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WESTERN MICHIGAN UNIVERSITY

Undergraduate Catalog

1968/1969

KALAMAZOO

WESTERN MICHIGAN UNIVERSITY is located in Kalamazoo, midway between Chicago and Detroit. It is served by the New York Central Railroad, by Lake Central and North Central Airlines. Three major highways and numerous bus routes connect the city with other mid-western cities. The population of greater Kalamazoo is more than 100,000.

DIRECTIONS FOR CORRESPONDENCE

Director of Admissions
Admissions, University Literature

Controller
Business and Financial Arrangements

Dean of the School of Applied Arts and Sciences
Matters Relating to Vocational Education

Dean of the School of Business

Dean of the School of Education

Dean of the School of General Studies

Dean of the School of Graduate Studies

Dean of the School of Liberal Arts and Sciences

Director of Housing

Director of Counseling

Director of Field Services
Adult Education, In-Service Courses and Credits, Consultative Services to Schools, Speakers for Special Occasions

Director of the Department of Military Science
R.O.T.C.

Director of Placement
Teacher Placement, Business and Industrial Placement

Registrar
Credits, Provisional and Permanent Certification, Transcripts, Records, Registration, Summer Session Schedules

Director of Honors
Honors Program

Office of Financial Aid
Scholarships, Loans and Part-time Employment

Bulletin

Western Michigan University

KALAMAZOO, MICHIGAN

1968-1969

Undergraduate Catalog

Copies of the complete Western Michigan University Undergraduate Catalog are available for examination at most high schools, libraries, other State universities, community colleges and State government offices. Each entering student, freshman or transfer, is entitled to one copy without charge. Additional copies are available at Western's Campus Bookstore at $1 each.

VOL. 63, NO. 4 **JUNE 1968**

Published four times annually by Western Michigan University: August, February, April and June. Second Class postage paid at Kalamazoo, Michigan.

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1968

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1969

JANUARY							FEBRUARY							MARCH							APRIL						
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UNIVERSITY CALENDAR 1968-69

FALL SEMESTER

September 3, Tuesday	Orientation A.M.
September 3, Tuesday	Final Registration P.M.
September 4, Wednesday	Classes Begin
October 4, Friday	Classes Dismissed (2:00 p.m.) Friday Only (Laboratories excepted)
October 5, Saturday	Homecoming
November 27, Wednesday	Thanksgiving Recess (12:00 noon)
December 2, Monday	Classes Resume
December 21, Saturday	Semester Ends
December 21, Saturday	Commencement (2:00 p.m.)

WINTER SEMESTER

January 4, Saturday	Final Registration
January 6, Monday	Classes Begin
March 6, Thursday	Semester Recess (8:00 a.m.)
March 10, Monday	Classes Resume (8:00 a.m.)
April 4, Friday	Classes Dismissed (12:00 noon)
April 5, Saturday	Classes Resume (8:00 a.m.)
April 19, Saturday	Semester Ends
April 19, Saturday	Commencement (2:00 p.m.)

SPRING SESSION

April 26, Saturday	Final Registration
April 28, Monday	Classes Begin
May 30, Friday	Memorial Day Recess
June 18, Wednesday	Session Ends

SUMMER SESSION

June 23, Monday	Registration, Graduates
June 24, Tuesday	Final Registration, Undergraduates
June 25, Wednesday	Classes Begin
July 4, Friday	Independence Day Recess
August 15, Friday	Session Ends
August 15, Friday	Commencement

BOARD OF TRUSTEES

	Term Expires
Mildred Swanson Johnson, Muskegon	December 31, 1968
Robert D. Caine, Hickory Corners	December 31, 1968
Fred W. Adams, Grosse Pointe	December 31, 1970
Charles H. Ludlow, Kalamazoo	December 31, 1970
Dorothy Upjohn Dalton, Kalamazoo	December 31, 1972
John R. Dykema, Grosse Pointe Farms	December 31, 1972
Dr. Julius Franks, Jr., Grand Rapids	December 31, 1974
Philip N. Watterson, Wyoming	December 31, 1974

James W. Miller, *Ex-Officio*, Chairman
Fred W. Adams, Vice Chairman
Peter R. Ellis, Secretary
Robert B. Wetnight, Treasurer

Administrative Officers

James W. Miller, Ph.D., LL.D., President
Russell H. Seibert, Ph.D., Vice President for Academic Affairs
Robert B. Wetnight, M.B.A., C.P.A., Vice President for Finance
Paul L. Griffeth, Ph.D., Vice President for Student Services
Robert Beecher, J.D., Controller
Foster S. Buchtel, B.A., Director, Office of Research Services
Samuel I. Clark, Ph.D., Director, Honors College
Myron L. Coulter, Ed.D., Associate Dean, School of Education
Thomas E. Coyne, M.A., Administrative Assistant to the President
Philip S. Denenfeld, Ph.D., Associate Dean, School of Liberal Arts and Sciences
Sid Dykstra, Ph.D., Assistant Dean, School of Graduate Studies
Peter R. Ellis, Ed.D., Assistant to the Vice President for Student Services
Leonard Gernant, M.A., Director, Academic Services
James H. Griggs, Ed.D., Dean, School of Education
William F. Hamill, Director, Plant Extension
Fred V. Hartenstein, Ph.D., Associate Dean, School of Business
Clayton A. Holaday, Ph.D., Director, Scholarships
George E. Kohrman, Ed.D., Dean, School of Applied Arts and Sciences
William J. Kowalski, M.A., Director, Campus Planning
Robert M. Limpus, Ph.D., Dean, School of General Studies
Cornelius Loew, Ph.D., Dean, School of Liberal Arts and Sciences
Vern E. Mabie, M.A., Director of Placement
George G. Mallinson, Ph.D., Dean, School of Graduate Studies
Clayton J. Maus, M.S., Dean of Records and Admissions
Arthur J. O'Connor, B.S., Director, University Information
James H. Powell, Ph.D., Associate Dean, School of Liberal Arts and Sciences
Arnold E. Schneider, Ph.D., Dean, School of Business
Donald N. Scott, M.A., Director, University Student Center and Residence Halls
Marie L. Stevens, M.A., Associate Dean of Students
Leo C. Stine, Ph.D., Associate Dean, School of Graduate Studies
Peter Spyers-Duran, B.A., Director of Libraries
Robert H. Williams, B.S., Director, Physical Plant
Otto Yntema, M.A., LL.D., Director, Field Services

Administrative Groups

THE ADMINISTRATIVE COUNCIL

The Council meets bi-weekly to keep informed on University affairs, to fix general administrative policies, and to coordinate and unify administrative decisions, practices, and services designed to promote the educational program of the University.

The members of the Council are: the President, Vice President for Academic Affairs, Vice President for Student Services, Vice President for Finance, Vice President for Administration, Controller, Registrar, Director of Field Services, Director of Libraries, Director of Placement, Director of Academic Services, Director of Scholarships, Administrative Assistant to the President, President of the Faculty Senate, President of the Student Association, Director of University Information, Director of Office of Research Services and deans of the academic schools.

THE SENATE

The Senate is composed of members elected by the faculty and others appointed by the President to represent the departments of the University and the University at large. It meets each month to promote the common interests of the faculty and to give the faculty a share in the determination of institutional policy in such areas as the academic program field services and student services.

Officers for 1967-68 are:

Milton Greenberg	President
Robert R. Fink	Vice President
Marjorie L. Savage	Treasurer
Alan S. Brown	Recording Secretary
William R. Rosegrant	Corresponding Secretary

UNIVERSITY COUNCILS

The University councils are composed of members elected by the Senate for three-year terms and certain ex officio members. The terms of elected members expire in June of the year indicated.

EDUCATIONAL POLICIES COUNCIL

Ex Officio	Elected	
Russell H. Seibert, Chairman	Clara Chiara	1968
James H. Griggs, Dean	Richard Embertson	1968
George E. Kohrman, Dean	George Stegman	1968
Robert M. Limpus, Dean	Donald J. Brown	1969
George G. Mallinson, Dean	Edward T. Callan	1969
Cornelius Loew, Dean	Robert R. Fink	1969
Arnold E. Schneider, Dean	Roger L. Cole	1970
Peter Sypers-Duran, Director of Libraries	Raymond Dannenberg	1970
	Jean M. Lawrence	1970

GRADUATE STUDIES COUNCIL

Ex Officio	Elected	
George G. Mallinson, Dean, Chairman	David Adams	1968
James H. Griggs, Dean	William Burdick	1968
George E. Kohrman, Dean	Joseph Eisenbach	1968
Cornelius Loew, Dean	Nathan L. Nichols	1969
Arnold E. Schneider, Dean	Roy Olton	1969
Russell H. Seibert, Vice President	Robert Jack Smith	1969
	Graham P. Hawks	1970
	Ralph N. Miller	1970
	Dean R. Tyndall	1970

RESEARCH POLICIES COUNCIL

Ex Officio	Elected	
Foster Buchtel, Director of Research Services	Paul Mountjoy	1968
George G. Mallinson, Dean	Charles T. Brown	1968
Russell H. Seibert, Vice President	Otto Grundler	1968
	Haym Kruglak	1969
	Don Iffland	1969
	Claude S. Phillips	1969
	Gene S. Booker	1970
	Robert B. Day	1970
	Morvin A. Wirtz	1970

STUDENT SERVICES COUNCIL

Ex Officio	Elected	
Paul L. Griffeth, Vice President, Chairman	Waldemar Klammer	1968
Donald Davis, Director of Counseling Center,	Harold Ray	1968
Russell Gabier, Director of Admissions	Norman Russell	1968
Edward Harkenrider, Director of Student Financial Aid	William O. Haynes	1969
Marie Stevens, Associate Dean of Students	James W. McIntyre	1969
	Charles R. Starring	1969
	June France	1970
	James Nadonly	1970
	Richard Pippen	1970

CAMPUS PLANNING COUNCIL

William J. Kowalski, Director of Campus Planning
Robert H. Williams, Director of Physical Plant
William F. Hamill, Director of Plant Extension
Harold W. Boles, Department of School Services
Cornelius Loew, Dean, School of Liberal Arts and Sciences
Albert Sampson, Department of English

John Burke	1968
R. Jack Smith	1968
George Stegman	1968
Lee Baker	1969
Jon Henderson	1969
Esther Schroeder	1969
Joseph T. Hoy	1970
Ken Macrorie	1970
Carl Snow	1970

FIELD SERVICES COUNCIL

Ex Officio

Otto Yntema, Director of Field Services, Chairman
Thomas Coyne, Administrative Assistant to the President
Russell Gabier, Assistant Director of Admissions
Leo Stine, Associate Dean, Graduate Studies

Elected

Louis Govatos	1968
M. Elizabeth Smutz	1968
Kenneth B. Engle	1969
Robert G. Lambert	1969
Gilbert Hutchings	1970
George Miller	1970

THE ATHLETIC BOARD OF CONTROL

Albert B. Becker, Chairman Faculty Representative in MAC
L. Dale Faunce
John W. Gill, Associate Director of Athletics
Joseph T. Hoy, Director of Athletics
Clayton J. Maus, Dean of Admissions and Records
Robert B. Wetnight, Vice President for Finance
Norman Gottleib, President of "W" Club
Patrick Nichols, Student Representative
Dennis Tyson, Student Representative

Roland Strolle	1968
E. Jack Asher	1969
Leo Vanderbeek, Secretary	1970
William Morrison	1971

Western Michigan University

Western Michigan University, created by the Legislature in 1903, ranks fourth among the State's institutions of higher education in number of students, diversity, complexity and level of programs. Organized as a school to educate men and women for the teaching profession, Western has developed into a multi-purpose university, yet it continues to meet its original obligation. In 1966, Western ranked second among all colleges and universities in the nation in the number of its graduating seniors who were certified as teachers.

In 1918, Western was authorized to grant degrees. Master's and specialist degrees have been added; and this year, half a century later, Western will award its first doctoral degrees. The history of the University is one of growth—first of all academic growth which inspired enrollment growth and physical growth.

Western occupies a unique place in Michigan's system of higher education. It fills a special niche capably with quality programs in all its areas and with certain programs offered only at Western. It is the intent of Western to send into society students who will serve well Michigan's industries, schools, hospitals, businesses, libraries, colleges and universities.

Educational goals of Western Michigan University are: to develop in each student the ability to think objectively and critically so that he may be capable of assessing the validity of the information with which he is confronted and his own response to his environment—to introduce him to the world in which the educated and responsible citizen must live—to provide him with a foundation for tenable values—to provide each student with sufficient knowledge in a discipline, or a group of related disciplines, so that he will have an understanding of its methodology, some initial competence in the field and an appreciation of the vastness of knowledge still to be explored.

Under the Michigan Constitution of 1963, Western has Constitutional status with its own Board of Trustees appointed by the Governor. The chief administrative officer of Western is President James W. Miller, the University's third president. With a rich academic experience in higher education and state government, President Miller has continued to build on the firm foundations laid by his predecessors, President Dwight B. Waldo (1904-1936) and President Paul V. Sangren (1936-1960).

Academic organization of Western includes the Schools of Applied Arts and Sciences, Business, Education, General Studies, Liberal Arts and Sciences and Graduate Studies.

The Honors College offers to students of exceptional ability maximum opportunity for independent study, research and self direction.

Operating on a year-round basis, Western has Fall and Winter semesters, Spring and Summer sessions. The two sessions combined equal a semester.

PROGRAM OF STUDY

The program of study years is organized:

1. to provide the student with a general education which includes an integration of knowledge, skill, and perspective with regard to the process of communication, the social sciences, the natural sciences and the humanities; and
2. to prepare the student for undertaking the more advanced and specialized work embraced in the curricula of the third and fourth years or for more advanced work elsewhere.

This program represents sixty semester hours of work, at least half of which must fall in General Studies, Languages and Literature, Science, and Social Science. The student must complete during the first year one semester each of College Writing and Freshman Reading.

Admission to the program of the third and fourth years is based upon the satisfactory completion of the work outlined above or upon evidence of equivalent work done satisfactorily elsewhere. In addition, in the teaching curricula, the student must satisfy such special tests or examinations as may be prescribed to determine his general intelligence, scholastic aptitude and fitness for the teaching profession.

The program of study for the third and fourth years is organized:

1. to provide intensive cultivation of the fields of the student's special or professional interest; and
2. to broaden his general education.

