State College
M.M., North Texas State College
M.A., State University of Iowa
Ph.D., State University of Iowa

N

- Nau, Paul A.** (1967), *Associate Professor, Guidance and Counseling.*
B.S., Kent State University
M.Ed., Kent State University
Ph.D., Kent State University
- Navarre, Gary B.** (1970), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.S., University of Oregon
Ed.D., Wayne State University
- Nazzaro, Andrew A.** (1969), *Assistant Professor, Geography and Geology.*
B.A., Jacksonville University
M.S., Florida State University

- Neale, Nancy L.** (1970), *Assistant Professor, Biology.*
B.S., University of Toledo
M.S., Wayne State University
- Neeb, Leon E.** (1966), *Assistant Professor, Curriculum and Instruction.*
B.S., Huntington College
M.Ed., Bowling Green State University
Ed.S., Bowling Green State University
- Nelson, Alfred L.** (1970), *Associate Professor, English Language and Literature.*
A.B., Wayne State University
A.M., Wayne State University
Ph.D., George Washington University
- Nelson, Bruce K.** (1954), *Vice-President for Instruction; Professor, Educational Leadership.*
B.A., Northern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan
- Nelson, Herbert L.** (1965), *Assistant Professor, Industrial Education.*
B.S., Central Michigan University
M.A., Michigan State University
- Neton, Vincent A.** (1971), *Administrative Assistant, University Housing.*
B.B.A., Kent State University
M.P.A., Kent State University
- Neuhaus, Colin** (1969), *Assistant Professor, Marketing.*
B.A., Gettysburg College
M.B.A., University of Michigan
Ph.D., University of Michigan
- Neve, Gloria D.** (1969), *Instructor, Health, Physical Education and Recreation.*
B.S., Central Michigan University
M.A., Central Michigan University
- Newhall, Daniel, P.E.** (1965), *Engineer.*
B.S.C.E., University of Wisconsin
- Nisbet, Richard J.** (1955), *Director of Placement. Assistant Professor, Curriculum and Instruction.*
B.A., Alma College
M.A., University of Michigan
- Northey, James H.** (1957), *Professor, Mathematics.*
B.S., Northern Michigan University
M.S., University of Michigan
Ph.D., University of Michigan
-
- O'Dell, Jerry W.** (1966), *Associate Professor, Psychology.*
B.A., University of Cincinnati
Ph.D., University of Michigan
- Oestrike, Ronald E.** (1964), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.S., University of Michigan
- Ogden, Lawrence** (1963), *Professor, Geography and Geology.*
B.S.Ed., Northwest Missouri State College
B.Geol., University of Tulsa
M.S., University of Wisconsin
D.Sc., Colorado School of Mines
- Ogden, Russell L.** (1956), *Professor, Business Education.*
B.S., Eastern Illinois University
M.A., Colorado State College
Ed.D., Colorado State College
- Ojala, Carl F.** (1970), *Assistant Professor, Geography and Geology.*
B.A., Kent State University
M.A., University of Georgia
- Olsen, James E.** (1967), *Assistant Dean, Admissions and Financial Aids.*
B.A., Central Michigan University
M.Ed., University of Michigan
- Oltmanns, Richard G.** (1956), *Assistant Professor, Library.*
B.S., Eastern Michigan University
M.S., Indiana University
- Orentlicher, John** (1970), *Instructor, Art.*
B.A., Goddard College
M.F.A., Art Institute - Chicago
- Orloff, Henry** (1970), *Assistant Professor, Psychology.*
A.B., Cornell University
Ph.D., Texas Christian University
- Osadchuk, Mitchell M.** (1956), *Administrative Assistant to the President; Associate Professor, Music.*
B.A., Lake Forest College
M.M., Northwestern University
- Osborn, Carroll A.** (1955), *Associate Professor, Industrial Education.*
B.A., Ohio Wesleyan University
B.S., Ohio State University
M.A., Ohio State University
- Osovski, Priscilla A.** (1971), *Instructor, English Language and Literature.*
B.A., State University of New York
- Ott, Thomas C.** (1971), *Director, Student Life.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
Ed.S., Kent State University
- Owens, J. Henry** (1940), *Department Head, Professor, Foreign Languages and Literature.*
B.A., Franklin College
M.A., University of Minnesota
Ph.D., University of Minnesota
- P**
- PaDelford, Harold E.** (1969), *Assistant Professor, Industrial Education.*
B.S., Mankato State College
M.A., University of Minnesota
Ph.D., University of Minnesota

- Palasek, James R.** (1966), *Associate Professor, Special Education and Occupational Therapy.*
B.A., Western Michigan University
M.S., Purdue University
Ph.D., Syracuse University
- Palmer, Benjamin** (1970), *Assistant Professor, Foreign Languages and Literature.*
B.A., University of Connecticut
M.A., Northwestern University
Ph.D., Northwestern University
- Palmer, David E.** (1952), *Associate Professor, Special Education and Occupational Therapy.*
B.A., University of Michigan
M.A., University of Michigan
- Pappas, John G.** (1966), *Department Head, Professor, Guidance and Counseling.*
B.A., University of Akron
M.A., Ohio State University
Ph.D., Kent State University
- Pappas, John N.** (1960), *Professor, Art.*
B.F.A., Wayne State University
M.A., Wayne State University
- Parker, Dennis A.** (1969), *Assistant Professor, Speech and Dramatic Arts.*
B.S., University of Michigan
M.A., University of Michigan
- Parks, Robert C.** (1966), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.A., Michigan State University
- Parris, Arthur** (1970), *Professor, Music.*
B.S., Juilliard School of Music
M.A., Bryn Mawr College
Ph.D., Bryn Mawr College
- Parsons, Karl A.** (1950), *Professor, Physics and Astronomy.*
B.A., Indiana Central College
M.S., State University of Iowa
- Pate, Robert S.** (1946), *Department Head, Professor, Mathematics.*
B.A., Peru State College
M.A., University of Nebraska
Ph.D., University of Illinois
- Patrick, Floyd A.** (1970), *Professor, Management.*
B.S., University of Wisconsin
M.A., University of Iowa
Ph.D., University of Iowa
- Paulin, Kenneth** (1970), *Instructor, Speech and Dramatic Arts.*
B.A., Western Michigan University
M.A., Purdue University
- Pearson, Donald W.** (1969), *Assistant Professor, History and Social Sciences.*
B.A., Tulane University
M.A., University of Texas
Ph.D., University of Texas
- Pearson, Ross N.** (1969), *Department Head, Professor, Geography and Geology.*
B.Ed., Illinois State Normal University
M.S., University of Wisconsin
Ph.D., University of Michigan
- Pederson, Erik J.** (1968), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Illinois University
M.S., Eastern Illinois University
- Peel, Annette** (1971), *Assistant Professor, Home Economics.*
B.S., Florida State University
M.S., Syracuse University
Ph.D., Florida State University
- Perkins, Agnes R.** (1961), *Assistant Professor, English Language and Literature.*
B.A., University of Montana
M.A., University of Montana
- Perkins, George B.** (1967), *Professor, English Language and Literature.*
B.A., Tufts College
M.A., Duke University
Ph.D., Cornell University
- Peters, Frederick J.** (1967), *University Conferences Coordinator, Field Services.*
B.A., University of Michigan
M.A., Eastern Michigan University
- Peterson, Ralph G.** (1946), *Associate Professor, Education.*
B.S., Northern Michigan University
M.A., University of Michigan
- Petitpren, Joan** (1971), *Instructor, Education.*
B.A., Eastern Michigan University
- Pfister, James** (1970), *Assistant Professor, History and Social Sciences.*
B.A., University of Michigan
M.A., University of Michigan
- Phillips, Edith G.** (1967), *Assistant Professor, Marketing.*
B.S., Ohio State University
M.A., Eastern Michigan University
- Phipps, Mary F.** (1969), *Assistant Professor, Music.*
B.S., Northwestern University
M.M., Oakland University
- Pignotti, Alfio** (1969), *Associate Professor, Music.*
B.M., Eastman School of Music
M.M., Manhattan School of Music
- Pillsbury, Paul W.** (1960), *Professor, English Language and Literature.*
B.A., Dartmouth College
M.A., University of Michigan
Ph.D., University of Michigan

Pingel, Albert H. (1967), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., Eastern Michigan University
M.A., University of Michigan

Pisoni, John (1970), *Instructor, Foreign Languages and Literature.*

A.B., University of Missouri
M.A., University of Oklahoma

Plank, Max E. (1968), *Assistant Professor, Music.*

B.M.E., Kansas State Teachers College
M.M., Kansas State Teachers College
D.M.A., University of Michigan

Podojil, Louise F. (1970), *Assistant Professor, Educational Psychology.*

B.A., Valparaiso University
M.Ed., Kent State University
Ph.D., Kent State University

Pool, Kenneth B. (1969), *Associate Professor, Psychology.*

A.A., Ventura Junior College
B.A., University of California at Santa Barbara
Ph.D., University of California at Berkeley

Porretta, Louis P. (1959), *Professor, Curriculum and Instruction.*

B.A., Eastern Michigan University
M.Ed., Wayne State University
Ed.D., Wayne State University

Porter, James C. (1967), *Associate Professor, Physics and Astronomy.*

B.S., Purdue University
Ph.D., Purdue University

Post, E. Arlene (1968), *Instructor, Special Education and Occupational Therapy.*

B.A., Eastern Michigan University

Potter, Edward E. (1950), *Professor, English Language and Literature.*

B.A., St. Ambrose College
M.A., University of Notre Dame
Ph.D., University of Michigan

Powell, Ralph R. (1966), *Assistant Professor, Chemistry.*

B.S., Marian College
Ph.D., Purdue University

Presser, David L. (1971), *Instructor, Mathematics.*

B.A., Harvard University
M.A., University of Michigan

Profit, Lewis E. (1954), *Vice-President, Business and Finance.*

B.S., Central Michigan University
M.A., University of Michigan

Prud'homme, Lawrence H. (1969), *Assistant Professor, History and Social Sciences.*

B.A., University of California at Berkeley
M.A., University of California at Davis

Pyle, Hersh O. (1945), *Associate Professor, Music.*

B.M., Saint Louis Institute of Music
M.M., University of Michigan
M.A., University of Michigan

Q

Quayle, Robert (1969), *Assistant Professor, Music.*

B.M., University of Michigan
M.M., University of Michigan

Quinn, Kathleen S. (1965), *Assistant Professor, Special Education and Occupational Therapy.*

B.S., Washington University
M.A., Eastern Michigan University

R

Racz, Barnabas A. (1968), *Associate Professor, History and Social Sciences.*

J.D., University of Budapest
M.A., University of Michigan
Ph.D., University of Michigan

Rader, Hannelore B. (1968), *Instructor, Library.*

B.A., University of Michigan
M.A., University of Michigan

Ramsay, O. Bertrand (1965), *Associate Professor, Chemistry.*

B.S., Washington and Lee University
Ph.D., University of Pennsylvania

Rankin, Joanne S. (1965), *Assistant Professor, Mathematics.*

B.A., Eastern Michigan University
M.A., Eastern Michigan University

Raphael, C. Nicholas (1967), *Associate Professor, Geography and Geology.*

B.A., Wayne State University
M.A., Eastern Michigan University
Ph.D., Louisiana State University

Raudzens, Margers (1969), *Assistant Professor, Art.*

B.A., Brown University
M.F.A., Syracuse University

Rebane, Toomas (1970), *Assistant Professor, Mathematics.*

B.S., University of Michigan
M.S., University of Michigan
Ph.D., University of Michigan

Remmers, John H. (1971), *Assistant Professor, Mathematics.*

B.A., Harvard University
M.A., University of Michigan
Ph.D., University of Michigan

Rengan, Krishnaswamy (1970), *Assistant Professor, Chemistry.*

B.S., University College, Trivandrum (India)
Ph.D., University of Michigan

- Reynolds, James A.** (1967), *Assistant Professor, English Language and Literature.*
B.S.E.E., Purdue University
M.A., Western Reserve University
Ph.D., University of Michigan
- Reynolds, Robert W.** (1971), *Business Administrator, Health Services.*
B.A., Eastern Michigan University
- Rice, Dale L.** (1967), *Associate Professor, Special Education and Occupational Therapy.*
B.A., University of Michigan
M.S.W., University of Michigan
Ph.D., University of Michigan
- Rich, Sharon R.** (1969), *Associate Professor, Art.*
B.S. Design, University of Michigan
M.F.A., Cranbrook Academy of Art
M.A., New York University
- Richards, Lawrence P.** (1965), *Associate Professor, Biology.*
B.A., University of California at Berkeley
Ph.D., University of Illinois
- Ridgway, Joyce A.** (1967), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Michigan University
M.S., Eastern Michigan University
- Riley, Maurice W.** (1947), *Professor, Music.*
B.A., Colorado State College
M.A., Colorado State College
M.M., University of Michigan
Ph.D., University of Michigan
- Risk, Norman W.** (1949), *Professor, Industrial Education.*
B.S., Eastern Michigan University
M.A., University of Michigan
- Rizkalla, Albert E.** (1971), *Assistant Professor, Accounting and Finance.*
B.Com., University of Cairo
M.A.S., University of Illinois
- Robbins, Omer, Jr.** (1961), *Dean, Graduate School; Professor, Chemistry.*
B.S., University of Michigan
M.S., University of Michigan
Ph.D., University of Michigan
- Robek, Mary F.** (1958), *Professor, Business Education.*
B.Ed., Wisconsin State College at Whitewater
M.A., Northwestern University
M.B.A., University of Michigan
Ph.D., University of Michigan
- Robinson, Robert S.** (1959), *Assistant Professor, Education.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Rodriguez, Luis F.** (1970), *Assistant Professor, General Business.*
B.A., University of Michigan
M.A., University of Michigan
L.L.B., University of Michigan
- Roe, Charles** (1968), *Assistant Professor, Music.*
B.M., Baldwin-Wallace College
M.M., University of Illinois
- Rogers, Agnes L.** (1955), *Associate Professor, Special Education and Occupational Therapy.*
B.A., University of Tennessee
M.A., George Peabody College
- Rogowski, Mary** (1970), *Instructor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Rokusek, Henry J.** (1964), *Professor, Industrial Education.*
B.S., Stout State University
M.S., Stout State University
Ph.D., University of Maryland
- Rosenblum, Alan L.** (1965), *Instructor, English Language and Literature.*
B.A., City College of New York
M.A., New York University
- Rosenwein, Robert E.** (1968), *Assistant Professor, Psychology.*
B.A., University of California
M.A., University of Michigan
Ph.D., University of Michigan
- Ross, Frank E.** (1966), *Professor, English Language and Literature.*
B.S., Northern Illinois University
M.A., DePaul University
- Rossiter, Margaret L.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., Douglass College
M.A., Bryn Mawr College
Ph.D., Bryn Mawr College
- Roth, Alfred A.** (1967), *Assistant Professor, Industrial Education.*
B.S.Ed., Kent State University
M.A.Ed., Ohio University
- Roth, Earl** (1954), *Dean, College of Business; Professor, Marketing.*
B.S., Ohio State University
M.A., Ohio State University
Ed.D., Indiana University
- Roth, Richard F.** (1969), *Assistant Professor, Physics and Astronomy.*
B.S., Rockhurst College
M.A., Princeton University
Ph.D., Princeton University
- Ruibley, Glenn R.** (1968), *Assistant Professor, English Language and Literature.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Wisconsin
- Russell, Mary J.** (1971), *Instructor, Education.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University

Russell, Wilma I. (1958), *Professor, Curriculum and Instruction.*

B.S., Southwest Missouri State College
M.A., New York University
Ph.D., University of Michigan