The University offers the following degrees:

Bachelor of Arts
Bachelor of Business Administration
Bachelor of Music
Bachelor of Science
Bachelor of Science in Engineering (Industrial)

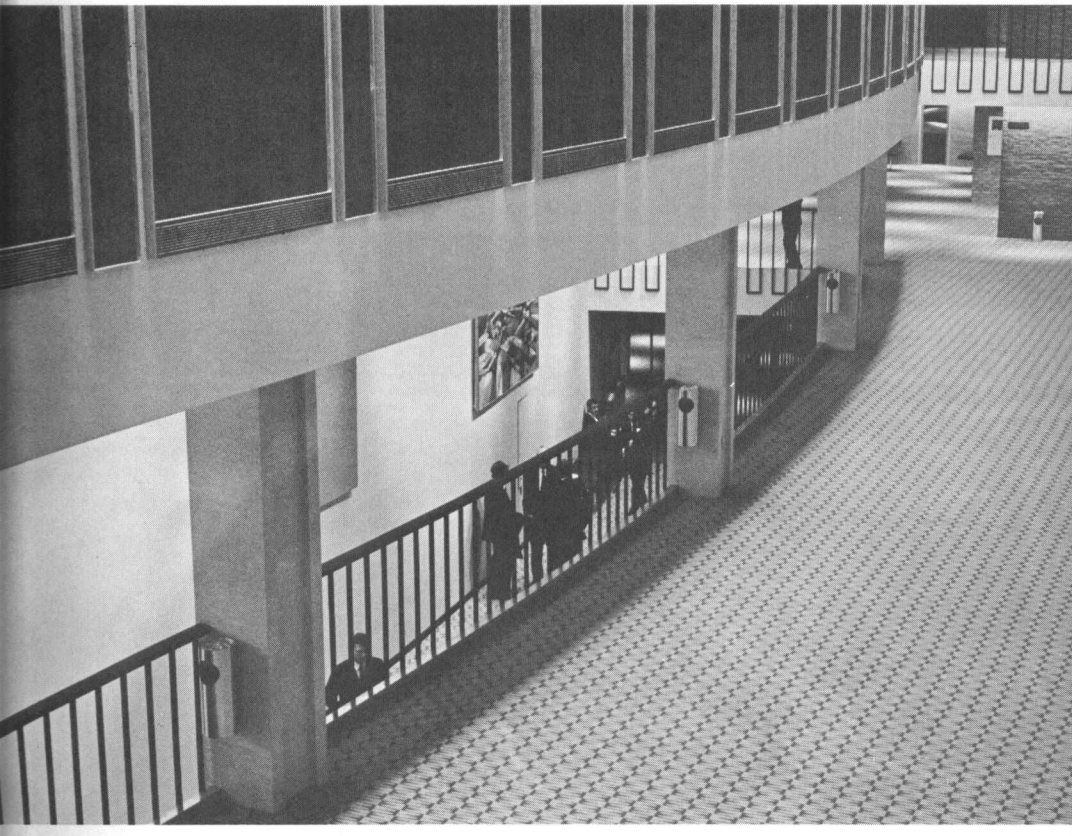
Western Michigan also conducts graduate programs leading to the Master of Arts, Master of Business Administration, Master of Music, Master of Occupational Therapy, Master of Science, Master of Science in Accountancy, Master of Science in Librarianship and Master of Science in Technology degrees. Degrees of Specialist in Arts and Specialist in Education are offered upon completion of a sixth-year program. A Doctor of Education degree is offered in Educational Leadership. Doctor of Philosophy degrees are offered in Chemistry, Sociology and Science Education.

ACCREDITATION

In 1915 the University was placed on the approved list of the North Central Association of Colleges and Secondary Schools. The following

year it was approved by the organization which in time evolved into the present National Council for Accreditation of Teacher Education. Western's Department of Librarianship is accredited by the American Library Association, its Department of Music by the National Association of Schools of Music, its Department of Occupational Therapy by the American Medical Association in collaboration with the American Occupational Therapy Association and its Department of Chemistry is accredited by the American Chemical Society. The Department of Speech Pathology and Audiology is accredited by the American Boards of Examiners in Speech Pathology and Audiology.

Western Michigan University is a member of the American Association of Colleges, the American Association of Colleges for Teacher Education, and is on the approved list of the American Association of University Women.



WESTERN MICHIGAN
UNIVERSITY

Admission, Degrees and Certificates

ADMISSION

Qualified students may apply for admission to any semester or session and will be admitted until quotas have been filled. Currently the best single factor used to predict college success is a satisfactory high school or transfer record. The college preparatory subjects are given more weight than non-college preparatory courses. Beyond these factors, personal characteristics and special abilities are given consideration.

Transferring and re-entering students may be admitted for any semester or session provided their records are satisfactory and evidence presented indicates that they should expect to meet with academic success.

Enrollment in the University carries with it the responsibilities of meeting the standards of scholarship and conduct established by the students, faculty and administration. Therefore, matriculation may be canceled for any student who does not meet these standards.

Methods of Admission

Students may be admitted in the following ways:

1. Admission by certificate: A graduate of a high school, academy or equivalent may be admitted upon presentation of an acceptable written record.
2. Admission by examination: A person who does not qualify for admission by certificate may be admitted by passing examinations prescribed by the University provided he meets all other requirements.
3. Admission by advanced standing: A student wishing to transfer from another accredited college, university, community or junior college, or from a Michigan county normal, may be admitted upon presentation of an acceptable written transcript of credit showing honorable dismissal. This transcript must be official, mailed directly from the institution previously attended to the Director of Admissions of this University. Transferred credits, except those from Michigan county normals, will be acceptable only when they have been earned at a college which at the time was accredited by the North Central Association of Colleges and Secondary Schools, by an equivalent organization or by the Michigan Commission on College Accreditation. Each transfer case is handled individually, with separate evaluation of credit.
4. Admission as a special student: (a) A person who does not plan to work toward a degree or certificate may be admitted as a

special student if he presents evidence that he can profit by the instruction; (b) A person who holds a Bachelor's degree or a higher degree for which it is prerequisite, may be admitted to the University as a special student upon presentation of credentials showing that he holds such degree or degrees. A person twenty-one years of age or older who wishes to study at this University may be admitted by the Director of Admissions, provided he is unable to furnish other credentials upon which his admission might be based. Before any special student can receive a degree or certificate from this University, he must have met the requirements for admission prescribed under the other admission procedures numbered 1-3 above.

5. Admission as a guest: One who is regularly matriculated at another college may be admitted as a guest student. The student assumes full responsibility for determining whether or not the courses he takes at this University will apply to his program of study. A guest matriculant is urged to have the courses to be taken approved in advance by the Registrar of the University to which the credits are to be transferred. The appropriate form may be secured at the office of the Registrar at any Michigan college.

Application for Admission

FRESHMEN

1. A prospective freshman should request an official application form from the Director of Admissions or his high school principal or counselor, and complete that part as directed in the application.
2. The application should then be returned to the high school principal, or counselor, who will be responsible for including his high school personal data and academic record.
3. The completed application will be sent to the Director of Admissions by the principal. It is not acceptable if presented by the student.
4. The above three steps must be completed before the student can be considered for admission.
5. The student must be officially admitted before he can be counseled or enrolled, therefore all credentials must be in the admissions office in advance of registration for any course.
6. Applications for admission may be sent to the University any time during or after the seventh semester in high school.

TRANSFERS

1. An application blank must be secured from the Director of Admissions and completed according to instruction.

2. The applicant must request an official transcript be sent to the Director of Admissions directly from *each of the colleges* he has attended. These transcripts will not be accepted if presented by the student. The record must be complete.
3. The student must be officially admitted before he receives an official evaluation of credits, is counseled or enrolled.

AMERICAN COLLEGE TEST

The American College Testing program (ACT) is required of all new freshmen. The results of this test must be on file in the Admissions Office prior to enrollment. Applicants with marginal records will often be asked to submit test results before a final decision is reached relative to their admission status. Prospective applicants should take the test late in their junior year in high school or early in the senior year. While all test results recorded on an application are considered by the Admissions Staff in the evaluation process, no other achievement or aptitude will substitute for the ACT requirement.

All applicants intending to participate in intercollegiate athletics must complete either the ACT or the SAT.

ADVANCED PLACEMENT PROGRAM

A number of high schools and preparatory schools offer selected students the opportunity to accelerate and to take in the senior year one or more subjects which are taught at the college level and cover the materials of a college course. The College Entrance Examination Board gives each year in May a set of Advanced Placement examinations covering this advanced work.

Western Michigan University cooperates with the Advanced Placement Program, granting college credit for Advanced Placement courses passed with a three or better score. Individual departments of the University have formulated policies concerning those college courses which are bypassed through such advanced placing. Entering freshmen with acceptable Advanced Placement scores will be given Advanced Placement credit. They should also explore the University Honors Program.

DEGREES

The Board of Trustees on recommendation of the President and faculty of Western Michigan University, confers degrees as follows:

BACHELOR OF ARTS

The student who regularly completes a curriculum conforming to the degree requirements and embracing at least 70 hours of General Studies, Language and Literature, Science and Social Science, including at least

eight hours in one foreign language, is eligible for the degree of Bachelor of Arts. If two or more units of one foreign language are presented for entrance, the requirements for foreign language may be waived.

BACHELOR OF BUSINESS ADMINISTRATION

This degree will be conferred upon completion of the Business Administration curriculum.

BACHELOR OF MUSIC

This degree will be conferred upon the completion of the Music curricula.

BACHELOR OF SCIENCE

The student who regularly completes a curriculum conforming to the degree requirements and embracing 40 hours or more of General Studies, Language and Literature, Science, and Social Science is eligible for the degree of Bachelor of Science.

BACHELOR OF SCIENCE IN ENGINEERING (Industrial)

A student who regularly completes required work in Science and Mathematics, Humanities, and Engineering may qualify for the Bachelor of Science in Engineering degreee in the field of Industrial Engineering.

SECOND BACHELOR'S DEGREE

A graduate of Western Michigan University with the degree of Bachelor of Music or Bachelor of Science who subsequently becomes a candidate for the degree of Bachelor of Arts, or vice versa, is required, in addition to the credits he already has, to complete 30 hours of resident credit and to satisfy any other specific requirements for the degree. The 30 hours need not be taken subsequent to the first degree.

MASTER OF ARTS

Western Michigan University confers the Master of Arts degree with specialization in many areas. For complete details contact the School of Graduate Studies.

MASTER OF BUSINESS ADMINISTRATION

Offered through the School of Business and School of Graduate Studies. For information request the Graduate School bulletin.

MASTER OF MUSIC

Offered through the Department of Music and School of Graduate Studies.

MASTER OF OCCUPATIONAL THERAPY

Offered through the Department of Occupational Therapy and the School of Graduate Studies.

MASTER OF SCIENCE IN ACCOUNTANCY

Offered through the Department of Accounting and the School of Graduate Studies.

MASTER OF SCIENCE IN LIBRARIANSHIP

Offered through the Department of Librarianship and School of Graduate Studies.

MASTER OF SCIENCE IN TECHNOLOGY

Offered through the Departments of Engineering and Technology, the Department of Paper Technology and School of Graduate Studies.

SPECIALIST IN ARTS

Sixth-year programs are offered primarily for the preparation of Community College teachers in Business, English, History, Mathematics and Librarianship by the departments indicated and the School of Graduate Studies.

The Department of Librarianship and the School of Graduate Studies also offers Specialist in Arts programs for public school and public library administrators.

SPECIALIST IN EDUCATION

A sixth-year program offered through the School of Education and School of Graduate Studies, with specialization in Educational Administration or School Psychological Examiner.

DOCTOR OF EDUCATION

A degree program offered by the Department of School Services and the School of Graduate Studies designed for educational leaders in schools, business and government.

DOCTOR OF PHILOSOPHY

Programs leading to the Ph.D. degree are offered in Chemistry, Science Education and Sociology.

DEGREE REQUIREMENTS

Any curriculum leading to a bachelor's degree consists of at least 124 hours of credit which may include only four hours of general physical education.

The student must meet the following requirements or their equivalent:

General Requirements

a. Each student must complete four semester hours of general physical education. Persons 30 years of age or older are not bound by this requirement. Such a waiver applies only to general physical education and not to specific curricular requirements nor to total hours required for graduation. Credit earned in general physical education may apply toward the requirement in general physical education only. *It may not be used as academic elective credit.* The general physical education requirement is waived for male students who enroll and complete the basic course (two years) of Military Science (R.O.T.C.). Veterans of Military Service (minimum of one year continuing active duty) shall, upon request, be granted two hours of general physical education credit. The remaining two hours must be completed with emphasis on the lifetime sports.

b. Courses must be selected so that the requirements in at least one of the curricula are fulfilled before graduation.

c. The student must complete a major with a minimum of 24 hours and a minor with a minimum of 15 hours (30-hour subject major or 36-hour group major is required of students in Elementary and Secondary Education, with a minor or minors of at least 20 semester hours. For further details see under Curricula for Teachers.) In Elementary Education the student may complete two minors or group minors of 20 or 24 hours each; or one major or group major of 30 or 36 hours.

d. A minimum point-hour ratio of 2.0 must be attained in any major or minor(s) presented for graduation.

e. Minimum residence requirements:
It is expected that all candidates for the Bachelor's degree or full certification will have earned at least 15 hours of credit on the campus of Western Michigan.

f. A minimum of 30 hours of credit must be taken through Western Michigan. Ten (10) of the last 30 hours must be taken through Western. Correspondence credit cannot satisfy any of the requirements in (e) or (f).

g. A maximum of 15 semester hours of credit in correspondence courses may be applied to a degree program.

h. Students transferring from a two-year community or junior college must complete a minimum of one-half of the academic work required in their curriculum at an accredited four-year, degree-granting institution (exclusive of the general physical education requirement).

i. No student may be graduated under a catalog which is more than ten years old.

Exceptions may be made for:

a. Life certificate holders.

b. Students progressing regularly toward a degree (6 hours or more a year).

For these exceptions, students must either earn the degree by September 1, 1970, or be held to the above standard.

Appeals for exceptions must be approved by the appropriate academic dean.

General Studies Program

I. **Freshman-Sophomore Level**

Both

College Writing 116 ..... 4 hrs.
Freshman Reading 140 ..... 2 hrs.

Either

Early Western Civilization 100 ..... 4 hrs.
(Greeks to 17th Century)
or
Modern Western Civilization 101 ..... 4 hrs.
(17th Century to Present)

One course from the following:

Man and Society 202 ..... 4 hrs.
Social Bases for Human Behavior 203 ..... 4 hrs.
Comparative Social Institutions 204 ..... 4 hrs.

Two courses from the following:

Physical Geography 105 or Geological Science 112 ..... 4 hrs.
Biological Science 107 ..... 4 hrs.
Physical Science 108 ..... 4 hrs.
Aims and Achievements of Science 110 ..... 4 hrs.

Either

Arts and Ideas 222 ..... 4 hrs.
or
Non-Western Arts and Ideas 224 ..... 4 hrs.

II. Junior-Senior Level

Introduction to the Non-Western World 304 ..... 4 hrs.

Plus one broad, inter-disciplinary course to be selected from following courses:

Human Communication 400 ..... 4 hrs.
Science in Intellectual History 401 ..... 4 hrs.

American Culture 402 ..... 4 hrs.
Molders of Thought 405 ..... 4 hrs.
Social and Cultural Change 408 ..... 4 hrs.
Criticism of Mass Media 503 ..... 4 hrs.
Business and Society 504 ..... 4 hrs.

III. **Additional work** to be selected from the above General Studies courses or from non-professional courses in the School of Liberal Arts and Sciences. Technical courses in applied music, art, and speech, and courses given in Liberal Arts departments in methods of teaching are excluded from this category. ..... 6 hrs.

In the areas of social science and science, in Arts and Ideas, and in the Junior-Senior level courses, alternatives may be approved and incorporated in subsequent announcements.

The Educational Policies Council has approved the following statements:

1. "The Dean of the School of General Studies in consultation with the committee established to administer the General Studies program be empowered to make such adjustments and substitutions in the program of individual students and groups of students as seem desirable in order to accomplish the goal of encouraging the student to acquire a broad competence in his study of general education courses. In making such decisions, the Dean shall be requested to consider:

   a. The high school record of the student;

   b. Any college entrance examinations that he has taken or is required to take;

   c. The student's own attitude toward his preparation.

   Furthermore, in making these decisions it is recommended that the student be encouraged to study in those areas of General Studies in which he displays the least competence, and that the power given the Dean includes the right to grant credit for the successful completion of examinations designed to determine the competence of the student in an individual area, provided that in doing so the broad objective as stated above will be accomplished."

2. "Because of the special purposes of the General Studies program, it is expected that the courses contained in it will normally not be considered part of any academic major or minor sequence. In certain specialized professional curricula exceptions to this rule may be made in appropriate areas by joint agreements between the Dean of the School of General Studies, those persons responsible for the administration of curricula, and appropriate department heads."