S

Sabaliunas, Leonas (1966), *Associate Professor, History and Social Sciences.*

B.A., University of Illinois
M.I.A., Columbia University
Ph.D., Columbia University

Sabki, Hisham M. (1969), *Associate Professor, History and Social Sciences.*

B.S., Indiana University
M.A., Indiana University
Ph.D., Indiana University

Samonte, Quirico S. (1963), *Professor, Education.*

B.A., University of the Philippines
M.A., University of the Philippines
M.A., University of Michigan
Ph.D., University of Michigan

Satterelli, Joanne (1971), *Registered Technologist, Health Services.*

R.T. (A.R.R.T.), Jackson Community College
W.A. Foote Memorial Hospital School of X-Ray

Sattler, John W. (1947), *Professor, Speech and Dramatic Arts.*

B.A., Yankton College
M.A., University of Michigan
Ph.D., Northwestern University

Saunders, Ronald J. (1963), *Assistant Professor, Health, Physical Education, Recreation and Athletics.*

B.A., Eastern Michigan University
M.A., University of Michigan

Saupe, Frances H. (1952), *Assistant Professor, Library.*

B.S., University of Minnesota
M.S.L.S., University of Illinois

Sayegh, Matilda (1971), *Assistant Professor, Health, Physical Education and Recreation.*

B.A., American University, Beirut
M.A., American University, Beirut
Ph.D., University of Michigan

Schaub, Raymond E. (1969), *Assistant Professor, Foreign Languages and Literature.*

B.A., Rice University

Scherer, Lester B. (1969), *Associate Professor, History and Social Sciences.*

B.A., Harvard University
B.D., Garrett Theological Seminary
Ph.D., Northwestern University

Schmidt, Elma L. (1970), *Instructor, Speech and Dramatic Arts.*

B.A., Otterbein College
M.A., Eastern Michigan University

Schmitt, Janet C. (1971), *Instructor, Health, Physical Education and Recreation.*

B.S., Ohio University
M.S., Ohio University

Schreiber, O. Ivan (1950), *Professor, English Language and Literature.*

B.A., Wittenberg College
M.A., Ohio State University

Schwadron, Allen I. (1971), *Associate Professor, Accounting and Finance.*

B.B.A., St. John's College
J.D., New York University
L.L.M., New York University
C.P.A., State of New York

Schullery, Stephen (1970), *Assistant Professor, Chemistry.*

B.A., Eastern Michigan University
Ph.D., Cornell University

Schwarze, Richard (1970), *University Photographer, Information Services.*

Scott, Jean O. (1964), *Assistant Professor, Curriculum and Instruction.*

B.A., Eastern Michigan University
M.A., Eastern Michigan University

Scott, Ronald M. (1959), *Professor, Chemistry.*

B.S., Wayne State University
Ph.D., University of Illinois

Seabert, Margaret P. (1961), *Assistant Professor, Special Education and Occupational Therapy.*

B.S., Eastern Michigan University
M.A., Eastern Michigan University

Selby, Carol E. (1967), *Assistant Professor, Library.*

B.A., University of Utah
B.S.L.S., University of Denver
M.A., University of Utah

Shankwiler, Beverly A. (1971), *Instructor, Art.*

B.F.A., Eastern Michigan University
M.A., Eastern Michigan University

Sharp, David W. (1962), *Associate Professor, Art.*

B.A., Arizona State University
M.F.A., State University of Iowa

Shaw, James (1969), *Counselor, Admissions and Financial Aids.*

B.A., Miles College

Sheard, John E. (1963), *Professor, Health, Physical Education and Recreation.*

B.S., Miami University
M.S., in Ed., Miami University
P.E.D., Indiana University

Shell, Claude I., Jr. (1967), *Department Head, Professor, Management.*

B.A., Maryville College
M.S., University of Tennessee
Ph.D., Southern Illinois University

- Shough, Lee F.** (1969), *Instructor, Special Education and Occupational Therapy.*
B.A., Eastern Michigan University
M.A., Wayne State University
- Shuter, William F.** (1968), *Associate Professor, English Language and Literature.*
B.A., Brooklyn College
M.A., Columbia University
Ph.D., University of Wisconsin
- Siegel, Judith F.** (1968), *Assistant Professor, History and Social Sciences.*
B.A., Reed College
M.A., University of Chicago
- Silver, Robert** (1966), *Professor, Physics and Astronomy.*
B.S., Wayne State University
Ph.D., University of California
- Simmons, Harold E.** (1960), *Assistant Professor, Economics.*
B.A., Western Michigan University
M.A., Michigan State University
- Simons, Harold E.** (1969), *Instructor, Health, Physical Education and Recreation.*
B.A., Eastern Michigan University
M.S., Eastern Michigan University
- Simpson, Frances** (1969), *Assistant Professor, Library.*
B.A., Thiel College
M.A.L.S., University of Michigan
- Simpson, John W.** (1948), *Professor, Economics.*
B.A., Ohio State University
M.A., Ohio State University
Ph.D., Ohio State University
- Sims, Carol A.** (1969), *Instructor, Library.*
B.A., University of Illinois
M.S., University of Michigan
- Sinclair, Frank L.** (1955), *Assistant Professor, Biology.*
B.S., Eastern Michigan University
M.S., Michigan State University
- Sirola, Olga, M.D.**, (1951), *Staff Physician, Health Center.*
B.A., University of California
M.D., University of California
- Skore, Marvin L.** (1968), *Assistant Professor, Educational Psychology.*
B.A., Wayne State University
M.A., Eastern Michigan University
Ph.D., Wayne State University
- Skully, Marilyn J.** (1969), *Assistant Professor, Educational Psychology.*
B.A., Hardin-Simmons University
M.A., Michigan State University
Ph.D., Wayne State University
- Smart, William H.** (1971), *Manager, Food Services.*
B.A., Eastern Michigan University
- Smith, Doris A.** (1958), *Associate Professor, Art.*
B.D., University of Michigan
M.S., and D., University of Michigan
- Smith, Harry T.** (1971), *Instructor, Industrial Education.*
B.S., Northeast Missouri State
M.S., Central Missouri State
- Smith, John Robert** (1969), *Instructor, Music.*
B.Mus., Louisiana State University
- Smith, Lawrence R.** (1970), *Instructor, English Language and Literature.*
B.A., University of California at Berkeley
M.A., University of California at Berkeley
- Smith, Wilfred R.** (1964), *Associate Professor, Education.*
B.A., Wayne State University
M.A., University of Chicago
Ed.D., Wayne State University
- Snyder, Carl D.** (1957), *Professor, Economics.*
B.S., Heidelberg College
M.A., Miami University
D.S.S., Syracuse University
- Sokkar, Fat-Hi F.** (1971), *Assistant Professor, Management.*
B.Com., Cairo University
M.B.A., Eastern Michigan University
Ph.D., University of Illinois
- Solomon, Samuel R.** (1960), *Professor, History and Social Sciences.*
B.A., Syracuse University
M.A., Syracuse University
Ph.D., Syracuse University
- Sperling, William D.** (1960), *Assistant Professor, Biology.*
B.A., Eastern Michigan University
M.A., University of Michigan
- Spike, Clark G.** (1958), *Department Head, Professor, Chemistry.*
B.S., Eastern Michigan University
M.S., University of Michigan
Ph.D., University of Michigan
- Spitz, A. Edward** (1970), *Associate Professor, Marketing.*
B.B.A., City College of New York
M.S., Columbia University
Ph.D., University of Kentucky
- Sponberg, Harold E.** (1965), *President, Eastern Michigan University.*
B.A., Gustavus Adolphus College
M.A., University of Minnesota
Ph.D., Michigan State University
- Sprandel, Dorian G.** (1971), *Director, University Housing.*
B.A., Albion College
M.A., Michigan State University
Ph.D., Michigan State University
- Staal, Arie** (1968), *Assistant Professor, English Language and Literature.*
B.A., Calvin College
M.A., University of Michigan
Ph.D., University of Michigan