General Studies Equivalents

In determining the extent to which the General Studies (general education) requirements of Western Michigan University have been met by credits earned at other colleges the following rules shall apply:

1. College Writing—Freshman Reading Area
   a. For a full waiver a student must present at least 5.5 semester credits in a freshman writing or communication course or present proof that he has fulfilled the Freshman English requirement at some other four-year degree granting institution.
   b. If he presents less than 2 semester credits, he will be required to take both College Writing (unless exempted by examination) and Freshman Reading.
   c. If he presents a minimum of 2 semester credits but less than 3 he will be required to take College Writing.
   d. If he presents a minimum of 3 semester credits but less than 5.5 he will be required to take Freshman Reading.
   e. If the institution from which he transfers has granted a waiver for the Freshman English requirement or any part of it, this waiver will be honored by Western Michigan University.
2. Science Areas
   a. A student who presents a minimum of 8 semester credits in General Physical Science or in any combination of two or more of the following: physics, chemistry, biological science or earth science, will not be held for the general education requirements in the science area. Courses acceptable under the sciences include:

      Biological Science:
      - Biology
      - Botany
      - Nature Study
      - Physiology
      - Zoology

      Chemistry:
      - General College Chemistry
      - Industrial Chemistry (if taught by the Chemistry Department)

      Earth Science:
      - Conservation
      - Geography
      - Geology and Meteorology

      Physics:
      - Astronomy
      - General College Physics
      - Technical Physics (if taught by the Physics Department)

b. Regardless of the number of credits he presents in one area of science, he must present credits in more than one to receive a full waiver. If all his credits are in one area, he must take a course bearing at least 4 hours of credit in another.

c. If he presents less than 2.5 semester credits in science, he will be expected to complete the entire General Studies science requirement at Western.

3. Social Science Area

a. A student who presents a minimum of 4 semester credits in General Social Science or in any combination of two or more of the following subjects will be considered to have met his Freshman-Sophomore level general education requirements in social science:

American History
History of Modern Europe
Cultural Anthropology
Economics (Principles)
Sociology (Principles)
Political Science (except that American Government may not be used with U. S. History)

b. Regardless of the number of credits he presents in one field, he must present credits in more than one to receive a full waiver. If all his credits are in one field, he must take a course bearing at least 2 hours of credit in another.

c. If he presents less than 2 semester credits, he will be expected to meet the General Studies social science requirement at Western.

4. Western Civilization—Arts and Ideas Areas

a. A student must present a minimum of 8 semester credits in at least two of the following fields to receive a full waiver:

Western Civilization (history of culture)
Art Appreciation or Art History
Music Appreciation or Music History
Literature (including drama)
Philosophy or Religion (non-doctrinal)
Theatre (introduction or history)

5. Junior-Senior Areas

All students who transfer to Western Michigan University with fewer than 90 semester credits must complete the 8 hours of Junior-Senior General Studies described on page 21 of the catalog, except that a student who has taken a minimum of 3 hours of work in studies in the Non-Western World may receive an exemption in that area.

Exemptions and Comprehensive Examinations

1. Comprehensive examinations in some General Studies areas are available for well-prepared students. Information about them can be obtained from the office of the Dean of the School of General Studies.
2. Exemptions from all or part of the General Studies science requirements are made for students who, because of choices of majors or minors or because of curricular requirements, must take a considerable amount of departmental science. However, a student must acquire a knowledge of more than one departmental area.

Schools and Curricular Offerings

SCHOOL OF GENERAL STUDIES

SCHOOL OF APPLIED ARTS AND SCIENCES

Agriculture

Distributive Education

Engineering and Technology
- Electrical Engineering Technology
- Industrial Engineering
- Industrial Supervision
- Mechanical Engineering Technology
- Metallurgical Engineering Technology

Home Economics
- Dietetics
- Home Economics in Business
- Home Economics Education

Industrial Education
- Industrial Arts
- Vocational-Technical Education
- Printing Management

Occupational Therapy

Paper Technology

Transportation Technology
- Automotive Engineering Technology
- Aviation Engineering Technology

Two-year Terminal Curricula
- Food Distribution
- Petroleum Distribution
- Drafting and Design Technology
- Electronics Technology
- Aircraft Technology

SCHOOL OF BUSINESS

Business Administration
- Accounting
- Business Education (The teaching of business subjects, secretarial administration, cooperative secretarial program)
- General Business (Including finance and insurance)
- Management (Personnel, industrial, office management)
- Marketing (Sales management, advertising, retailing and purchasing)

SCHOOL OF EDUCATION

Teacher Education
- Elementary
- Rural Life and Education
- Junior High School
- Secondary
- Librarianship
- Music
- Elementary Music

School Services
- Guidance and Personnel

Special Education
- Crippled and Homebound
- Emotionally Disturbed
- Mentally Handicapped
- Speech Pathology and Audiology
- Blind Rehabilitation

Physical Education for Men (Health, physical education, recreation)
Physical Education for Women (Health and physical education)

SCHOOL OF LIBERAL ARTS AND SCIENCES

Liberal Arts
- Anthropology
- Art
- Biology
- Chemistry
- Economics
- English
- Geography
- Geology
- History
- Mathematics
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Religion
- Sociology
- Speech
- Speech Pathology and Audiology

Language (French, German, Latin, Spanish. Limited courses are available in Greek, Russian.)

Linguistics

General

The same areas of concentration are available in the General curriculum as are found in the Liberal Arts curriculum.

Medical Technology
Social Work
Speech Pathology and Audiology

Pre-Professional (The student must transfer to a professional school to complete requirements)
Christian Ministry
Dentistry
Engineering (except for industrial)
Forestry
Journalism
Law
Librarianship
Medicine
Mortuary Science
Nursing
Pharmacy

For graduates of the University with outstanding records a number of graduate research fellowships are available in chemistry, sociology, biology, psychology, and education. Many fellowships and assistantships are also available through other colleges and universities.

The Center for Sociological Research, a division of the Sociology Department, is provided to instruct graduate and undergraduate students in research procedures and to assist in faculty research. Data processing equipment is available to qualified students.

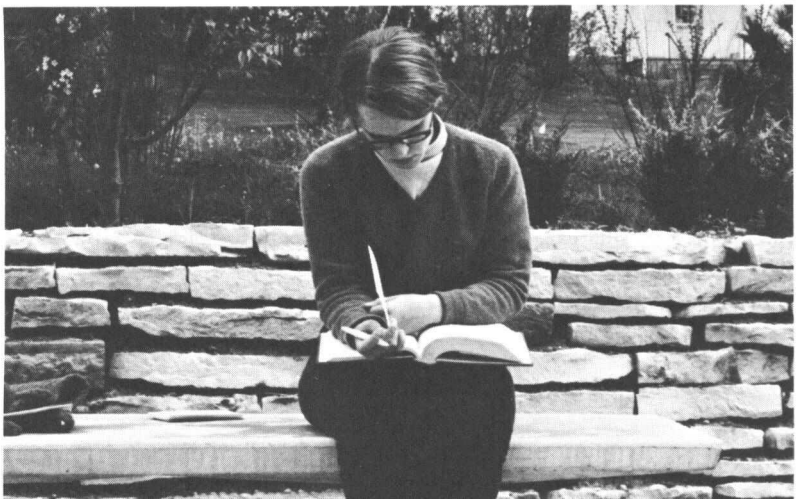
For students in any area of aviation technology, there is provided ample airport facilities and flight instruction.

Major and Minor Requirements

A major is a sequence of related courses totaling a minimum of 24 hours (30 hours in Elementary and Secondary Education or 36 in a group major in Elementary or Secondary Education); a minor is a sequence of related courses totaling a minimum of 15 hours (20 hours in Elementary and Secondary Education).

1. The student's major and minors will be his subject specialization, such as: mathematics, accounting, biology or chemistry.
2. His curriculum may be general or specific preparing him for a specialized career or profession such as business, medicine, law, auto mechanics or engineering.
3. Departmental requirements for majors and minors are listed elsewhere in this catalog. Where requirements are not specified, students should consult the departmental advisers for approval of their major and minor programs as soon as it is known what they are to be and by the last semester of the junior year.

4. The candidate for a degree must complete a major and a minor. A candidate for the Elementary Provisional Certificate may elect, instead, two minors or group minors of 20 or 24 hours each; or one major or group major of 30 or 36 hours.
5. In certain cases "group" majors totaling a minimum of 30 hours and "group" minors totaling a minimum of 20 hours are permitted. (Excluding students in Elementary and Secondary Education.) They usually consist of courses selected from the related departments of a division (see the Division of Social Sciences and the Division of Science and Mathematics).
6. Under certain conditions General Education courses are partially acceptable toward major and minor requirements. (See Departmental requirements.)
7. Minors may often be related to majors, so as to recognize naturally or closely related fields; for example, mathematics and physics, history and geography, literature and history, etc.
8. It is not permissible to use education as a major or minor in any undergraduate curriculum.
9. The following courses are not to be counted as satisfying major and minor requirements:
   a. Required courses in College Writing or Freshman Reading
   b. Required courses in education
   c. Required courses in general physical education
   d. Basic R.O.T.C. courses
10. A combination of foreign languages, or of English or American Literature with a foreign language, is not permissible. A major or minor must be in one language only.
11. Mathematics may not be combined with science (physics, geography, or chemistry, biology) for any major or minor sequence.
12. A minimum grade-point average of 2.0 must be attained in any major or minor presented for graduation.



MAJORS

Accounting
Agriculture
Anthropology
Art
Automotive Engineering Tech
Aviation Engineering Tech
Biology
Business — General
Business — Education
Chemistry
Cooperative Occupation Education
Earth Science
Economics
Engineering & Technology:
  Electrical Technology
  Electrical Engineering Tech
  Drafting and Design
  Industrial Engineering
  Industrial Supervision
  Mechanical Engineering Tech
  Metallurgical Engineering Tech
English
Geography
Geology
History
Home Economics:
  Dietetics
  Home Economics in Business
  Home Economics in Education
Industrial Arts
Language:
  French
  German
  Latin
  Spanish
Linquistics
Management:
  Adminisrative Services
  Electronic Data Processing
  Industrial Management
  Personnel Administration
Marketing:
  Advertising
  General Marketing
  Industrial Marketing
  Purchasing
  Retailing
Mathematics
Music
Occupational Therapy
Paper Technology
Philosophy
Physical Education — Men
Physical Education — Women
Physics
Political Science
Printing Management
Public Administration
Psychology
Religion
Sociology
Special Education:
  Blind and Visually Impaired
  Crippled and Home Bound
  Emotionally Disturbed
  Mentally Handicapped
  Speech Pathology & Audiology
Speech
Speech Education

MINORS

Accounting
Agriculture
Anthropology
Art
Automotive Engineering Tech
Aviation Engineering Tech
Biology
Business:
  Education
  General
  Finance
  Insurance
  Law
Chemistry
Distributive Education:
  Cooperative Occupational Education
    (Secondary Ed only)
  Food Distribution
  Petroleum Distribution
Earth Science
Economics
Engineering Technology:
  Drafting and Design
  Electrical Technology
  Electrical Engineering Tech
  Mechanical Engineering Tech
  Metallurgical Engineering Tech
English
Geography
Geology
History
Home Economics
Industrial Arts:
  Drawing
  Electricity — Electronics
  General Industrial Arts
  Graphics and Printing
  Metal Work
  Power Mechanics
  Woodworking
International and Area Studies
Language:
  French
  German
  Latin
  Spanish
Linquistics
Management:
  Administrative Services
  Electronic Data Processing
  Industrial Management
  Personnel Relations
Marketing:
  Advertising
  General Marketing
  Industrial Marketing
  Purchasing
  Retailing
Mathematics
Music
Philosophy
Physical Education — Men
Physical Education — Women
Physics
Political Science
Psychology
Religion
Social Work
Sociology
Speech
Speech Education

CERTIFICATES

Teacher Certification — Provisional

The following types of teaching certificates are granted:

1. State Elementary Provisional

   This certificate qualifies the holder to teach for a period of five years in the elementary grades (kindergarten through eighth grade) in any public school in Michigan. The candidate must meet the requirements for a degree as defined above.

2. State Secondary Provisional

   The secondary provisional certificate is valid for teaching all subjects in grades 7 and 8, and in subject matter fields in grades 9 through 12 in which the applicant has completed a major or minor. The candidate must meet the requirements for degree as defined above.

Teaching certificates will be granted only to candidates who are eighteen years of age or older.

A candidate presenting credits as a graduate of a Michigan county normal school will be granted a maximum of 25.7 semester hours credit toward the Provisional Certificate.

Certificate Renewal

A person who holds an expired provisional certificate may renew such certificate and restore it to good standing by completing 10 hours of acceptable college work. Application for reinstatement must be made through the institution upon whose recommendation the certificate was issued. For an application for reinstatement, please write to the Registrar.

Teacher Certification — Permanent

1. Requirement to be fulfilled:
   a. Application must be made to the University within one year following the expiration of the Provisional Certificate.
   b. The candidate must submit evidence that he has taught successfully during the life of the certificate for not less than three years in schools of the level indicated on his provisional certificate.
   c. The candidate must have earned, in addition, 10 semester hours of acceptable college credit. Credit completed in correspondence courses, community or junior college courses, or in courses for which the candidate has previously received credit may not be used for permanent certification.

2. Procedure for certification:
   The candidate must obtain an application blank from the Registrar, complete this blank and return it to the University, accompanied by his provisional certificate and his Teacher's Oath.
3. The University will investigate the qualifications of the candidate, ascertain if he satisfies the requirements for permanent certification and make appropriate recommendation to the State Board of Education.

EXPENSES

Student Fees for Undergraduate and Graduate

Semester Hours	Resident Fees	Non-Resident Fees
1 – 2	$ 54.00	$130.00
3 – 4	83.00	200.00
5 – 6	111.00	270.00
7 – 8	138.00	340.00
9 – 10	167.00	410.00
11 or more	185.00	450.00

For the Spring and Summer sessions, the above schedules apply up to a maximum of $92 for Michigan residents and $225 for non-Michigan residents.

Student fees are subject to change by action of the Board of Trustees. Partial payments will not be accepted.

The approximate cost of books and supplies, as estimated by a student survey is $50 a semester and $20 a session. Incidental expenses, such as laundry, recreation and personal supplies, are approximately $200 a semester and $75 a session.

APPLICATION FEE: A non-refundable payment of $10 must accompany each new application for admission as an undergraduate student or for admission to the School of Graduate Studies.

ADMISSION DEPOSIT (*Entering students*): A $50 deposit applies to all new, transfer and beginning students who have been admitted to the Fall semester. The deposit will be applied toward the student fees in each case and must be paid on or before May 1 or within three weeks after notification of acceptance of admission, whichever is later. Deposits received in the Business Office after May 1 are non-refundable.

FEES DEPOSIT (*Returning students*): All students pre-registering for the Fall semester prior to the date of billing for student fees are required to make a deposit of $50 at the time of pre-registration. The deposit will be applied towards the student fees. Refunds will be made only if requested on or before May 1.

APPLIED MUSIC FEE: A special departmental fee of $75.00 for 60 minutes, or $38.00 for 30 minutes of private instruction per week is charged for applied music each semester. Each credit hour of applied music normally requires 30 minutes of private instruction.

AUDITORS' FEES: Auditors (students who attend classes but do not desire credit) are governed by the same regulations as students desiring credit.

LATE ENROLLMENT FEE: Registration will be held on the dates listed in the Schedule of Classes which is published prior to each semester and session. Students who are permitted, because of extraordinary circumstances, to enroll after the final day scheduled for registration are required to pay a late enrollment fee of $5.00. Checks refused by the bank constitute late registration and are subject to the late enrollment fee.

PILOT TRAINING FEE: A special fee of $400.00 is payable with the written consent of the Department Head, at the Business Office prior to registration for the Pilot Training Course.

ROOM AND BOARD: The residence halls, with the exception of Vandercook Hall, furnish board and room at $455.00 per person each semester. Vandercook Hall for Men, East Campus, is the only residence hall where board is not furnished. The rate, for room only, is $155.00 a semester per person.

All prices quoted are on the basis of two or more students per room or suite. Due to the unsettled condition of prices for food and labor, the University reserves the right to increase the charge during the year, if in its opinion, such an increase is necessary.

Address requests for housing reservation to the Director of Housing. A first payment of $50 to be applied toward room and board payment will be required with the signed contract before a housing assignment is made.

It is the responsibility of each student to file his application for resident housing. This is not automatic upon acceptance by the University.

REFUNDS

STUDENT FEES AND APPLIED MUSIC FEES: A student who withdraws from the University or who reduces his credit hour load, resulting in lower fees, will be granted a partial refund (see schedule) of the total paid—subject to the following conditions:

1. A refund will not be granted for reducing the current hour load after the final day for adding a course as established by the Registrar.
2. Pre-registered students who have paid student fees prior to the last day of registration and who subsequently reduce their load during the drop-add period shall be entitled to a refund of 100 per cent of any difference in the assessments.

3. A refund will not be given for withdrawal from the University after the last calendar day as stated below:

Refund Schedule*:

	Fall/Winter Semesters	Spring/Summer Sessions
1. 90% Period	Through the final day for adding a course as established by the Registrar	Through the final day for adding a course as established by the Registrar
2. 60% Period	Final day above through the 21st day after the last established registration day.	Final day above through 10th day after the last established registration day.
3. 40% Period	22nd through 35th day after the last established registration day.	11th through 17th day after the last established registration day.
4. 20% Period	36th through 49th day after the last established registration day.	18th through 24th day after the last established registration day.

*Fall semester refunds may not exceed the amount of fees paid minus $50.

NOTE: The refund date will normally be determined by the date that the Registrar receives a Change of Enrollment request form or an Appeal to Withdraw form.

MILITARY SERVICE: A special refund schedule is applicable to students involuntarily called to active duty in the military service and is on file in the Controller's Office.

FLIGHT TRAINING FEES: Refund of flight training fees will be made in accordance with the policy established by the Controller of the University.

ROOM AND BOARD: When emergencies arise causing a student to leave the Residence Hall, provided it is approved by the Housing Committee, a refund is made, less $35.00 including the deposit, beyond the current week in which the student leaves the Residence Hall.

Residency:

The following policy adopted by the Board of Trustees of Western Michigan University applies to all students:

1. The residence of a student who is a minor follows that of his parents or legal guardians, except that a minor student who comes to the institution from another state or country cannot be regis-

tered as a resident of this state on the basis of having a resident of this state as a guardian except on permission of the Board of Trustees.

2. A person who is at least 21 years of age at the time of registration in the institution and who has resided in this state six months next preceding the date of registration without being registered at a college or university during that period is deemed a resident of this state for the purpose of such registration.
3. The residence of a wife follows that of her husband, except that a woman student who is a resident under paragraph 1 or 2 may continue to register as a resident of this state although subsequently marrying a non-resident student or other non-resident.
4. No person is deemed to have gained or lost residence in this state while a student at any institution in this state, public or private, except by changes in status effected under paragraphs 1, 3 or 5.
5. A person in the service of the United States, and his wife or minor children, who have met the six months residence requirements in paragraph 2, may register as residents of this state.
6. An alien lawfully admitted for permanent residence in the United States and who has obtained his permanent visa, and his wife or minor children, who have met the other requirements herein for residence, may register as residents of this state.
7. A member of the University staff and his dependents may register as resident of this state.

It shall be the duty of every student at registration, if there are any possible questions as to his right to legal residence in Michigan under the rules stated above, to raise the question with the Controller and have such questions passed upon and settled prior to registration.

SCHOLARSHIP REGULATIONS

Unit of Credit

The unit of credit is the semester hour; the number of semester hours credit given for a course generally indicates the number of periods a class meets each week.

Grading System

The student receives one grade in each course that he takes. This grade combines the results of class work, tests, and final examinations.

Grades are indicated by letters, to each of which is assigned a certain value in honor points per hour of credit, as shown in the table below.

Grade	Significance	Honor Points per hour credit
A	Excellent	4
B	Good	3
C	Fair	2
D	Passing	1
E	Failure	0
I	Incomplete	
CR.	Credit	0
NC.	No Credit	0

"I" Incomplete

This is a temporary grade given for work which is passing in quality but lacking in quantity to meet course objectives. It is assigned when illness, necessary absence, or other reasons satisfactory to the instructor prevent completion of the course requirements by the end of the semester. This grade may not be given for unsatisfactory work.

A grade of "I" must be removed by the termination date of the next regular semester following the date it was assigned or a grade of "E" will be recorded for the course. (Spring and summer sessions combined are equivalent to a semester.) This time limit applies regardless of the student's continued enrollment. When the "I" is removed, a permanent grade will be recorded. Students who receive an incomplete grade in a course must not re-register for the course in order to remove the "I".

An instructor who assigns a grade of "I" will submit to the Department Chairman and to the Registrar a statement of remaining requirements for removal of the incomplete grade for each student concerned.

Pass/Fail

A student who has achieved a standing of sophomore or higher and who is not on scholastic probation may elect to enroll for credit in designated courses on a pass/fail basis. Such courses must be outside the student's major-minor areas and may not include required courses.* Letter grades will not be granted in courses taken on a pass/fail basis. A student who does D or better in such a course will receive a "pass" grade.

The pass/fail system provides that:

1. One pass/fail course a semester may be counted towards a degree. but the total may not exceed 12 hours of pass/fail work.

*Directed Teaching, a required course, is taken on a pass/fail basis and is not included in the 12-hour limitation.

2. When a pass/fail course has been elected, a letter grade may not be given in the course.
3. Pass/fail courses will not be used in determining the over-all grade-point average.
4. All course prerequisites must be maintained by students electing pass/fail courses.

Repeated Courses

Any course in which a student may have been enrolled more than once is considered a repeated course. A grade must be presented for each course. The grade earned the final time in the course will count toward curricular or degree requirements and will cancel the previous grade and/or credit earned. Cumulative grade-point average is computed to include both the original grade and that of the repeated course. Scholastic standing is based on an unadjusted grade-point average, computing both the original and the repeated grades.

Honor Points

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the number of honor points per hour of credit corresponding to the letter grade received, as shown in the preceding table. For example, a grade of B in a four hour course gives 4 x 3, or 12 honor points.

Grade-Point Average

A grade-point average is obtained by dividing the total number of honor points earned by the total number of semester hours of work for which the student is officially enrolled during any period. For example, a total of 32 honor points earned in a semester by a student officially enrolled for 16 hours of work gives a grade-point average of 32/16 or 2.0 for that semester.

Dean's List

To gain a place on the Dean's List for a semester, a student must:

1. Have taken at least fourteen semester hours of work during the semester.
2. Have a grade-point average of at least 3.50 for the semester.

Low Scholarship

A student must earn an over-all grade point average of *at least* 2.0 to satisfy degree requirements. The low scholarship policy is intended to encourage satisfactory progress toward that end. The policy operates as follows:

1. Good Standing
   A student is in good standing whenever his over-all grade point average is at least 2.0.
2. Warning
   Whenever the grade point average for any enrollment period is less than 2.0, but the over-all grade point average is 2.0 or above, the student will be warned.
3. Probation
   The student will be placed on probation whenever his over-all grade point average falls below 2.0.
4. Probation Removed
   Whenever the conditions of Good Standing are restored, Probation will be removed.
5. Continued Probation
   If the over-all grade point average *increases*, although still below 2.0, the student may be continued on Probation for one additional enrollment period.
6. Dismissal
   The student who fails to increase his over-all grade point average at the end of an enrollment period of *Probation*, or whose over-all grade point average fails to reach 2.0 at the end of one enrollment period of *Continued Probation*, will be asked to withdraw from the University. Exceptions may be granted, at the discretion of the Registrar, where the increase has been substantial but still falls fractionally short of the minimum 2.0 requirement.

CLASS ATTENDANCE

Students are responsible directly to their instructors for class and laboratory attendance as well as for petitions for excuses for absences.

Students who anticipate being absent or who have had prolonged periods of absence should confer with the appropriate dean and give explanation concerning their cases. But such "explanations of absences" are not to be construed by instructors as constituting "excuses for absences." The "cut system" is not recognized.

CLASS LOAD

A first semester freshman may not enroll for more than eighteen hours of work except by special permission, which is seldom granted

unless the curriculum demands it. This regulation applies to total credit for work taken by extension or in some other institution, in addition to credit desired in residence at Western.

The normal maximum load for the Spring and Summer sessions is nine hours.

Students employed part-time should reduce their class loads proportionately. If a student works full time, his academic load should not exceed eight to ten hours.

Full time teachers will be limited to a maximum of six hours each semester either on campus, through Field Services, or both.

No full time teacher may enroll at any time in more than two courses offered by the Field Service Division.

CHANGING COURSES (Drop-Add)

Students may enroll in (Add) any course through the first six days of classes, including Saturday. The final date for adding courses will be published in the Time Schedule of Classes.

Students may withdraw (Drop) from courses without grade through the first Saturday past mid-semester. The final date for dropping will be published in the Time Schedule of Classes. Students who withdraw (Drop) after this date, without approval will be graded "E" in each course dropped.

Students who believe they must withdraw after this date without penalty because of genuine hardship must appeal to a Faculty-Student Committee. Documented justification must be presented to the Office of the Dean of Admissions and Records on appropriate forms to be secured at the Records Office. The student is expected to follow the outlined steps in making this appeal. The action of the Committee will be final. Each student is encouraged to visit with his instructor before deciding to withdraw from class. The above policy applies to students who withdraw from *any* or *all* of the courses for which they are registered. For additional regulations governing complete withdrawals, see section under "Withdrawal From the University."

WITHDRAWAL FROM THE UNIVERSITY

Any student who wishes to withdraw completely from the University must initiate this action through the Records Office. (See CHANGING COURSES.)

CLASSIFICATION

Students at Western Michigan University are classified officially as follows:

Freshmen—Students credited with 0-25 hours inclusive.

Sophomores—Students credited with 26-55 hours inclusive.

Juniors—Students credited with 56-87 hours inclusive.

Seniors—Students credited with 88 hours or more.

COURSE NUMBERING SYSTEM

The course numbering system is limited to three digits. The first digit indicates the level of work. The second digit indicates an area of study within the series or level. The third digit indicates the specific course number in each area and each series. Undergraduate courses are numbered from 100 through 599. Graduate courses are numbered 600 through 799.

Course Numbers	Level
0 - 89	Non-credit courses
90 - 99	Terminal course credit that may not be applied toward degree programs
100 - 199	Courses primarily for Freshmen
200 - 299	Courses primarily for Sophomores
300 - 399	Courses primarily for Juniors and Seniors
400 - 499	Courses primarily for Seniors
500 - 599	Courses for advanced undergraduates and graduate students
600 - 699	Courses for graduate students only
700 - 799	Graduate Seminars, Theses, Independent Research, etc.

Generally speaking, an even numbered third digit is the first half of the course and an odd numbered third digit is the second half of the course. Courses that terminate at the end of one semester and may not be divided into two courses in the immediate future may be assigned an odd numbered third digit to protect the system from becoming overloaded with even numbered third digits. Frequently, applied music has variable credit and will be two digits with a prefix of either "H" or "Z".

The number of a course which has been discontinued is not to be reassigned for a period of five years. It is the responsibility of the Registrar to approve course numbers and keep an accurate file of all courses and assigned numbers.

EXAMINATIONS

1. A final examination is given in every course at the end of each semester.

2. Students are required to take examinations in all courses in which they are enrolled.

3. Students may not request an examination at any other than the scheduled time. Any unavoidable conflict should be reported to the Registrar as soon as known so that special arrangements can be made.

4. Failure to meet the schedule due to illness is to be reported to the appropriate dean immediately.

GRADUATION

The candidate for degree is expected to make application for graduation during the first semester of his junior year so that his record may be audited before his senior year.

Standard for Graduation

A student must have a point-hour ratio of 2.00 or higher to be graduated in any curriculum.

To be granted a degree or certificate at the end of a semester during which he has been on academic probation, a student must have a grade-point average of 2.0 or higher for the semester.

If a student goes on academic probation or is dismissed as a result of the work taken in his final semester, he will be required to remove the low scholarship status before being granted a degree or certificate.

Final Date for Completion of Work

All work taken either on or off the campus must be completed by graduation day. Transcripts of completed work earned off the campus will be received after the end of the semester only in cases where there are extenuating circumstances.

Courses taken or completed after the eight-week summer session will not count toward bachelor's degrees or teaching certificates granted at the close of the summer session. Students who take or complete such courses will receive their degrees and certificates at the close of the fall semester.

Correspondence courses must be completed, examinations taken, and the grades received in the Registrar's Office on the following dates, as applicable, for degree considerations:

a. December graduation, November 15
b. April graduation, March 15
c. August graduation, July 15

Students who fail to meet the above standards will be removed from graduation lists automatically and placed in the class of the succeeding semester or session, assuming other requirements can then be met. When a student fails to meet requirements for graduation resulting from failed courses, incomplete work, or for any reason for which the student accepts responsibility or has control, *A fee of $5 must accompany each successive application for graduation.* Responsibility in these cases rests with the student to reapply for the next regular graduating class following completion of his requirements.

HONORS IN COURSES

Honors in Courses are offered upon graduating students who have displayed a high level of performance during their university course. Such honors are announced at a special convocation.

Recipients of honors receive their degrees:

Cum laude—when their grade-point average is 3.50 to 3.69, inclusive

Magna cum laude—when their grade-point average is 3.70 to 3.89, inclusive

Summa cum laude—when their grade-point average is 3.90 to 4.00, inclusive

In computing grade-point average for honors in course, the following rules will apply:

1. Credits and honor points earned during a student's second to seventh semester, inclusive, only will be counted toward honors.
2. Credits and honor points earned in correspondence and extension classes as well as those transferred from other duly accredited institutions will be considered toward honors.
3. No student will be eligible for an honor in course who has not earned at least 160 honor points in this University during the interval mentioned in Rule 1.

TRANSCRIPTS

A student desiring a transcript of his record in this university should write to the Registrar, giving dates of attendance and, if a graduate, the date of graduation. He should give all names under which he may have been enrolled. Each student is entitled to one transcript of his record without charge, but all additional copies are charged for at the rate of one dollar a copy. No transcript will be released except upon written authorization of the student.

FOREIGN STUDENTS

Enrollment of select students from other countries, meeting usual admission requirements or under special sponsorship, is encouraged at Western for the broad purpose of promoting intercultural exchange, international understanding and friendship through both formal and informal learning experiences on campus and in the community.

IDENTIFICATION

Each student on campus is required to have an identification card on which is located his validating label and on which are embossed his student number, social security number and name.

Miscellaneous Information

ALUMNI

The Alumni Office serves as liaison between Western Michigan University and former students. Through its publications it keeps alumni abreast of Western's academic and physical progress. It serves also to encourage among former students continuing interest in the University.

The Alumni Office serves in an advisory capacity to the student group which organizes the annual Homecoming, a time when all alumni are invited to return to the campus. It has a vital role in the Annual Giving Campaign which provides financial support for many W.M.U. activities.

All members of the Western Michigan University Alumni Association receive the Western Michigan University Magazine, a quarterly publication, and the Newsletter, published eight times a year.

The Alumni Association is governed by a President, two Vice Presidents, a Board of Directors and an Executive Secretary. Alumni Clubs throughout the nation participate in scholarship, grant, loan fund programs and social events.

Alpha Beta Epsilon, a sorority with 17 chapters and about 700 members, is a group of dedicated Western alumnae whose chief project is to provide a number of scholarships for outstanding students.

ATHLETICS

Athletics consists of two major programs; intercollegiate athletics and intramural athletics.

INTERCOLLEGIATE—The University is represented by teams in football, baseball, basketball, indoor and outdoor track, cross country, tennis, wrestling, swimming, gymnastics, and golf. Representative teams from all parts of the country are scheduled in these sports with the emphasis on mid-western teams.

Western Michigan University has been a member of the Mid-American Conference since 1947. The other members of the Conference are Bowling Green, Kent State, Marshall, Miami, Ohio and Toledo. The athletics are governed by an Athletic Board which adheres to the Athletic Code of the Mid-American Conference and the policies and principles established by the National Collegiate Athletic Association. The teams winning Mid-American Conference championships in basketball and baseball qualify automatically for the annual NCAA playoffs.

Western Michigan University is a member of the Central Collegiate Conference. Participation in this conference furnishes competition with a number of the stronger track teams in the middle west.