- Stadtfeld, Curtis K.** (1966). *Director of Information Services; Acting Director, University Press; Assistant Professor, English Language and Literature.*
B.A., Michigan State University
M.A., Eastern Michigan University
- Stanley, Kenneth W.** (1961). *Associate Professor, Guidance and Counseling.*
B.A., Northern Michigan University
M.A., Michigan State University
- Stark, Maurice E.** (1971). *Assistant Professor, Accounting and Finance.*
B.S., Kansas State University
M.S., Kansas State University
- Steele, Eugene** (1969). *Instructor, English Language and Literature.*
B.A., King's College, University of London
M.A., University of Michigan
- Steffek, Ralph L.** (1964). *Special Consultant, Federal and State Programs.*
B.A., University of Michigan
M.A., University of Michigan
Ed.D., Wayne State University
- Steig, Peggy A.** (1956). *Professor, Chairman of Women's Division, Health and Physical Education.*
B.S., Miami University
M.A., Ohio State University
Ph.D., Ohio State University
- Stephenson, Susanne G.** (1963). *Associate Professor, Art.*
B.F.A., Carnegie Institute of Fine Arts
M.F.A., Cranbrook Academy of Art
- Stern, Ferdinand** (1968). *Associate Professor, Psychology.*
L.L.D., University of Vienna
Ph.D., University of Washington
- Stevens, Florence L.** (1948). *Assistant Professor, Library.*
B.S., Eastern Michigan University
M.A., University of Michigan
M.A.L.S., University of Michigan
- Stevens, Suzanne J.** (1971). *Assistant Professor, Biology.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Stewart, David** (1969). *Instructor, Music.*
B.Mus., Oberlin College
M.A., Smith College
- Stewart, Elma M.** (1969). *Instructor, Library.*
Ph.B., Wayne State University
M.S.L.S., Wayne State University
- Stotz, Robert** (1971). *Instructor, Chemistry.*
B.S., University of Toledo
M.S., University of Toledo
Ph.D., University of Florida
- Street, Scott** (1961). *Professor, Curriculum and Instruction.*
B.S., Bowling Green State University
M.A., Wayne State University
Ed.D., Wayne State University
- Strickland, Gary** (1970). *Instructor, Health, Physical Education and Recreation.*
B.A.E., Wayne State University
M.S., Western Illinois University
- Studt, Earl K.** (1936). *Director, Field Services; Assistant Professor, Educational Leadership.*
B.A., Eastern Michigan University
M.S., University of Michigan
- Stuppel, David** (1969). *Assistant Professor, Sociology.*
B.A., Lake Forest College
M.A., University of Missouri
Ph.D., University of Missouri
- Sullivan, John M.** (1958). *Professor, Chemistry.*
B.A., Dartmouth College
M.S., University of Michigan
Ph.D., University of Michigan
- Sundquist, Jean S.** (1958). *Associate Professor, Music.*
B.S., Northern Michigan University
M.M., University of Michigan
- Suryanarayana, Manda** (1969). *Assistant Professor, Mathematics.*
B.S., P.R. Government College
M.S., University of Poona
M.S., University of Michigan
Ph.D., University of Michigan
- Swihart, William D.** (1964). *Director of Purchasing.*
- Swisher, William V.** (1965). *Associate Professor, Speech and Dramatic Arts.*
B.A., University of Michigan
M.A., University of Michigan
- Szabo, Edward J.** (1968). *Associate Professor, Music.*
B.M., University of Cincinnati, College Conservatory of Music
B.S., Juilliard School of Music
M.S., Juilliard School of Music
M.A., Columbia University
Ed.D., Columbia University
- Szonyi, Paul L.** (1971). *Instructor, History and Social Sciences.*
B.A., University of Michigan
M.A., University of Michigan

T

Tammany, David D. (1966). *Associate Professor, Art.*
B.F.A., University of Wichita
M.F.A., Tulane University

Tate, Mildred J. (1971). *Coordinator, Minority Affairs.*
B.S., Jackson State College
M.A., University of Michigan
Ph.D., Michigan State University

Taylor, Donna (1970). *Assistant Professor, Education.*
B.A., Wayne State University
M.Ed., Wayne State University

- Teal, Mary** (1965), *Associate Professor, Music.*
B.S., Northwestern State College
M.Mus., University of Michigan
Ph.D., University of Michigan
- 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
- Thalhofer, Nancy N.** (1969), *Assistant Professor, Sociology.*
B.A., Lawrence College
M.A., University of Michigan
Ph.D., University of Michigan
- Thayer, Louis C.** (1969), *Assistant Professor, Guidance and Counseling.*
B.S., Nebraska State College
M.S., Nebraska State College
Ed.D., University of Illinois
- Thomas, Clinton E.** (1959), *Associate Professor, Physics and Astronomy.*
B.S., University of Michigan
M.S., University of Michigan
- Thompson, Anne G.** (1967), *Counselor, Counseling Center.*
B.A., Kalamazoo College
M.S., Indiana University
Ed.D., Indiana University
- Thompson, Ronald G.** (1968), *Instructor, English Language and Literature.*
B.A., Minnesota State College
M.A., University of Michigan
Ph.D., University of Michigan
- Thornhill, Jack N.** (1970), *Associate Professor, General Business.*
B.A., Wittenberg University
M.Litt., University of Pittsburgh
Ph.D., Louisiana State University
- Tibbals, Robert T.** (1968), *Assistant Professor, Curriculum and Instruction.*
B.S., Michigan State University
M.A., Eastern Michigan University
Ed.S., Eastern Michigan University
- Tirtha, Ranjit** (1970), *Associate Professor, Geography and Geology.*
B.A., Punjab University
M.A., Punjab University
Ph.D., University of North Carolina
- Tothill, Herbert O.** (1960), *Professor, Guidance and Counseling.*
B.A., University of Rochester
M.A., University of Hawaii
Ph.D., Syracuse University
- Townsend, Patricia K.** (1969), *Assistant Professor, Sociology.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Trapp, Ronald** (1966), *Assistant Professor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Treado, Bernard M.** (1953), *Assistant Professor, Special Education and Occupational Therapy.*
B.A., Northern Michigan University
M.A., University of Michigan
- Trochet, P. Daniel** (1968), *Instructor, Physics and Astronomy.*
B.S., Eastern Michigan University
M.S., Eastern Michigan University
- Trosko, Fred** (1952), *Associate Professor, Health, Physical Education and Recreation.*
B.S., University of Michigan
M.A., University of Michigan
- Trowbridge, Ronald L.** (1965), *Assistant Professor, English Language and Literature.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Tse, Enoch C.** (1967), *Assistant Professor, Mathematics.*
B.S., Hong Kong Baptist College
M.A., Wayne State University
Ph.D., University of Michigan
- Turner, Daniel S.** (1965), *Professor, Geography and Geology.*
Ph.B., University Wisconsin
Ph.M., University of Wisconsin
Ph.D., University of Wisconsin
- Tymn, Marshall B.** (1965), *Assistant Professor, English Language and Literature.*
B.A., Wayne State University
M.A., Wayne State University
Ph.D., University of Michigan
- Tyra, Thomas N.** (1964), *Professor, Music.*
B.M.Ed., Northwestern University
M.M., Northwestern University
Ph.D., University of Michigan

U

- Ullman, Nelly S.** (1963), *Associate Professor, Mathematics.*
B.A., Hunter College
M.A., Columbia University
Ph.D., University of Michigan
- Underwood, William** (1963), *Professor, Accounting and Finance.*
B.A., Eastern Michigan University
M.B.A., Wayne State University
C.P.A., State of Michigan
- Upshur, Jiu H.** (1971), *Instructor, History and Social Sciences.*
B.A., University of Sydney
M.A., University of Michigan

V

Vandenburg, John G. (1967), *Counselor, Counseling Center.*
B.A., Hope College
M.A., University of Michigan