INTRAMURAL—An extensive intramural program provides opportunity for students to engage in competitive sports on campus as members of clubs, fraternities or independent teams. Sports offered for men include archery, badminton, basketball, billiards, bowling, golf, gymnastics, handball, softball, swimming, tennis, track, volleyball, wrestling. Any sport in which a sufficient number of students indicate an interest and for which facilities are available may be set up in the intramural schedule.

AUDIOVISUAL CENTER

The Audiovisual Center, located in Waldo Library, is organized to serve the students and faculty of Western Michigan University through the use of audiovisual media and equipment. Besides the operation of a library of films, filmstrips, and recordings, there are additional functions of production of transparencies and photographs, lettering, tape recording, and picture mounting. A staff of student employees is trained to operate audiovisual equipment for classroom instruction and student campus activities.

SPEECH AND HEARING CLINIC

Among the services provided students are those of the Speech and Hearing Clinic. Diagnosis and therapy are provided for individuals with voice, articulation, stuttering, hearing, cleft palate, or foreign accent problems. Individuals unable to carry on their classroom activities or to achieve adequate results in the general speech courses or to do their practice teaching because of speech or hearing difficulties may be referred for treatment in this modern clinic. Student clinicians use the facilities of the clinic in preparing for their careers.

CONDUCT AND DISCIPLINE

The rules and regulations covering student conduct are developed by student-faculty committees under the Student Services Council of the Faculty Senate. The policies, when approved, are published in *The Code of Student Life*. The rules and regulations appearing in this *Code* are developed under the philosophy reflected in this statement:

"The individual student of Western Michigan University, as a part of the University society, should be encouraged to help develop a responsible, intelligent community. He should be encouraged to maintain his own integrity through sound self-discipline. The University should adopt only such reasonable rules and regulations as are necessary for the orderly, harmonious, and beneficial functioning of the whole community."

The Dean of Students has the responsibility for student conduct and discipline. When infractions of rules and regulations occur, violators will be referred to the appropriate student discipline committee. Decisions of student boards may be reviewed by the University Discipline Committee.

COUNSELING SERVICES

The services of the Counseling Center are offered to all undergraduate and graduate students, their spouses and their children.

Many new and important decisions and situations will face students while they are at Western Michigan University. They will need to make decisions regarding courses, curricula and vocational choice. They may become involved in social and personal situations about which they feel confused and upset. The University provides highly trained counselors to assist students with these concerns.

The services of the Counseling Center include: academic advising, vocational-educational planning, personal counseling, testing and group counseling. Reading material is available in the Counseling Center Occupational Information Files concerning various aspects of employment, occupations and qualifications.

The services of the Counseling Center are committed to a profound faith in the worth, dignity and great potentiality of each individual. Confidentiality is considered paramount in the realization of this commitment.

DEBATING — FORENSICS

The Western Michigan University forensics program attempts to develop the "whole speaker" by providing varied speaking experiences in both competitive and non-competitive environments on and off the WMU campus. Students may become involved in any or all facets of the program which includes: (1) intercollegiate debate, discussion, oratory, extemporary speaking, rhetorical criticism, interpretative reading; (2) the WMU All-University Forum; (3) the Forensic Speaker's Bureau; and (4) the Forensic Judging Service.

It is not necessary to enroll for classes or be a speech major or minor. However, students may receive academic credit for their participation by enrolling in Speech 236.

DRAMA

All students in good academic standing, regardless of academic major or minor, may participate in the University Theatre program of the Department of Speech. Housed in the excellent and spacious new Laura V. Shaw Theatre complex, the theatre opportunities each year include acting or technical work on five or six productions in the Shaw Theatre,

five or more in the Arena Theatre, as well as a number of student-directed "laboratory productions" each semester. Both adult and children's drama are performed. In addition, opportunities for intensive, concentrated study and practice in the theatre arts are available through the newly established Summer Ensemble Theatre.

EDUCATIONAL RESOURCES CENTER

The award-winning Educational Resources Center, located in Sangren Hall, is a unique instructional organization serving students and faculty in the School of Education. The ERC is concerned with virtually the total range of instructional media. The center provides students and faculty a representative collection of public school textbooks, professional books, pamphlets, periodicals, curriculum guides, courses of study, resource units and reference materials. The ERC also houses a collection of commercially made instructional devices: films, filmstrips, recordings, teaching machines and graphic materials as well as audio-visual equipment. The Center serves further as a focal point for a variety of audio-visual courses, leading to the Master's degree in Audiovisual Media.

FIELD SERVICES

The Division offers educational opportunities to persons who do not participate in the regular full-time undergraduate or graduate program of the University.

Serving primarily the sixteen counties of Southwestern Michigan, Western's offerings provide a variety of courses through extension class and correspondence enrollments. A variety of courses is offered to benefit teachers in the field and other interested adult students. Course offerings in the sixteen counties are planned in conference with county superintendents, public school superintendents and their teacher committees. Courses are offered on both the undergraduate and graduate levels.

There is also a wide variety of correspondence courses available. These may be taken for credit and applied toward an undergraduate degree within the limitations described in this bulletin.

In the field of adult education the office provides advisory services, speakers, discussion leaders, and persons qualified to handle leadership training programs. Upon request, such services are available to farm groups, labor unions, schools, church organizations, and other organizations.

In-service education programs are planned with schools, business, professional and civic groups. Advisory services are offered, as well as actual training programs.

For details write the Division of Field Services.

HEALTH SERVICE

The Health Service is primarily concerned with illness occurring away from home, but is also available for care of illness being treated by the family physician (allergy shots, etc.). If the latter case be present, a letter from the family physician is greatly appreciated.

Undoubtedly during the four years the student is on campus he will encounter some illness, accident, or injury which will need medical attention. The Health Service Infirmary is open 24 hours a day with a physician available for cases of emergencies which may occur when the clinics are closed.

Clinics are held daily from 8 a.m. to 4:30 p.m. with a physician present to advise medical care and treatment. The main clinic and health service is located on the East Campus of the University. A West Campus clinic is located in the Hillside Apartments. For those students who are found to be more seriously ill and need further medical care and laboratory work, a 20-bed infirmary is available which is under supervision of registered nurses and is visited daily by a physician. Laboratory work and x-rays are available at the infirmary for a nominal fee. Medicines are provided at cost to the students and a small charge is made for the use of the infirmary. There are no physician fees involved.

If the student requires further medical care or surgery for emergencies (as appendicitis), the city of Kalamazoo has two large hospitals staffed by specialists in the varied fields of medicines and surgery. These students are referred by the physician in the Health Service, and the parents are notified of this action, who then give permission for surgery or care, except in cases of extreme emergency and time is of utmost importance.

Students enrolled for 9 hours or more, whether for the first time on campus or after 5 years of absence, must file a health examination report as a part of the registration process. *NO ENTRANCE PHYSICAL EXAMINATIONS ARE GIVEN AT THE STUDENT HEALTH SERVICE.* In order that our records may be uniform, the University health blank will be sent to each student with the acceptance notice from the Admissions Office. Registration is not complete until the health examination has been received.

A University approved accident and illness insurance policy (covering major illness and hospitalization) is offered to all students by a private insurance company for a nominal fee. Students and their families are urged to give their serious consideration to this additional protection.

HOUSING POLICIES

All undergraduate students, except those living with a spouse or parent while attending Western or those who will reach 21 years during the academic year ending with the close of the Winter semester, must live in University approved housing. For Freshmen, University approved housing is limited to residence halls, if space is available.

University approved housing includes residence halls, fraternity and sorority houses, and those facilities which appear on the approved housing list on file in the Office of Student Affairs, from which the list may be obtained on written request.

Undergraduate students who will reach 21 years during the academic year ending with the close of the Winter semester may live in housing of their own choosing, provided that no breach of housing contract with the University or a private householder is involved. Women students must present written parental permission for this privilege and present it to the Office of Student Affairs prior to the occupancy other than University approved housing. Parental permission forms are available at the Office of Student Affairs.

Requests for special permission to occupy housing other than that for which a student is eligible may be submitted to the appropriate Associate Dean in the Office of Student Affairs.

All students must file the address of their places of residence (not preferred mailing address) at the time of registration. All changes of address, or corrections, must be filed promptly at the Office of Student Affairs.

Information about residence hall accommodations or married student housing may be obtained from the University Housing Facilities Office, Room 160, University Student Center Building, Western Michigan University.

LIBRARIES

An intellectual center of the University is its library system which houses over 450,000 volumes and receives more than 4,000 periodicals. The collections reflect the curriculum, history and growth of the University. The Library purchases material published all over the world regardless of its form or origin, thus in addition to the traditional printed material, the number of outstanding works are being purchased on microfilm, microfiche and microcard for which the Library is equipped with appropriate viewers.

The major part of the collection is housed in a new, air conditioned, and partially carpeted building named after President Waldo. This building also houses the Department of Librarianship, Audio-Visual Center, Broadcasting Studio, the Regional History Collection and Archives.

The University Library system includes a small number of branch libraries:

The Business Library, located in North Hall, has a collection of some 12,000 volumes of books and some 400 periodical and newspaper subscriptions.

The Music Library is maintained on the second floor of Harper Maybee Music Hall. This unit has about 9,000 volumes of books, 75 periodical subscriptions and more than 6,000 phonograph records. A music listening room is a part of this library.

The Educational Resources Center in Sangren Hall comprises some 30,000 volumes and currently receives 150 periodicals.

Charles C. Adams Center for Ecological Studies—A research literature collection centering on the field of ecology is maintained by the Adams Center. The collection was begun in 1956 with the gift to Western Michigan University by Miss Harriet Dyer Adams, Albany, New York, of the personal library of the pioneer American ecologist, Dr. Charles Christopher Adams. Currently the collection consists of about 3,000 whole works, 30,000 separates, a large selection of periodicals of which about 100 are currently acquired, and archival material in the form of correspondence, field notes, and manuscripts of Dr. Adams.

MOTOR VEHICLES

Detailed regulations covering the use of motor vehicles on campus are available from the Office of Safety and Security. In general, only upperclass students (Juniors or above) are eligible to operate or park a motor vehicle on University property. Students living at home or commuting, or students with other unusual circumstances, may apply for special privileges. The operation and parking of motor vehicles are restricted to certain areas. All students who qualify for motor vehicle privileges must register their cars (or motor bikes, motorcycles, etc.) and pay a registration fee. Since penalties for infractions includes fines from $5 to $25, all students should become acquainted with the regulations.

MUSIC

Numerous music activities and organizations at Western Michigan University are available for the cultural enrichment of the student. Faculty members, students, and guest artists provide a schedule of more than one hundred recitals every year, to which all University students are invited.

Students may participate actively in the music life on campus by joining one of the many ensembles—the Marching Band, Symphonic Band, Wind Ensemble, Orchestra, Men's and Women's Glee Clubs, the University Choir, the Campus Chorale, the Varsity Choir, Opera Workshop, and University Singers. The University also offers opportunities for participation in small ensemble groups for strings, woodwinds, brass, and percussion, including Jazz Lab Band and Madrigal Singers.

For those students interested in private study in music, private lessons for credit are available to all students regardless of their curriculum.

PLACEMENT SERVICE

Western Michigan University has operated a free centralized placement service for many years. No graduating student can be guaranteed employment; but all graduates have the opportunity to meet prospective employers from the public schools, institutions of higher education, business, industry, social agencies, and governmental services. Active communication is maintained between the University and hundreds of employment officials. The office maintains a library of information concerning employment trends, employer needs, and job opportunities. Alumni are always welcome to use the placement service. Summer employmnt contacts for students are also maintained. The Placement Office is located on Knollwood Avenue, one block south of West Michigan Avenue. Contact the Director of Placement for further information.

PUBLICATIONS

The Western Herald, the student newspaper, is published Tuesdays, Wednesdays and Fridays during the Fall and Winter semesters, and once a week during the Spring and Summer sessions. It is distributed free.

Policies governing the operation of the Western Herald are set by the newspaper's student-faculty committee. The positions of editor, business manager, departmental editors, circulation and advertising managers are paid positions. Staff jobs are open to all university students.

The Western Herald offices are located in the Bigelow Hall annex located on the lower floor of the residence hall's east wing. The paper is printed in the University's print shop.

The Brown and Gold yearbook is written and edited by university students. It is distributed in the spring to all students who have paid a $1 reservation fee. A student-faculty committee handles the policies and control of the publication. The positions of editor, associate editor, business manager and photographers are paid jobs. More than 20 staff posts are open to university students each fall. Offices are in Bigelow Hall annex.

The Western Way is published by the Student Association and distributed free to all new students as a guide to campus life, social activities and university organizations. It is prepared and edited by a student-faculty committee.

Calliope, a student-written literary magazine, is published twice each year. Supervision is provided by the English faculty.

Reading Horizons, a quarterly devoted to the study of reading problems, is sponsored and published by the staff of the Psycho-Educational Clinic at Western Michigan University. Subscriptions for the journal are received from the United States and from three foreign countries.

Peripatos, a student mimeographed literary publication, is distributed throughout the school year. Supervision is provided by the English faculty.

The Occasional Papers of the C. C. Adams Center for Ecological Studies are scholarly contributions in the field of ecology. The series is published by the School of Graduate Studies and editorial responsibility lies with the staff of the Center. Issues appear irregularly, but the general rate has been three or four a year since the series was initiated in 1960.

RADIO

WMUK is the FM voice of Western Michigan University. Through the generosity of the Kalamazoo Foundation, alumni and listeners, the station improved its facilities in 1965, with an increase in power to 39,000 watts and stereophonic broadcasts.

The station provides an educational and cultural extension of the campus through its broadcasts of many University events and brings to its listeners programs from the community and leading cultural centers of the world.

WMUK began official broadcasts in April, 1951, with a power of 400 watts. In 1954, a Kellogg Foundation grant made possible a power increase, enabling the station to serve an area sixty miles in radius. WMUK broadcasts at 102.1 megacycles. The station is a member of the National Association of Educational Broadcasters, the Broadcasting Foundation of America, and The National Association of Broadcasters.

WIDR is a student operated radio station serving the campus residence halls.

R.O.T.C.

The U. S. Army Reserve Officer Training Corps (R.O.T.C.) Program at Western Michigan University offers the student an opportunity to prepare for military service in the status of a commissioned officer.

The normal, complete R.O.T.C. program consists of a basic course and an advanced course. The basic course includes four semesters of classroom instruction and drill. While the student pursues this course, the Government furnishes all required uniforms, equipment, and textbooks. During the fourth semester of the basic course, a student may apply for acceptance in the advanced course. If accepted, he will be deferred from military service until he graduates and receives his commission. The advanced course includes an additional four semesters of classroom instruction and drill and six weeks of field-type instruction at a summer encampment normally taking place between the second and third semester of the advanced course. A student enrolled in the advanced course receives a monthly allowance of $50 and a single allowance of $149 for the purchase of a uniform.

A sophomore who has not participated in the basic course may pursue an alternative, two-year program. If participating in this program, the student attends a basic, six-week camp prior to his junior year in lieu

of the basic course and then pursues the advanced course just as those electing the four-year program.

Upon completing either of these programs and fulfilling all requirements for graduation, a student may receive a commission as a Second Lieutenant in either the U. S. Army Reserve or the Regular Army.

Department of the Army has provided a limited number of scholarships for students participating in the four-year program.

The Military Science Department sponsors the Scabbard and Blade Society, the Pershing Rifles, A Ranger Unit, the Cadet Rifle Team, and the Cadet Band. The Scabbard and Blade Society not only plans and conducts the annual, formal Military Ball for members of the Cadet Brigade and their guests but also conducts both formal and informal orientation sessions on the R.O.T.C. program for male high school seniors. The Pershing Rifles' drill team not only competes intercollegiately with drill teams from other universities but also supplies the honor guard for various campus ceremonies. The Ranger Unit specializes in small-unit and counter-guerrilla tactics with emphasis on practical, field training. The Cadet Rifle Team competes intercollegiately in small-bore matches. The Cadet Band provides the music for the Annual Review and for other campus ceremonies. To be a member of any of these organizations, a student must be enrolled in the R.O.T.C. program.

Additional information on any facet of the R.O.T.C. program may be obtained from the Professor of Military Science.

TELEVISION

In its role as one of the mass media services provided by the WMU Broadcasting Department, the facilities support over a dozen courses with televised instructional materials over a closed-circuit network of five channels, reaching 136 classrooms as well as various non-academic areas. These telelessons are produced in a modern, four-camera television studio utilizing broadcast quality equipment and systems. Television materials may be preserved on videotape, using one of the four studio or five "portable" recording systems. Supporting the facility is a staff of media producers, engineers, a graphics artist, cinematographer/photographer, and various other part-time, special-skills personnel.

Television services was started in 1960 and its use is continually being broadened to meet growing academic needs. In addition to preparing instructional materials for classroom use, the service produces educational programs on film and videotape for use by local commercial stations and occasionally for the networks.

In 1964 the University won two national awards for television production. The program "The Nature of Perception" received one of twenty-three Ohio State Awards from a field of three hundred and sixty

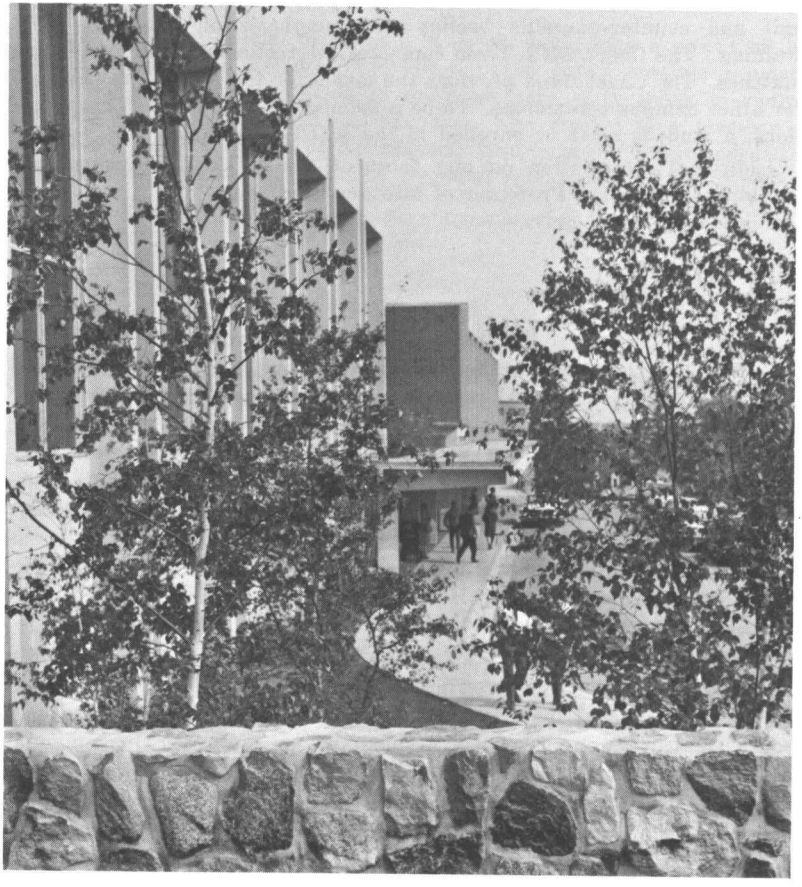
entries, and the program "On His Blindness" received a Certificate of Merit from the National Foundation for the Blind.

Planning is underway for a complete, new television facility to be in operation by the Fall of 1969.

TESTING SERVICES

The facilities of the Testing Services Department are open to all students, faculty, staff, alumni and their families. Interest inventories, aptitude test batteries, personality measurements and achievement tests are all available. All these different instruments are administered and interpreted at a minimal fee.

Testing Services will be pleased to help with career planning.



Student Activities and Organizations

In order to meet the needs of students, opportunity is afforded for participation in many extra-curricular activities. All campus organizations must be chartered by the Charters and Constitutions Committee. This committee, consisting of students with a faculty adviser, will charter petitioning groups when stated prerequisites are met.

The University forbids any type of discrimination that denies equal rights and privileges on the basis of race, religion, color or nationality.

Nothing in the above statement of policy is to be interpreted to prevent a religious organization from requiring affiliation with its particular church as a qualification of membership.

STUDENT GOVERNMENT

Student Association (All Students)
- Executive Cabinet (President and four Vice Presidents)
- Senate (V. Presidents and Representatives)—legislative body
- Student Court of Appeals (Justices)—interpret student constitution

University Student Center Board—plans activities of the University Student Center

Traffic Appeal Board

Associated Women Students (All undergraduate women)
- Activities Board—plans social program
- Standards and Revisions Board—is responsible for clarification, recommendation, and revision of rules and regulations pertaining to women
- Women's Discipline Committee

Men's Union Board (All undergraduate men)
- Committees: Social, Culture, Recreation, Publicity, and Misc. Problems
- Men's Discipline Committee

Women's Residence Hall Presidents' Council—coordinates women's residence halls

Men's Residence Hall Presidents' Council—coordinates men's residence halls

Panhellenic Council—council for social sororities

Inter-Fraternity Council—council for social fraternities

ORGANIZATIONS

In addition to Mortar Board, Senior Women's Honorary Sorority, and Omicron Delta Kappa, Senior Men's Honor Fraternity, Western has many honorary, service, residence hall, religious, departmental, professional, special activities and interest organizations, social fraternities and sororities.

STUDENT HOUSING (On Campus)

Thomas J. Carr
Director University Housing Facilities

EAST CAMPUS RESIDENCE HALLS

LAVINA SPINDLER HALL—202 women
HENRY VANDERCOOK HALL—208 men
WALWOOD HALL—117 men

WEST CAMPUS RESIDENCE HALLS

HUGH M. ACKLEY HALL—271 men
HOWARD BIGELOW HALL—428 men
LEOTA C. BRITTON HALL—249 women
ERNEST BURNHAM HALL—247 women
SMITH BURNHAM HALL—258 women
BERTHA DAVIS HALL—241 women
BLANCHE DRAPER HALL—254 women
EDITH EICHER HALL—271 women
ROBERT J. ELDRIDGE HALL—281 men
FRANK ELLSWORTH HALL—428 men
ANNA FRENCH HALL—285 women
JOHN E. FOX HALL—245 men
WALLACE GARNEAU HALL—257 men
THEODOSIA HADLEY HALL—271 women
LUCIA C. HARRISON HALL—281 women
LeROY H. HARVEY HALL—271 men
JOHN C. HOEKJE HALL—418 men
THEODORE HENRY HALL—384 women
ALICE L. LeFEVRE HALL—257 women
GRACE AND MARY MOORE HALL—290 women
D. C. SHILLING HALL—268 men
LYDIA SIEDSCHLAG HALL—247 women
BESS L. STINSON HALL—245 women
ZIMMERMAN HALL—253 women

MARRIED STUDENT HOUSING

ELMWOOD APARTMENTS—192 units for married students
GOLDSWORTH VALLEY APARTMENTS—96 units for married students
NEW APARTMENTS—200 units for married students

Buildings and Grounds

EAST CAMPUS

Overlooking Kalamazoo, the East Campus comprises 70 acres which include 15 devoted to physical education and recreation. The 20 acres which comprised the original site of the University are a part of the East Campus. Principal buildings in this area, exclusive of student housing and athletic facilities, are:

CAMPUS SCHOOL—The University Elementary School is housed here.

EAST HALL—This building, originally the Administration Building and later the Education Building, now provides a gymnasium, natatorium, and classrooms for various departments.

HEALTH SERVICE—The University Health Service, Department of Speech Pathology and Audiology, and Psycho-Educational Clinic are housed here.

INDUSTRIAL TECHNOLOGY—This building has been vacated by the Engineering and Technology Department and is now being remodeled to become the home for the University print shop and mimeographing.

NORTH HALL—The former general library building, now completely remodeled for the School of Business. A Business Library for East Campus classes is included.

PHYSICAL PLANT—The Industrial Education Building has become a part of the Physical Plant space with the completion of the new Industrial and Engineering Technology Building on the West Campus. Most of the trades maintenance shops are in this area; the grounds crew and University garage are also in this area.

PSYCHOLOGY RESEARCH—The Psychology Department is using this building for research purposes.

SAFETY AND SECURITY BUILDING—This structure was constructed as the Univerity power plant, later it provided quarters for the campus garage, electronics classrooms for the Department of Engineering and Technology, and has now become the home for the Safety and Security Department.

UNIVERSITY THEATRE—The Theatre provides office, classroom, and practice space for the Music Department. Included is a 300-seat auditorium for recitals and other musical programs.

WALWOOD UNION—East Campus student center provides a snack bar, cafeteria, meeting rooms and the ballroom. The Alumni Association has offices here.

WEST HALL—Occupied by the School of Business and Department of Agriculture.

WEST CAMPUS

The West Campus of more than 400 acres is the location of current and anticipated University expansion. This area has grown steadily since purchase of the first parcel of 180 acres during World War II. Hilly terrain and attractive landscaping provide an interesting setting for the charm of the past, exemplified by Oaklands, home of the University President, and the look of tomorrow as shown by the modern buildings just completed and under construction. Principal buildings, other than student housing and athletic facilities are:

ADMINISTRATION—Opened in 1952, this structure houses administrative offices.

ARCADIA—The Department of Occupational Therapy is housed here.

WILLIAM R. BROWN HALL—A separate building but connected to Sprau Tower, Brown Hall provides classroom facilities for the English, Language and Speech Departments.

DISTRIBUTIVE EDUCATION—This building, completed in 1966, is the permanent home of the Distributive Education Department.

INDUSTRIAL ENGINEERING AND TECHNOLOGY — The largest classroom building on the campus, opened in the fall of 1966, houses the departments of Home Economics, Industrial Arts, Engineering and Technology, and Transportation Technology.

KANLEY MEMORIAL CHAPEL—This is the campus religious center. It was made possible through a gift from the estate of the late William Kanley, an alumnus, and was opened in 1951.

HARPER C. MAYBEE MUSIC HALL—Besides housing all music activities, studios for WMUK-FM are located here.

WILLIAM McCRACKEN HALL—Erected in 1949, this building is the home for the Departments of Chemistry and Physics. In 1957 and 1959 there were added to it other structures for paper technology, and the Paper Industry Laboratories.

PAUL V. SANGREN HALL—One of the two largest classroom buildings on the campus which houses the School of Education and the Departments of Art, Economics, History, Political Science, and Sociology. In this building is an Education Resources Center and research areas.

LAURA V. SHAW THEATRE—Shaw Theatre is the home of Speech and the Theatre. The University Players present their productions in this fully-equipped, 600-seat theatre.

GEORGE SPRAU TOWER—Situated on a hill as one of Kalamazoo's highest vantage points, the ten-story Sprau Tower houses offices of the English, Language, and Speech Departments.

UNIVERSITY AUDITORIUM—An outstanding cultural center for the performing arts of music, opera, drama, and the dance, the Auditorium has a capacity of 3,550, with seating arranged on three levels in continental style.

UNIVERSITY STUDENT CENTER—With the completion of extensive additions in the fall of 1964, the University Student Center is adequate to meet the needs of Western Michigan's constantly increasing student body. The impressive stone and concrete building, with its heroic-size windows, is the scene of activity each day of every school term. Social and recreational facilities are provided for students and are available for other educational ventures as schedules permit. The building includes a snack bar, cafeteria, bowling alleys, game room, lounges, ballroom, music room, faculty lounge and dining room and the Board of Trustees meeting room.

DWIGHT B. WALDO LIBRARY—A recently completed addition has more than doubled the shelf and seating capacity to serve Western's increased enrollment. Full air conditioning and a glass and aluminum exterior provide a pleasant effect both inside and out. Waldo Library also houses the Department of Librarianship, the University Audio-Visual Center, and Television Studios.

LESLIE H. WOOD HALL—Opened in 1962, it is the permanent home for biology, psychology, geography and geology, and mathematics.

OFF CAMPUS

AIRPORT—At the local airport, new construction has doubled Western's Aviation Technology facilities. The just-completed building houses shops, toolroom, classroom, and library. Courses in engine and air frame mechanics are taught here.

KLEINSTUCK NATURE PRESERVE—Given in 1922 by Mrs Caroline Hubbard Kleinstuck, this 50-acre tract provides instructional space for biological sciences near the campus and inside the city of Kalamazoo.

ATHLETIC FACILITIES

HYAMES FIELD—An excellent collegiate baseball layout. Permanent seating is provided for 2,500 people. Immediately adjacent to Hyames Field is a second baseball diamond for baseball practice and physical education classes.

INTRAMURAL BUILDING—Includes a gymnasium 120 feet by 235 feet, with four regulation basketball courts and a gymnastics area, also a dirt floor area 140 feet by 160 feet. These two areas are used for intramural athletics, physical education classes and indoor baseball, tennis, and track practices.

INTRAMURAL FIELDS—Six recreation fields adjacent to the married student housing facilities in Goldsworth Valley.

KANLEY FIELD—Includes two practice football fields, and a landscaped park and picnic area. Used for men's physical education classes and intramural athletics.

READ FIELDHOUSE—Seating capacity for 9,500 provides indoor facilities for basketball, track, and golf. The hard surface main floor is 160 feet by 312 feet. An eight-lap hard surface indoor track is provided.

EAST CAMPUS GYMNASIUM—Headquarters for the women's physical education department. Includes a large gymnasium, a balcony running track, special purpose rooms, locker and shower rooms, and offices.

PHYSICAL EDUCATION BUILDING—Includes a regulation swimming pool, nine handball courts, a gymnasium floor 90 feet by 120 feet, a wrestling room, special purpose rooms, classrooms, locker facilities, and offices for the men's physical education department. Dressing rooms for women are available adjacent to the pool. Read Fieldhouse and the intramural building connect to this building.

BOWLING ALLEYS—Twenty bowling alleys are available for physical education classes and recreation in the Student Center.

TENNIS COURTS—Eight lawn-tex courts are provided on the East Campus along Davis Street, ten asphalt courts on the West Campus adjacent to Ellsworth Hall, and ten asphalt courts adjacent to the married student housing in Goldsworth Valley.

WALDO STADIUM—Includes concrete stands on two sides, seating 15,000 and an eight-lane quarter mile track with 220-yard straightaway. End zone seating accommodates 3,500.

CAMPUS SCHOOL GYMNASIUM—Includes a playing floor 60 feet by 120 feet, along with a stage, offices, locker rooms, and a swimming pool.

Scholarships and Student Financial Assistance

The scholarship program at Western Michigan University is designed to reward academic excellence and to alleviate financial need. Students in all curricula may apply for scholarships ranging from $100 to $1,000 a year.

Students at Western also have the opportunity to apply for scholarships in their special fields of interest through the several academic departments. These scholarships are offered by individuals and by local and national industries in recognition of Western's unique contribution to certain fields of learning.

Scholarship application forms are available at the office of Director of Scholarships. They may also be obtained from the principals of most Michigan high schools.

Scholarship applications must be completed by March 1. For further information please contact the Director of Scholarships, Western Michigan University, Kalamazoo, Michigan 49001.

In determining financial assistance, Western utilizes the recommendations of the College Scholarship Service. An entering student who plans to apply for a scholarship, a National Defense Student loan, the College Work-Study Program, or the Educational Opportunity Grant program must submit a copy of the Parents Confidential Statement to the College Scholarship Service, designating Western Michigan University as one of the recipients. For further information on Student Financial Assistance, see page 69.

Information concerning fellowships may be obtained from the School of Graduate Studies.

SCHOLARSHIPS

DWIGHT B. WALDO AND PAUL V. SANGREN SCHOLARSHIPS —These distinguished scholarships honor the first two presidents of Western Michigan University. They carry stipends ranging to $1,000 per year and are offered annually to a limited number of juniors and seniors whose academic record and promise merit special recognition.