VanDerSchalie, Henry (1969), *Adjunct Professor, Biology Department.*
B.A., Calvin College
M.S., University of Michigan
Ph.D., University of Michigan

VanHaren, John E. (1960), *Professor, Art.*
B.S., University of Wisconsin
M.A., University of Wisconsin

Van Riper, Benjamin W. (1968), *Associate Professor, Guidance and Counseling.*
B.S., Adrian College
M.A., University of Michigan
Ph.D., University of Michigan

Vehar, Vincent A., Jr. (1971), *Assistant Director, Alumni Relations.*
B.B.A., Eastern Michigan University

Venis, Ronald M. (1966), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Eastern Illinois University
M.S., Indiana University

Vile, Richard C. (1971), *Instructor, Mathematics.*
B.S., Michigan State University

Villegas, Francisco (1950), *Professor, Foreign Languages and Literature.*
B.A., Costa Rica Normal School
M.A., University of Michigan
Ph.D., University of Michigan

W

Wacker, Jeanne C. (1971), *Associate Professor, History and Social Sciences.*
B.A., New York University
M.A., New York University
Ph.D., New York University

Waffle, Elizabeth L. (1968), *Assistant Professor, Biology.*
B.S., Cornell College
M.S., State University of Iowa
Ph.D., Iowa State University

Wahi, Kishor N. (1967), *Associate Professor, Educational Psychology.*
B.A., Punjab University
M.A., University of Michigan
Ph.D., University of Michigan

Waidley, John W. (1968), *Assistant Professor, Guidance and Counseling.*
B.A., University of Michigan
M.Ed., Wayne State University

Walker, Dorsey (1970), *Assistant Professor, History and Social Sciences.*

B.A., Wayne State University
M.A., Atlanta University
Ph.D., University of Michigan

Walker, John A. (1970), *Assistant Professor, Educational Psychology.*

B.S., Eastern Michigan University
M.A., University of Michigan
Ph.D., University of Michigan

Wallace, Dale C. (1969), *Associate Professor, Biology.*

B.A., Western Washington College
M.A., Colorado State College
Ph.D., Cornell University

Wallace, Merry Maude (1945), *Assistant Professor, Special Education and Occupational Therapy.*

B.S., University of Wisconsin
M.A., University of Michigan

Walter, James (1964), *Assistant Professor, Mathematics.*

B.A., Otterbein College
M.A., University of Michigan

Waltz, James C. (1968), *Associate Professor, History and Social Sciences.*

B.A., Michigan State University
B.D., Evangelical Theological Seminary
M.A., Michigan State University
Ph.D., Michigan State University

Ward, Robert M. (1969), *Assistant Professor, Geography and Geology.*

B.A., Earlham College
M.A., Indiana University
Ph.D., University of Michigan

Ward, Stanley A. (1968), *Assistant Dean, Records and Teacher Certification.*

B.S., University of Michigan
M.A., Eastern Michigan University

Warden, Sheridan S. (1970), *Instructor, Special Education and Occupational Therapy.*

B.A., University of Michigan
M.S., Gallaudet College
M.A., University of Michigan

Warren, Bruce L. (1970), *Assistant Professor, Sociology.*

B.A., Alma College
M.A., University of Michigan
Ph.D., University of Michigan

Washington, Richard E. (1970), *Assistant Professor, Art.*

B.A., Eastern Michigan University
M.A., Eastern Michigan University

Wasik, Claudia B. (1965), *Assistant Professor, Health, Physical Education and Recreation.*

B.S., Eastern Michigan University
M.A., Eastern Michigan University

Wasserman, Ira M. (1969), *Assistant Professor, Sociology.*

B.S., Penn State University
M.S., University of Minnesota
M.A., New School of New York
Ph.D., University of Michigan

- Watts, Leroy W.** (1969), *Associate Professor, Sociology.*
B.A., University of Dubuque
M.A.S.W., State University of Iowa
- Watts, S. Michael** (1971), *Assistant Director, Students, Student Life.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- Wawrzaszek, Frank J.** (1957), *Department Head, Professor, Special Education and Occupational Therapy.*
B.S., State University of New York
Ed.M., Boston University
- Webb, Margaret J.** (1967), *Assistant Professor, English Language and Literature.*
B.A., Wellesley College
M.A., Miami University, Oxford Ohio
Ph.D., University of Illinois
- Weber, LaVerne W.** (1961), *Coordinator, Instructional Broadcasting; Assistant Professor.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Weeks, John A.** (1968), *Assistant Professor, Industrial Education.*
B.S., Bradley University
M.S., Bradley University
- Weiser, Jerome A.** (1967), *Associate Professor, Curriculum and Instruction.*
B.S., Wayne State University
M.Ed., Wayne State University
Ed.D., Wayne State University
- Wells, Phillip G.** (1959), *Professor, Education.*
B.S., Hampton Institute
M.S., University of Pennsylvania
Ed.D., University of Pennsylvania
- Wescott, John T.** (1951), *Associate Professor, Industrial Education.*
B.S., Eastern Michigan University
M.A., Wayne State University
- Weismiller, John** (1971), *Instructor, Education.*
B.S., Eastern Michigan University
M.A., Eastern Michigan University
- West, Bruce D.** (1969), *Associate Professor, Chemistry.*
B.S., University of Wisconsin
M.S., University of Wisconsin
Ph.D., University of Wisconsin
- Westerman, W. Scott** (1971), *Department Head, Professor, Curriculum and Instruction.*
B.S., Northwestern University
M.A., University of Michigan
Ph.D., University of Michigan
- Wheatley, Ira M.** (1966), *Associate Professor, History and Social Sciences.*
B.A., University of the Pacific
B.D., Drew Theological Seminary
Ph.D., University of Iowa
- White, Bette C.** (1971), *Associate Dean of Students.*
B.A., North Texas State College
M.Ed., North Texas State University
Ph.D., Michigan State University
- White, Patrick T.** (1967), *Associate Professor, English Language and Literature.*
B.S.S., George Washington University
M.A., George Washington University
Ph.D., University of Michigan
- Wideman, Gerald K.** (1967), *Manager, Academic Systems.*
B.S., Wayne State University
M.A., Eastern Michigan University
- Wild, Jeremy A.** (1969), *Assistant Professor, English Language and Literature.*
B.A., Yankton College
M.A., Washington State University
- Wilkinson, Helen M.** (1969), *Instructor, Library.*
B.A., Wayne State University
B.L.S., Pratt Institute
- Williams, Robert J.** (1966), *Department Head, Professor, Marketing.*
B.S., Cornell University
M.S., Cornell University
Ph.D., Cornell University
- Williams, Roger L.** (1968), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., Miami University
M.S., University of Illinois
Ed.D., University of Missouri
- Williams, Warren S.** (1969), *Assistant Professor, Educational Psychology.*
B.A., Hobard College
M.A., University of Rochester
Ed.D., University of Rochester
- Williams, Wilbur A.** (1948), *Department Head, Professor, Educational Psychology.*
B.S., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Williamson, Jerry R.** (1967), *Associate Professor, Chemistry.*
B.A., University of Illinois
M.S., University of Iowa
Ph.D., University of Iowa
- Williston, Judith C.** (1971), *Assistant Professor, Home Economics.*
B.S., Ohio State University
M.S., Penn State University
- Willoughby, Robert J.** (1956), *Associate Professor, Health, Physical Education and Recreation.*
B.S., University of Michigan
M.A., University of Michigan