General

ALPHA BETA EPSILON SCHOLARSHIPS—Each of the 18 chapters of the sorority gives one or more scholarships each year. A student who receives a scholarship must fill the requirements set by the chapter. Apply to the chairman of the sorority chapter in your community.

ALVIN M. BENTLEY FOUNDATION SCHOLARSHIP AWARD FOR EXCELLENCE—The Alvin M. Bentley Foundation grants three $500 Awards for Excellence to incoming freshmen who are graduates of Michigan high schools. The scholarships are awarded for one year but may be renewed three times upon recommendation of the University Scholarship Committee. Apply to the Scholarship Office.

BOARD OF TRUSTEES SCHOLARSHIPS—The Western Michigan University Board of Trustees has provided funds to continue and to enlarge the scholarship program that was formerly offered under arrangement with the State Board of Education. These scholarships apply toward student fees and are subject to yearly review.

THE CLIFFORD AND ELLA CHAPMAN SCHOLARSHIP FOUNDATION AWARD—These scholarships are provided from funds of the foundation established in 1964 by Clifford and Ella Chapman, long time friends of Western Michigan University. The number of scholarships and the amount of each will be determined by the University Scholarship Committee in consultation with the Trustee of the Foundation.

COMMUNITY COLLEGE SCHOLARSHIPS—Western Michigan University offers two Community College Scholarship programs to supplement the general program in which all qualified students may compete. For detailed information see the Administrative Office of the Community College, or write the Scholarship Office, Western Michigan University.

CONSUMERS POWER COMPANY SCHOLARSHIP—Open to incoming freshmen with good scholastic ability, character, personality, and citizenship. The applicant should be active in extra-curricular activities, have financial need, and be from an area serviced by the Consumers Power Company. The amount of the award is $300 per year and is not renewable. Apply to the Scholarship Office.

DETROIT EDISON COMPANY SCHOLARSHIP—Open to freshmen entering Western from an area serviced by the Detroit Edison Company. Award is made in accordance with general qualifications provided by the company, including scholastic ability, financial need, and interest in extra-curricular activities. Amount of the award is $400 per year and is renewable once. Apply to the Scholarship Office.

THE FORD MOTOR COMPANY FUND maintains a scholarship program for the sons and daughters of Ford Motor Company employees. Apply to the Ford Motor Company.

GENERAL MOTORS FOUNDATION SCHOLARSHIP—Two four-year scholarships are awarded annually to prospective freshmen with outstanding scholastic and extra-curricular records who show promise of continued success. The amount is based on need which is determined by the College Scholarship Service and Western Michigan University. Apply to the Scholarship Office.

KALAMAZOO POLISH-AMERICAN C LUB SCHOLARSHIP—One Scholarship for four years will be awarded to a high school senior whose residence is Kalamazoo County. The scholarship is further restricted to men of Polish-American descent who graduate in the upper twenty-five percent of their high school class.

MARTIN LUTHER KING, JR. SCHOLARSHIP—Established to commemorate Dr. King and to perpetuate his principles which exemplified "the conscience of America". Apply to Scholarship Office.

UNIVERSITY SCHOLARSHIPS—Western Michigan University annually awards a number of cash scholarships to academically outstanding freshmen and upper class students. The scholarships range in value from $100 to $500 per year and are renewable.

Departmental

ART

PATRICIA ANN PETERSON SCHOLARSHIP—These memorial scholarships were established by the parents of Patricia Ann, a student at Western for four years. The awards are as follows: $300 per year for a freshman, sophomore, junior and senior woman majoring in art and enrolling in teacher education. Apply to the Art Department, c/o Mr. Harry Hefner.

ACCOUNTING

CLARAGE FAN COMPANY EDUCATION FOR BUSINESS SCHOLARSHIP—This scholarship is limited to students entering Western from junior or community colleges who intend to specialize in the accounting or data processing areas. The stipend is $250 per year. Inquiry should be directed to Dr. Leo Niemi, Assistant to the Dean, School of Business, Western Michigan University.

DOW CHEMICAL CORPORATION SCHOLARSHIP—The Dow Chemical Corporation offers one annual award to a student majoring in Accounting. Consult the head of the Accounting Department.

KALAMAZOO ACCOUNTANTS ASSOCIATION SCHOLARSHIP—One award for student fees and automatic membership in the Kalamazoo Accountants Association for the period of the scholarship is open to juniors or seniors majoring in accounting. Contact Dr. John Burke, Head of the Accounting Department, School of Business, Western Michigan University.

LAWRENCE SCUDDER AND COMPANY SCHOLARSHIP—Lawrence Scudder and Co., Certified Public Accountants, offers one annual award for student fees. It is open to students majoring in

accounting who have completed or are completing their junior year. Both need and scholarship must be demonstrated. Contact Dr. John Burke, Head of the Accounting Department, School of Business, Western Michigan University before May 1st.

GENERAL BUSINESS

ALLSTATE SCHOLARSHIP FUND—Allstate Foundation offers one scholarship with an annual stipend of $300 to a junior or senior majoring in insurance. Apply to the School of Business, c/o Professor William Burdick.

FIRST FEDERAL SAVINGS AND LOAN ASSOCIATION SCHOLARSHIP—An annual award to any student enrolled in the Business Administration Curriculum. The student must exhibit scholastic ability and financial need. Preference is given to students who are residents of western and southwestern Michigan. Apply to the School of Business.

REAL ESTATE SCHOLARSHIP—This scholarship is open to any student enrolled in the School of Business who will commit himself to the Real Estate Certificate program. The student must exhibit a definite need as well as scholastic ability. The amount of the award is $250 per semester for a total of $1,500, including a year towards a master's degree. Apply to Dr. E. A. Grossnickle, School of Business, Western Michigan University.

BUSINESS EDUCATION

CLARAGE FAN COMPANY SECRETARIAL SCHOLARSHIP—This scholarship in the amount of $150 per year is open to students in the Secretarial Internship program. Summer employment is also available for recipients while on the scholarship. Inquiries should be directed to Mr. T. W. Null, Business Education Department, School of Business, Western Michigan University.

NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP—Applicants must submit an essay stating "Why I am Preparing to be a Secretary (or Teacher)." Open to any student in the secretarial curriculum having an academic average of B and the recommendation of the faculty based on character, scholastic aptitude, endeavor and financial need. Contact Mr. T. W. Null, Coordinator, Cooperative Secretarial Training Program, School of Business, Western Michigan University.

MARKETING

GILMORE BROTHERS COOPERATIVE RETAILING SCHOLARSHIPS—These scholarships are open to students currently enrolled in the cooperative retailing program and approved by the Dean of the School of Business and the Scholarship Office. The scholarships will be granted on the basis of need, scholastic ability, good character, a pleas-

ing personality and real interest in retailing as a career. There are two awards for student fees each semester. Applicants should apply to the coordinator of the cooperative retailing program, School of Business.

MUSIC THERAPY

SIGMA ALPHA IOTA ALUMNAE AWARD—This award will pay the tuition of a music therapy student who meets the requirements. Preference will be given to junior students. Recipients will be selected on the basis of scholarship, personality, musicianship, financial need, and faculty recommendation. The award is renewable provided scholastic and other qualifications are met. Apply to the Music Department.

EDUCATION

THE MICHIGAN CONGRESS OF PARENTS AND TEACHERS SCHOLARSHIP—This scholarship, made available by the Michigan Congress of Parents and Teachers, is in the amount of $250 per year. Applicants must have completed two years at Western Michigan University, and recipients of this scholarship must commit themselves to at least three years of teaching. Parents and recipients must be citizens of the United States and residents of the State of Michigan. Requirements are the same as for the Board of Trustee Scholarships.

MICHIGAN ASSOCIATION FOR EMOTIONALLY DISTURBED CHILDREN SCHOLARSHIPS—Scholarships of $100 (or more) per year are open to promising undergraduate and graduate students who are preparing to teach emotionally disturbed and brain-injured children. Scholarships are renewable for those who show continued high performance. Apply to Kalamazoo Area Chapter, M.A.E.D.C., 2615 Stadium Drive, Kalamazoo.

SPECIAL EDUCATION SCHOLARSHIPS—Seniors enrolled in special education are eligible to apply for scholarships offered by the university in cooperation with the United States Department of Health, Education, and Welfare. They include a stipend of $1,600 and the payment of student fees for the academic year. Scholarships are available in the following areas of special education: Mentally Handicapped, Emotionally Disturbed and Orthopedically Handicapped. Students interested in applying should direct their inquiries to Head, Department of Special Education, Western Michigan University.

FOOD DISTRIBUTION

NFBA FOUNDATION, INC. SCHOLARSHIP—This scholarship grant is offered to an undergraduate in the Food Distribution curriculum who is interested in making a career in food distribution. The amount of the scholarship is $500; it is offered for one year only. Apply to the Distributive Education Department.

INDUSTRIAL EDUCATION

ATLAS PRESS SCHOLARSHIP—The Atlas Press Company offers two scholarships to stimulate interest in Industrial Education. The scholarships are open to all high school graduates in Michigan who have had at least one course in Industrial Education and who plan to enter the Industrial Education curriculum. One award is for $400, the other for $100 per year. Apply directly to the Industrial Education Department.

Engineering and Technology

ENGINEERING TECHNOLOGY

A.S.T.M.E. SCHOLARSHIPS—The American Society of Tool and Manufacturing Engineers offers two scholarships per year for $150 each to Industrial Education students of sophomore standing or above who are majoring in metalworking or drafting. Apply directly to the Industrial Education Department.

AMERICAN FOUNDRYMEN'S SOCIETY SCHOLARSHIP — The Central Michigan, Saginaw Valley, and Detroit Chapters of the American Foundrymen's Society offer six $250 scholarships per year to Mechanical Engineering Technology, Industrial Supervision or Industrial Engineering students who have a direct interest in the foundry industry. Apply directly to the Engineering and Technology Department.

DURAMETALLIC SCHOLARSHIP—The Durametallic Corporation offers $250 per semester to juniors and seniors enrolled in the Industrial Supervision and Industrial Engineering Curriculums. Apply directly to the Engineering and Technology Department.

FOUNDRY EDUCATIONAL FOUNDATION SCHOLARSHIP—The Foundry Educational Foundation offers six $250 scholarships per year to Mechanical Engineering Technology, Industrial Supervision or Industrial Engineering students who have a direct interest in the foundry interests. Apply directly to the Engineering and Technology Department.

INDUSTRIAL MANAGEMENT SOCIETY SCHOLARSHIP—The Industrial Management Society offers one $250 scholarship each semester to a sophomore, junior or first semester senior enrolled in an Engineering Technology curriculum and who is a student member of IMS in good standing. Apply directly to the Engineering and Technology Department.

SOCIETY OF DIE CASTING ENGINEERS SCHOLARSHIP—The Southwestern Michigan, Detroit and Saginaw Chapters of the Society of Die Casting Engineers offer six $250 scholarships per year to Mechanical Engineering Technology students who have a direct interest in the die casting industry. Apply directly to the Engineering and Technology Department.

MEDICAL TECHNOLOGY

The American Cancer Society, Kalamazoo County Unit, offers each year one or more $200 scholarships to sophomore students in Medical Technology. The same students receive similar awards in their junior year, if their academic average continues adequate (2.5 or better). They continue in the senior year as $100 awards. These awards are based on need and academic merit. Application is by invitation.

OCCUPATIONAL THERAPY

EDNA BURIAN SKELTON SCHOLARSHIP FUND—Supported by the Kenny-Michigan Rehabilitation Foundation, this fund provides scholarships up to the amount of $300 annually. Grants will be based on merit and financial need and may be awarded at any time during the academic year. Preference will be given to residents of Michigan at the sophomore, junior and senior levels. Grants will be made to freshmen when circumstances warrant and funds are available. Students should earn a minimum 2.5 scholastic average. Apply to the Occupational Therapy Department.

MICHIGAN OCCUPATIONAL THERAPIST ASSOCIATION—Two awards have been established by the Michigan Occupational Therapist Association for the purpose of aiding worthy students in occupational therapy. Applicants must exhibit scholarship, show a definite need, be Michigan residents and be juniors or seniors majoring in occupational therapy. Amount of each award is $100 annually. Apply to the Department of Occuaptional Therapy.

VOCATIONAL REHABILITATION ADMINISTRATION GRANT—Annual traineeships, awarded on the basis of scholarship and financial need, are offered to juniors, seniors and graduate students in occupational therapy. Apply to the Department of Occupational Therapy.

Information concerning scholarships other than those administered by the Department of Occupational Therapy may be obtained from the departmental secretary.

PAPER TECHNOLOGY

Approximately 50 scholarships having a total yearly value of about $46,000 are granted to qualified students entering or in the Department of Paper Technology. The scholarship program is supported through the Paper Technology Foundation, Inc., the Louis Calder Foundation, individuals and groups. These scholarships are granted to entering freshmen primarily on the basis of superior academic performance during high school. College students majoring in science and transferring to the department also are eligible. Applications should be made to the Head of the Department of Paper Technology.

Scholarship grants range from $100 to $500 a semester. The scholarships are granted on a semester-to-semester basis for eight semesters

and are renewable. The student must maintain a cumulative point-hour ratio of 2.5 or higher, remain in the established curriculum of the department and carry a course load of at least 14 hours.

The scholarship program is supported by the following:

Albany Felt Company
Alton Boxboard Company
American Can Company
American Cyanamid Company
Appleton Coated Paper Company
Appleton Wire Works Corp.
Bauer Bros. Company
Beloit Corporation
Bergstrom Foundation
The Black-Clawson Company
Blandin Paper Company
L. H. Breyfogle (in memoriam)
Brown Company
Buckman Laboratories, Inc.
Burgess Cellulose Foundation
Louis Calder Foundation
Olin W. Callighan Scholarship
Cameron Machine Company
Champion Papers, Inc.
Consolidated Civic Foundation
Container Corporation of America
Clark & Vicario Company
Corn Products Company
Continental Can Company
Crown Zellerbach Foundation
Domtar Pulp & Paper, Inc.
Dow Chemical Company
Draper Brothers Company
Theodore W. Dunn Memorial
Engelhard Minerals & Chemicals Corporation
Fletcher Paper Company
Fox River Paper Corporation
French Paper Company
Georgia Kaolin Company
P. H. Glatfelter Company
D. S. & R. H. Gottesman Foundation
Grain Processing Company
Albert S. Harman (in memoriam)
Hercules, Inc.
Hoerner-Waldorf Company
Hooker Chemical Corporation
J. M. Huber Corporation
Lindsey Wire Weaving Company
Chas. T. Main, Inc.
The Mead Corporation Foundation
Menasha Corporation
Michigan Carton Corporation
Michigan Division, PIMA
Montmorency Paper Company
Mosinee Paper Mills Foundation
National Gypsum Company
Nalco Foundation
National Starch & Chemical Corporation
Nekoosa-Edwards Paper Company
New Jersey Zinc Company
Nopco Chemical Company
Kimberly-Clark Foundation
Northwestern Division P.I.M.A.
Owens-Illinois (Forest Products Division)
Packaging Corporation of America
Penick & Ford, Ltd.
Lockwood Trade Journal Company
Potlatch Forests, Inc.
Oxford Charitable Trust
Rayonier Foundation
Rice Barton Corporation
Rohm & Haas Company
Russell H. Savage Scholarship
S. D. Warren Company
St. Regis Paper Company
Salesman's Ass'n of Paper Industry
Scott Paper Company
Simpson Lee Paper Company (Norman Bardeen Memorial)
Slavin Foundation (Hawthorne Paper Company)
Stein, Hall & Company, Inc.
Frederick W. Sutherland Scholarship
S. W. Industries Corporation
Thiele Kaolin Company
Thilco Foundation
Titanium Pigment Corporation
Union-Camp Corporation
Union Carbide Corporation

Huyck Corporation
Improved Machinery, Inc.
Johnson Corporation, The
Kalamazoo Paper Company
Kalamazoo Valley Section, TAPPI
Watervliet Division, Hammermill Paper Company
Weyerhaeuser Paper Company
James A. Wise
Wyandotte Chemicals Corporation

PETROLEUM DISTRIBUTION

CENTRAL MICHIGAN OILMEN'S CLUB—A grant for student fees and books up to a maximum of $400 per year. Available on a one year basis. Open to high school graduates and community college students interested in petroleum from Clinton, Eaton, Ingham and Jackson counties.