- Wilson, Herbert H.** (1966), *Assistant Professor, Industrial Education.*
B.S., Kent State University
M.A., West Virginia University
- Wilson, John A.** (1966), *Architect.*
B.Arch., University of Michigan
- Wilt, Ellen** (1970), *Instructor, Art.*
B.A., University of Michigan
- Wingo, Rosetta F.** (1969), *Associate Professor, Business Education.*
B.S., Morgan State College
M.A., New York University
Ph.D., Michigan State University
- Witten, Charles** (1969), *Assistant Professor, Health, Physical Education and Recreation.*
B.S., University of Maryland
M.A., University of Maryland
Ph.D., Ohio State University
- Wittke, Reinhard** (1956), *Professor, History and Social Sciences.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Wixom, Charlotte K.** (1954), *Assistant Professor, Health, Physical Education and Recreation.*
B.A., Michigan State University
M.A., Michigan State University
- Wonnberger, Carl** (1967), *Associate Professor, English Language and Literature.*
B.A., University of Pennsylvania
M.A., Harvard University
- Wooley, Jon K.** (1967), *Assistant Professor, Physics and Astronomy.*
B.S., University of Michigan
M.A., Swarthmore College
M.S., University of Michigan
- Work, Stewart D.** (1964), *Associate Professor, Chemistry.*
B.A., Oberlin College
Ph.D., Duke University
- Woronoff, Israel** (1956), *Professor, Educational Psychology.*
B.A., University of Michigan
M.A., University of Michigan
Ph.D., University of Michigan
- Wree, George W.** (1957), *Manager, Computer Center.*
- Wright, Charles W.** (1967), *Assistant Professor, Library.*
B.S., Eastern Michigan University
M.A.L.S., University of Michigan
- Wright, Sara E.** (1945), *Associate Professor, Special Education and Occupational Therapy.*
B.S., Syracuse University
M.A., New York University
- Wrixon, James** (1966), *Assistant Professor, General Business.*
B.A., Niagara University
M.B.A., New York University
- Wu, Alice L.** (1970), *Instructor, Library.*
B.E., National Taiwan Normal University
M.E., Utah State University
- Wyman, John S., M.D.**, (1969), *Director, Health Services.*
M.D., University of Michigan
- Wyse, Charles M.** (1971), *Associate Director, University Housing.*
B.A., Michigan State University
M.A., Eastern Michigan University

Y

- Yager, Jay R.** (1969), *Assistant Professor, Art.*
B.S., S.U.N.Y. College of Ed., Buffalo, N.Y.
M.S., University of Wisconsin
M.F.A., University of Wisconsin
- Yahrmatter, Arthur J.** (1968), *Assistant Professor, Speech and Dramatic Arts.*
B.S., Wayne State University
M.A., Wayne State University
Ph.D., Southern Illinois University
- Yamauchi, Masanobu** (1965), *Associate Professor, Chemistry.*
B.A., University of Hawaii
M.S., University of Michigan
Ph.D., University of Michigan
- Yeakle, Myrna A.** (1965), *Assistant Professor, Health, Physical Education and Recreation.*
B.S.Ed., Ohio State University
M.S.P.H., University of California at Los Angeles
- Ylisto, Ingrid P.** (1953), *Associate Professor, Curriculum and Instruction.*
B.A., Northern Michigan University
M.A., State University of Iowa
Ph.D., University of Michigan
- Yost, Mary I.** (1968), *Assistant Professor, Music.*
B.Mus., University of North Carolina
M.Mus., University of Michigan
Ph.D., University of Michigan
- Youssef, Zakhour I.** (1965), *Associate Professor, Psychology.*
B.A., Wayne State University
M.A., Wayne State University
Ph.D., Wayne State University
- Yow, Benny** (1969), *Instructor, Special Education and Occupational Therapy.*
B.S., Eastern Michigan University
- Yu, Shih-An** (1967), *Associate Professor, Biology.*
B.S., National Taiwan University
M.S., University of New Hampshire
Ph.D., University of New Hampshire

Z

Zabawa, Paul L. (1966), *Associate Dean, Records and Teacher Certification.*

B.S., Eastern Michigan University
M.A., Eastern Michigan University
Ed.S., Eastern Michigan University

Zahratka, Michael (1966), *Assistant Professor, Art.*

B.F.A., Cleveland Institute of Art
M.F.A., Syracuse University

Zambito, Stephen C. (1963), *Associate Professor, Curriculum and Instruction.*

B.F.A., Cooper Union
B.S., Eastern Michigan University
M.A., Eastern Michigan University
Ph.D., University of Michigan

Zemke, John (1969), *RPH., Health Services.*
B.S., University of Michigan

Zeiger, Michael (1971), *Instructor, Mathematics.*

B.S., Brooklyn College
M.S., University of Michigan

Zellers, Parker R. (1964), *Professor, Speech and Dramatic Arts.*

B.A., Emerson College
M.A., Indiana University
Ph.D., State University of Iowa

Zickgraf, P. Louis (1948), *Professor, History and Social Sciences.*

B.A., Indiana University
M.A., Indiana University
Ph.D., University of Illinois



EMERITUS FACULTY

A

Anderson, Carl R., A.B., M.A., *Associate Professor Emeritus, History, Vice President, Public Affairs.*

Ashby, Lillian A., B.Mus., B.S., A.M., *Associate Professor Emeritus, Supervising Teacher, Music.*

B

Ballew, M. Esther, A.B., A.M., *Associate Professor Emeritus, English.*

Bates, Wanda C., A.B., A.M., *Associate Professor Emeritus, Order Librarian.*

Bauch, Estelle, B.S., A.M., *Professor Emeritus, Home Economics.*

Beal, Alice, B.S., M.S., *Associate Professor Emeritus, Librarian, Roosevelt School.*

Bentley, Mabel L., B.S., A.M., *Assistant Professor Emeritus, Supervising Teacher, Special Education.*

Binns, Ray W., A.B., A.M., *Assistant Professor Emeritus, Supervising Teacher, Library.*

Blackenburg, Howard, A.B., A.M., Ph.D., *Professor Emeritus, History.*

Boughner, Ruth L., B.S., M.S., *Associate Professor Emeritus, Physical Education.*

Brink, Ida K., B.S., A.M., *Assistant Professor Emeritus, Supervising Teacher, Kindergarten.*

Brownrigg, William J., B.S., A.M., *Emeritus Director of Academic Advising.*

Brumbaugh, Russell, B.A., M.A., *Associate Professor Emeritus, Education.*

Butler, Leslie, Ph.B., M.A., M.Ed., LL.D., *Professor Emeritus, Educational Administration and Education.*

C

Carr, Marvin S., A.B., B.S.E. (Ch.E.), Ph.D. (Ch.E.), *Professor Emeritus, Chemistry.*

Chamberlain, Duane G., B.S., A.M., Ph.D., *Professor Emeritus, Industrial Education.*

Cleveringa, Frederick B., B.S., A.B., A.M., *Assistant Professor Emeritus, Library.*

Cooper, Grace, A.B., A.M., *Associate Professor Emeritus, English.*

Crouch, William E., B.S., M.A., *Associate Professor Emeritus, Health, Physical Education and Recreation.*

Curtis, Martha, A.B., A.M., Ph.D., *Professor Emeritus, Natural Science.*

D

DeVries, Harry, B.A., M.A., Ph.D., *Professor Emeritus, History and Social Sciences.*

E

Eddy, Florence R., Ph.B., M.S., *Assistant Professor Emeritus, Supervising Teacher, Elementary.*

Edson, Floy L., B.S., A.M., *Associate Professor Emeritus, Speech.*

Elliott, Lucy A., B.S., A.M., *Manager Emeritus, Women's Residence Halls and Professor Emeritus, Head, Department of Home Economics.*

Engelsman, Anthony, A.B., A.M., *Professor Emeritus, Political Science.*

Erickson, E. Walfred, B.Ed., B.S., M.A., Ph.D., *Professor and Head Emeritus, Library.*

Erikson, Edith, A., B.S., A.M., *Associate Professor Emeritus, Business.*

F

Fagerstrom, Simon E., A.B., A.M., Ph.D., *Professor Emeritus, Head, Department of History and Social Sciences.*

G

Gates, Mary, B.A., M.S., Ph.D., *Professor Emeritus, Education.*

Glasgow, James H., B.Ed., M.A., Ph.D., *Dean Emeritus, Graduate School; Professor, Geography and Geology.*

H

Harris, Augusta M., B.S., M.A., *Professor Emeritus, Health, Physical Education and Recreation.*

Herrick, Myra O., A.B., A.M., *Emeritus Head Resident and Assistant Professor Emeritus, Business Studies.*

Hester, Kathleen, B.S., M.A., Ph.D., *Professor Emeritus, Education.*

Hill, Susan B., B.S., M.A., *Dean of Students Emeritus.*

Hubbell, Paul E., A.B., A.M., Ph.D., *Professor Emeritus, History.*

J

James, Dorothy, B.M., M.M., *Professor Emeritus, Music.*

K

Kelly, Clara, B.Pd., B.S., A.M., *Associate Professor Emeritus, Home Economics.*

Kiddoo, Faith E., A.B., A.M., *Assistant Professor Emeritus, Supervising Teacher, Home Economics.*

Kirschbaum, Gladys E., A.B., A.M., *Assistant Professor Emeritus, Supervising Teacher, Elementary.*

Kusterer, Elizabeth, A.B., M.A., *Instructor Emeritus, Lincoln School.*

L

Laing, Harlow E., B.S., A.M., Ph.D., *Professor Emeritus, Supervising Teaching, Agriculture and Biology.*

Lamkin, Ervin, B.A., M.A., *Associate Professor Emeritus, Chemistry.*

Langman, Muriel P., B.A., M.A., Ph.D., *Professor Emeritus, Curriculum and Instruction.*

Langworthy, Lucille A., A.B., A.M., *Associate Professor Emeritus, Supervising Teacher, High School.*

M

Maddox, Notley S., B.S., M.S., Ph.D., *Professor Emeritus, English Language and Literature.*

Magoon, Marion W., A.B., A.M., Ph.D., *Professor Emeritus, English.*

McAndless, Marion T., B.M., B.S., M.A., *Professor Emeritus, English Language and Literature.*

McCalla, Helen G., *Controller Emeritus.*

McKay, Ida H., B.Pd., A.B., A.M., *Assistant Professor Emeritus, Speech and Dramatic Arts.*

Menzi, Leonard W., A.B., A.M., *Associate Professor Emeritus, Principal, Roosevelt School.*

Meston, Eleanor, B.S., A.M., *Associate Professor Emeritus, Supervising Teacher, Elementary.*

Morgan, Haydn M., B.S.M., A.M., L.H.D. (Hon.), *Professor Emeritus, Head, Department of Music.*

Myers, Janet, Ph.B., A.M., *Associate Professor Emeritus, Supervising Teacher, Home Economics.*

N

North, Vera O., B.A., M.S., *Associate Professor Emeritus, Supervising Teacher, Business Studies.*

O

O'Connor, M. Ethel, B.S., A.M., *Associate Professor Emeritus, Supervising Teacher, Elementary.*

Olds, Lloyd W., A.B., M.S., Dr. P.H., *Professor Emeritus, Head, Department of Health, Physical Education, Recreation and Athletics.*

R

Robinson, Julius M., B.S., M.A., Ed.D. *Dean Emeritus, Summer and Evening Sessions; Professor Emeritus, Business Studies.*

Robinson, Margaret, A.B., M.A., M.A.L.S., *Associate Professor Emeritus, Library Science.*

Rogers, Agnes L., B.A., M.A., *Associate Professor Emeritus, Special Education and Occupational Therapy.*

Roser, Gertrude, B.S., A.M., *Assistant Professor Emeritus, Principal, Rackham School of Special Education.*

Rudin, Helen B., B.A., M.A., *Counselor Emeritus, Counseling Center.*

S

Sabourin, Johanna A., A.B., A.M., *Associate Professor Emeritus, Foreign Languages.*

Smith, Harry L., B.Pd., B.S., M.S., Ph.D., *Professor Emeritus, Head, Physics and Astronomy.*

Stowe, Marion Franklin, A.B., A.M., *Professor Emeritus, Speech.*

Swete, Helen F., *Associate Professor Emeritus, Art.*

T

Tow, Sadie, A.B., A.M., *Assistant Professor Emeritus, Supervising Teacher, Elementary.*

Turner, Mabel E., A.M., *Assistant Professor Emeritus, Supervising Teacher, Mathematics.*

U

Underbrink, Eula, B.Ed., A.M., *Associate Professor Emeritus, Home Economics.*

Underwood, William, B.A., M.B.A., C.P.A., *Professor Emeritus Accounting and Finance.*

V

VandenBelt, Ben, A.B., A.M., *Associate Professor Emeritus, Superintendent, Lincoln School.*

Virtue, John B., B.A., M.A., Ph.D., *Professor Emeritus, English Language and Literature.*

W

Walker, Arthur D., B.S., M.A., *Associate Professor Emeritus, Physical Education, Roosevelt School.*

Warren, Elizabeth, B.A., M.A., Ph.D., *Professor Emeritus, History and Social Sciences.*

Wagh, Edgar, B.A., M.A., *Professor Emeritus, History and Social Sciences.*

Wilcox, William, A.B., A.M., *Associate Professor Emeritus, Physics and Astronomy.*

Wilson, Lucile, B.S., M.Ed., *Assistant Professor Emeritus, Supervising Teacher, Elementary Grades.*

Wolfe, M. Doyme, A.B., A.M., *Professor Emeritus, Foreign Languages.*

Wright, Bessie, *Assistant Registrar Emeritus.*

AFFILIATED LECTURERS

Lecturer in Biology

Loesell, Russell W.
Caribbean Biological Center

Lecturer in Education

Ponitz, David H. President
Washtenaw Community College

Lecturers in Medical Technology

Brown, C. Arch (M.D.) Pathologist
St. Joseph Hospital
M.D., Baylor University College of Medicine

Caraway, Wendell T. Biochemist
St. Joseph Hospital
B.A., M.A., Miami (Ohio) University
Ph.D., Johns Hopkins University

Ceremsak, Robert J. (M.D.) Associate Pathologist
Pontiac General Hospital
M.D., George Washington University

Dito, William R. (M.D.) Director of Laboratories
Pontiac General Hospital
M.D., Loyola University

Dumoff, Morris Microbiologist
St. Joseph Hospital
B.S., St. Thomas College;
M.S., Ph.D., University of Wisconsin

Eaton, Wayne (M.D.) Director of Laboratories
St. Joseph Hospital
M.D., Baylor University

Fly, Marie N. (M.D.) Pathologist
Oakwood Hospital
B.S., M.D., Wayne State University

Goldman, Robert T. (M.D.) Pathologist
Wayne County General Hospital
M.D., University of Michigan

Greidinger, George H. (M.D.) Pathologist
St. Joseph Hospital
B.A., Johns Hopkins University
M.D., Johns Hopkins School of Medicine

Imperial, R. (M.D.) Director of Anatomical Pathology
W.A. Foote Memorial Hospital
A.A. Liberal Arts,
M.D., University of Santo Tomas, Manila P.I.

Knights, Edwin M., Jr. (M.D.) Director of Laboratories
Providence Hospital
B.A., Brown University
M.D., Cornell University Medical College

Kopp, Clemens M. (M.D.) Director of Laboratories
Port Huron Hospital
B.Sc., Carleton College, Ottawa
M.D., Ottawa University Medical School

Kallet, Henry A. (M.D.) Director of Clinical Laboratories
W. A. Foote Memorial Hospital
B.S., University of Chicago
M.D., Northwestern University

Langston, John D. (M.D.) Director of School of Medical
Technology, Detroit Memorial Hospital
B.A., Oberlin College
M.D., Jefferson Medical College

Libcke, John H. (M.D.) Asst. Director of Laboratories
Pontiac General Hospital
M.D., Wayne State University

Littler, Ellsworth R. (M.D.) Pathologist
Wayne County General Hospital
B.A., Yale University
M.D., McGill University

Liu, Henry Y. (M.D.) Assistant Director of Laboratories
Providence Hospital
B.S., M.D., National Taiwan University

Mainwaring, Rosser L. (M.D.) Director of Laboratories
Oakwood Hospital
B.S., M.D., Wayne State University

McNair, Ruth Davis Biochemist
Providence Hospital
B.A., University of Michigan
B.S., in Ed., University of Cincinnati
Ph.D., Wayne State University

Meadows, Theodore R. (M.D.) Pathologist
Wayne County General Hospital
A.B., Talladega College
M.D., University of Michigan

Meyer, Kenneth R. (M.D.) . Associate Director of Laboratories
Oakwood Hospital
B.A., Princeton University
M.D., University of Pennsylvania

Mikat, Dorothy M. (M.D.) Associate Pathologist
Pontiac General Hospital
M.D., Women's Medical College of Pennsylvania

Mikat, Kurt W. (M.D.) Director of Laboratories
McLaren General Hospital
B.S., M.D., University of Michigan

Murphy, E. Grant (M.D.) Pathologist
McLaren General Hospital
B.S., Oklahoma State University
M.D., University of Oklahoma

Patrick, Catherine W. Teaching Coordinator
Pontiac General Hospital
B.S., Michigan State University—Oakland
M.S., Wayne State University

Psik, Helen B. Teaching Supervisor
W. A. Foote Memorial Hospital
B.S., M.S., Michigan State University

Romanski, Raymond N. (M.D.) Associate Director of
Laboratories, Providence Hospital
B.S., M.D., University of Michigan

Truant, Joseph P. Microbiologist
Providence Hospital
B.S., University of Toronto
M.S., Ph.D., University of Western Ontario

Schmidt, Robert W. (M.D.) Pathologist
Wayne County General Hospital
B.S., University of Toledo
M.D., Ohio State University

Wheeler, J. D. (M.D.) Pathologist
McLaren General Hospital
B.A., University of Michigan
M.B., M.D., Northwestern University

Lecturer in Special Education

Siders, Bruce R. Superintendent
Michigan School for the Deaf



STATISTICAL INFORMATION

DIPLOMAS AND CERTIFICATES GRANTED JULY 1, 1970 - JUNE 30, 1971

	Spec.	A.M.	M.S.	M.Bus		A.B.	B.S.	B.Art Ed.	B.Bus Ed.	B.Mus Ed.	B.Bus Ad.	B.Fin Art	Provisional Certificates		Total
				Ed.	Ad.								Elem.	Sec.	
August 1970	31	466	49	1	9	35	344	14	12	-	64	6	171	193	1395
October 1970	11	104	10	2	2	8	58	3	-	-	3	-	40	37	278
January 1971	22	211	35	3	18	65	555	34	30	9	119	15	259	300	1665
June 1971	19	364	47	1	36	128	1047	31	29	10	184	16	511	442	2865
TOTAL	83	1145	141	7	65	236	2004	82	61	19	370	37	981	972	6203
Deduct, counted twice															1,707
Total number of students graduated															4,496
Two-Year Business Technician Certificates (Non-Teaching)															9
Two-Year Industrial Arts Technician Certificates (Non-Teaching)															3
Total Specialist Degrees															83
Total Master Degrees															1358
Total Bachelors Degrees															2809
Total Prov. Teacher's Certificates															1953

RECOMMENDATIONS FOR PERMANENT CERTIFICATES SUBMITTED TO THE STATE DEPARTMENT OF EDUCATION

July 1, 1970 through June 30, 1971

	Elementary	Secondary	Total
July 1970	86	34	120
August 1970	67	35	102
September 1970	66	55	121
October 1970	24	23	47
November 1970	20	15	35
December 1970	14	10	24
January 1971	24	22	46
February 1971	28	21	49
March 1971	28	32	60
April 1971	25	21	46
May 1971	45	14	59
June 1971	65	41	106
TOTALS	492	323	815

ENROLLMENT

	1970-71	1971-72
Residence Enrollment:		
Summer Session	8,621	8,032
Regular year:		
Fall	19,965	19,627
Spring	19,114	18,420
Extension Enrollment:		
Fall	2,239	1,839
Spring	2,275	1,660

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 Publications Editor 6
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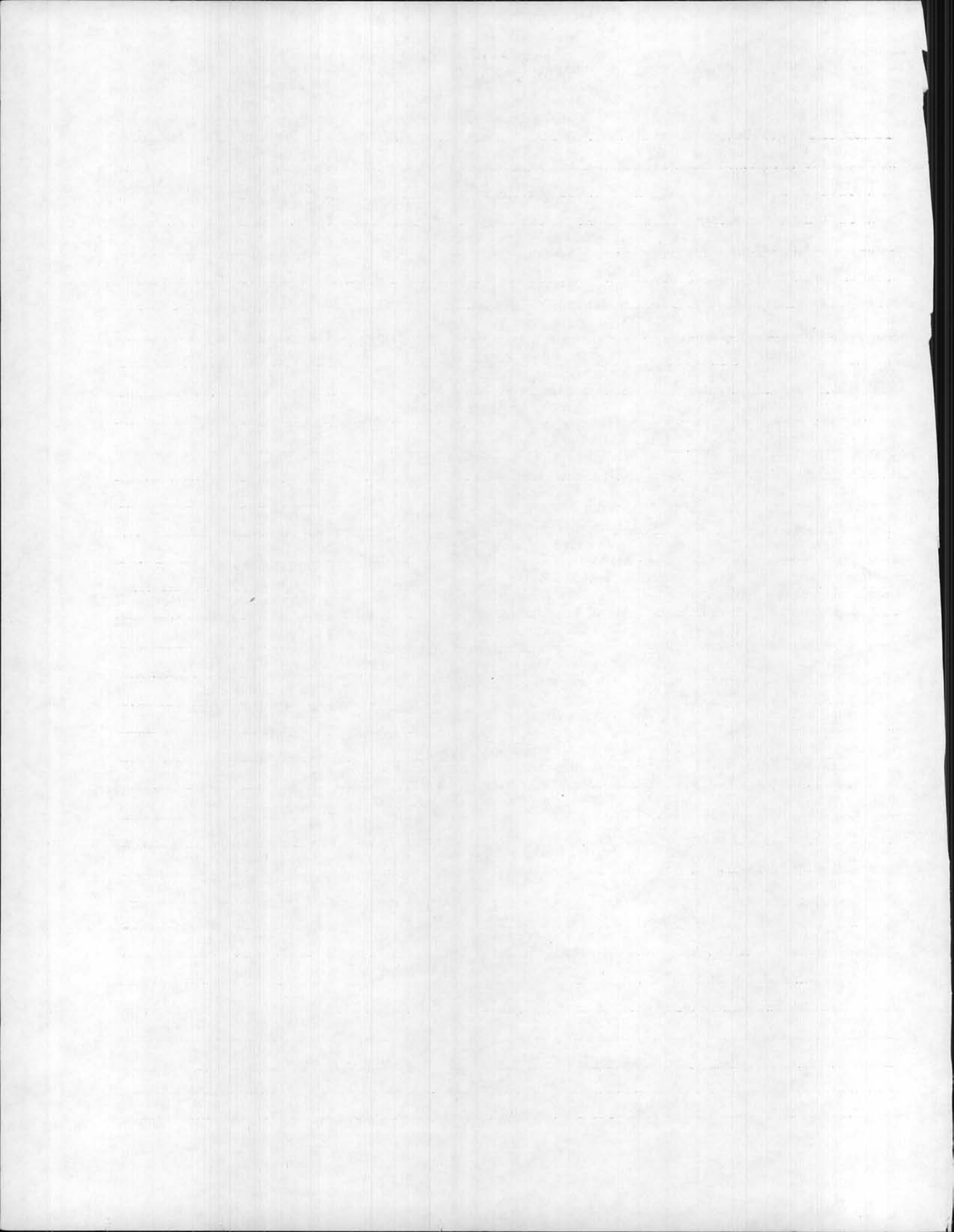
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