DETROIT OILMEN'S CLUB—A grant for student fees up to a maximum of $300 per year. Available on a one year basis. Open to high school graduates and community college students from Wayne, Oakland and Macomb counties with preference given to sons of oil families and oil company employees.

WEST MICHIGAN OILMEN'S CLUB—A grant for student fees for one year up to a maximum of $300 per year. Available on a one year basis. Open to Michigan high school graduates and community college students who are interested in careers in petroleum.

For information regarding these grants contact the Head, Department of Distributive Education.

PRINTING MANAGEMENT

PRINTING HOUSE CRAFTSMEN—The Kalamazoo Valley Club of Printing House Craftsmen has established a four-year scholarship in Printing Management at Western Michigan University. The scholarship pays the total student fees of the holder and is renewable throughout the four years required to complete the curriculum. A new scholarship is offered each year so that up to four such grants may be in effect at any one time. Apply to Industrial Education Department.

SCIENCE

PAUL ROOD FELLOWSHIP—The generous gift of Dr. and Mrs. Paul Rood has made it possible to grant in the freshman year to outstanding men and women planning to major in physics amounts up to $500. These stipends may be continued for students maintaining a high scholastic record. Application forms may be obtained from the Department of Physics, Western Michigan University.

KALAMAZOO CIVITAN CLUB SCHOLARSHIP—Recipients must be residents of Kalamazoo County and must have earned a 2.5 average to secure and maintain the award. Major field of study is to be the physical sciences with special emphasis on teacher education. Financial need shall

be the determining factor in awarding the scholarship and for continuation of the scholarship. It is renewable three times, funds permitting. The award is to be issued to the student in the amount of $150 for the first semester and $150 for the second semester each year.

UPJOHN COMPANY MERIT SCHOLARSHIP—The company sponsors a minimum of ten national merit scholarships, including one or more scholarships at Western Michigan University for science students from Southwestern Michigan. Eight of these scholarships are for students who plan to major in pharmacy, engineering, pre-medicine, or in one of the chemical or biological sciences. Two are for students who plan to pursue a course of study in any field. Administration of these scholarships is by the National Merit Foundation and all correspondence regarding them should be directed to the National Merit Scholarship Corporation, 990 Grove, Evanston, Illinois.

TRANSPORTATION TECHNOLOGY

AIRWAY UNDERWRITERS SCHOLARSHIP—Airway Underwriters offers $150 per semester to second semester freshmen, sophomores, juniors and seniors enrolled in the Aviation Engineering Technology or Aviation Technology Programs. Transfer students are eligible after one semester's residence. Apply directly to the Transportation Technology Department.

AMERICAN AIRLINES SCHOLARSHIP—American Airlines grants $1,000 yearly to worthy junior and senior Aviation Engineering Technology students. Two $250 scholarships are given each semester. Transfer students are eligible after one semester's residence. Apply directly to the Transportation Technology Department.

GRANTS

ATHLETIC—Western Michigan University makes certain grants-in-aid available to students excelling in athletics, and participating in or preparing to participate in varsity sports. A student must be recommended by the Athletic Department and approved by the University Scholarship Committee. Application forms may be obtained from the Athletic Department.

DEBATE—Debate Scholarships are offered to men and women participating in debate. These scholarships will range in value from $180 to $300 per year. The recipients of these scholarships must be recommended by the Speech Department and are renewable only by further recommendation of this department. Contact the Speech Department.

MUSIC—Each year Western offers a number of grants-in-aid to deserving music students through the Department of Music. These grants, ranging in value from $180 to $300 per year, are offered in the following

areas: Ensemble, Applied Music, Special Ability, Drum Major, and Majorette. For detailed information concerning dates of application and auditions, write to the Head of the Music Department, Western Michigan University.

PURE OIL GRANTS-IN-AID PROGRAM—Two grants for two years each to sons of Pure Oil dealers, jobbers or employees who are high school graduates and interested in careers in petroleum. The grants cover student fees and books. For information, contact the Head, Department of Distributive Education.

STUDENT FINANCIAL ASSISTANCE

The Office of Student Financial Aid administers the long term loan, the College Work-Study, the Educational Opportunity Grant, the short term loan and the off-campus part-time employment programs.

Several sources of loans are available at Western, including long term loans under the National Defense Student Loan program, the Michigan Higher Education Assistance Authority, Federal Student Loan Program, and United Student Aid Funds, Inc.

Employment opportunities, both on-campus and off-campus, are available to students at Western. The on-campus opportunities include regular University employment and Work-Study job opportunities. The Work-Study program and off-campus job placement are administered by the Office of Financial Aid. For regular on-campus University employment see page 76 under "Student Employment."

Financial Aid Procedures

In seeking financial assistance through the Office of Student Financial Aid a student interested in a National Defense Student Loan, the College Work-Study Program or the Educational Opportunity Grant in addition to making application for admission must take the following steps:

1) Submit a Parents' Confidential Statement (PCS) to the appropriate address given on the statement. The PCS may be obtained from the high school principal or counselor or the Office of Student Financial Aid.

2) Complete an application form for each type of financial aid sought. The proper application form may be obtained from the high school principal or counselor or the Office of Student Financial Aid.

3) Arrange for a personal interview with a staff member of the Office of Student Financial Aid. Incoming freshmen should take care of the interview while they are at the university for the summer orientation program.

STUDENT LOANS

Long Term Loans

NATIONAL DEFENSE STUDENT LOAN FUND

Loans under the National Defense Education Act are available to Western Michigan University students who have demonstrated financial need. Full time undergraduates may borrow up to $1,000 per academic year, and graduates $2,500. The student must complete a Western Michigan University loan application obtainable from his high school principal or counselor or from WMU's Office of Student Financial Aid. NDSL applications must be completed by April 20 preceding the start of the Fall semester.

MICHIGAN HIGHER EDUCATION ASSISTANCE AUTHORITY

Michigan students who are unable to qualify for the National Defense Student Loan may apply for a loan under the Michigan Higher Education Assistance Authority. Under this program a student may borrow from a Michigan lending institution (bank, credit union) up to $1,000 per academic year as an undergraduate, and $1,500 as a graduate. The student should apply directly to his local institution which participates in this program. The names of participating institutions can be obtained from the high school principal or counselor or from WMU's Office of Student Financial Aid.

UNITED STUDENT AID FUND PROGRAM

Students unable to qualify for a National Defense Student Loan and unable to obtain a Michigan Higher Education Assistance Authority loan (or a nonresident of Michigan unable to obtain a federally guaranteed student loan in his own state) may apply to his local lending institution which participates in this program. The names of participating institutions can be obtained from United Student Aid Funds, Inc., 5259 North Tacoma Avenue, Indianapolis, Indiana 46220. The loan is not to exceed $1,000 per academic year for an undergraduate nor $1,500 for a graduate student.

FEDERAL STUDENT LOAN PROGRAM

This program provides loan opportunities for students from any state. It is similar to the program for Michigan residents under the Michigan Higher Education Assistance Authority Program. The student should check with his high school principal or counselor for details pertinent to his own state. This program was designed to provide "loans of convenience" to students from middle-income families who find it difficult to meet rising college costs. Generally, these students would not qualify as "needy" for federally supported National Defense Student Loans.

Undergraduates may obtain loans up to $1,000 per academic year and graduates up to $1,500 from banks or other commercial lending sources, with the Federal Government subsidizing the interest rate for student borrowers from families with an adjusted income of less than $15,000 per year.

Short Term Loans

AMERICAN BUSINESS CLUB LOAN FUND—Established in 1965 by the American Business Club of Kalamazoo to assist junior and senior Occupational Therapy students in need of financial aid. Loans up to $300 are available and are due within six months after anticipated graduation.

ASSOCIATED WOMEN STUDENTS LOAN FUND—Established in 1962 to aid junior and senior women students. Loans are in the amount of $150 and may be renewed once.

FANNIE BALLOU MEMORIAL FUND—Founded in 1921 in honor of Fannie Ballou, who was for seven years supervisor of the second grade of the Campus School. Loans are awarded to persons of superior ability in the field of elementary education. Preference is given to students in early elementary education who have completed at least one year of resident work in this university.

CONSTANCE BEMENT FUND, MICHIGAN LIBRARY ASSOCIATION—A loan fund established to aid a candidate for a degree from a recognized library school or an individual who has shown promise of a definite contribution to the library profession. The maximum grant to any one student is $300 with repayment beginning one year after employment, one percent annual interest. Application blanks may be obtained from the chairman of the MLA Scholarship Committee through the Department of Librarianship.

AMELIA BISCOMB MEMORIAL LOAN FUND—Established in 1939 through the will of Mrs. Biscomb, for over 30 years a teacher of English at Western Michigan University, who provided the sum of $500 for this purpose.

CHAPMAN LOAN FUND—Established in 1960 by Clifford and Ella Chapman, long time friends of the University. Loans from the fund are available to any worthy student.

STATE D.A.R. SCHOLARSHIP LOAN FUND—Founded in 1934, has grown to a fund of $500 through gifts made by the State Committee of the Daughters of the American Revolution.

STONE D.A.R. STUDENT LOAN FUND—Established in 1932 through gifts from the Lucinda Hinsdale Stone Chapter of the Daughters of the American Revolution.

DEBATE LOAN FUND—This loan fund is for the use of Varsity Debaters only.

DISTRIBUTIVE EDUCATION LOAN FUND—Established in 1967 for students in distributive education. Loans will be made only upon recommendation by the head of the Distributive Education Department.

MICHAEL FINLEY MEMORIAL LOAN FUND—Established in 1964 to honor the memory of Michael Finley, a student of this University. Loans from this fund are available to any worthy student.

FOREIGN STUDENT LOAN FUND—Established in 1946 for the use of foreign students who are in need of short-term loans.

JAMES GARDNER MEMORIAL LOAN FUND—Established in 1966 by neighbors and friends to honor the memory of James Gardner, a graduate of this University who was killed in action in Vietnam. Loans from this fund are available to any worthy student who is in need of financial assistance.

LEROY H. HARVEY MEMORIAL LOAN FUND—Established in 1925 by the Student Science Club to honor the memory of Dr. LeRoy H. Harvey, who until his death was head of the Department of Biology. Loans are made to students whose major interest is in the field of science.

JOHN C. HOEKJE LOAN FUND—Established in 1958 to honor the memory of John C. Hoekje who retired from the university in 1955 after 39 years of service as dean of administration-registrar. The money is loaned to deserving university students on the recommendation of a faculty committee.

FREBURN W. JAMES LOAN FUND—Established in 1966 by Mr. and Mrs. Freburn W. James and Mr. and Mrs. John S. Lore to assist worthy students in need of financial aid.

KALAMAZOO LADIES' LIBRARY ASSOCIATION LOAN FUND—Established in 1967 by the Kalamazoo Ladies' Library Association to assist worthy students who are in need of short-term financial aid.

KALAMAZOO MOTOR FREIGHT LOAN FUND—Established in 1961 by the Kalamazoo Motor Carriers' Association for the use of juniors and seniors who are enrolled in the business administration or transportation curricula and are recommended by the Schools of Business or Applied Arts. The loans are awarded on the basis of need and merit, specifically in the business and transportation areas. A scholastic average of 2.0 is required. The amounts vary from $300 to $500 per year.

KIWANIS EDUCATIONAL AID FUND—A sum of money made available to the University which in turn makes loans available to worthy students of the University.

LANGUAGE DEPARTMENT LOAN FUND—Established in 1959 for the use of sophomores, juniors, and seniors who are majoring or

minoring in a foreign language or languages at this University. The French Student Loan Fund, started in 1944 by Miss Marion Tamin, has been incorporated in this fund. The loans are non-interest bearing. Recommendations are made by the language faculty to the head of the Department of Language.

ALICE LOUISE LEFEVRE MEMORIAL FUND—The Alice Louise LeFevre Memorial Fund was established in 1963 by the Alumni Association of the Department of Librarianship to honor Alice Louise LeFevre, founder and director of the Department. The money is loaned to graduate students in the Department. The maximum grant is $500 with an interest charge of 3½ percent with payment over a three year period. Application may be made through the Department of Librarianship.

ELIZABETH E. LICHTY LOAN FUND—Established in 1966 to honor the memory of Dr. Elizabeth E. Lichty, Dean of Women, who retired from the University in 1965. Loans up to $150 are available to women students, either on a short- or a long-term basis. A fee of 50¢ will be charged on loans up to six months while five percent simple interest, beginning the first day of the fourth month after leaving school, will be charged on long-term loans.

MARVEL F. LIDDY STUDENT LOAN FUND—Established in 1968 through the will of Mrs. Alma Liddy in memory of her daughter, Marvel F. Liddy. Loans from this fund are available to any worthy student in need of financial assistance.

MILDRED MALONEY MEMORIAL LOAN FUND—Established in 1960 to honor the memory of Mildred Lindberg Maloney, a student and an employee of this University. Loans from this fund are available to any worthy student.

WILLIAM McCRACKEN LOAN FUND IN CHEMISTRY—Established in 1945 through a gift of $1,000 made by Mrs. William McCracken to honor the memory of her husband who organized the Department of Chemistry and served as its head (1907-1939). Loans are granted to worthy and needy students majoring in chemistry. Preference will be given students who have proven their ability through courses taken in chemistry at Western Michigan University. Applications for loans should be presented to the Head of the Department of Chemistry.

MICHIGAN BROADCASTING LOAN FUND—Established in 1963 for the use of students pursuing a course of study in radio and television. Loans from this fund are short-term and non-interest bearing.

FREDERICK W. MIHOLICH MEMORIAL LOAN FUND—Established in 1967 by Mr. and Mrs. Frederick E. Miholich to honor the memory of their son, Frederick W., a former student at this University. Loans from this fund are available to any worthy student.

OCCUPATIONAL THERAPY FUND—Funds have been provided by the Kellogg and Kalamazoo Foundations for the use of Occupational

Therapy students. Loans up to $300 are available to these students after the completion of one year at Western Michigan University. The purpose of the fund is to defray the cost of the clinical affiliation when necessary. The loans are payable within six months after the anticipated graduation date. Applications are to be made to the Department of Occupational Therapy.

PANHELLENIC (DETROIT AND GRAND RAPIDS) LOAN FUNDS —The Panhellenic Societies of Detroit and of Grand Rapids have established loan funds for deserving women students in need of short-term loans. These funds are intended especially for sorority members, but, if not used, they may be made available to other women students.

RAY C. PELLETT MEMORIAL LOAN FUND—Established in 1967 to honor the memory of Dr. Ray C. Pellett, Western's first Dean of Men, who served in that capacity for 28 of his 30 years at this institution. Loans from this fund are available to any worthy student in need of short-term financial assistance.

MICHIGAN DIVISION, PIMA, ROTATING LOAN FUND—For students of paper technology. Loans are available to students upon recommendation of the Head of the Department of Paper Technology. There is no charge for interest while the student is enrolled at Western Michigan University.

SOPHIA REED - MARY MOORE HOME ECONOMICS LOAN FUND —The Home Economics Club of Western Michigan University set up the loan fund in 1953 in honor of Miss Sophia Reed and Miss Mary Moore who served on the home economics faculty for many years. The maximum amount per applicant will be $100. This is a non-interest loan to be paid back within a year of the recipient's graduation date. Recommendations are made by the staff of the Home Economics Department.

ROTARY STUDENT LOAN—A short-term loan fund available to graduate students upon recommendation of a faculty committee.

SIGMA TAU GAMMA MEMORIAL LOAN FUND—Chi Chapter of Sigma Tau Gamma fraternity established this memorial loan fund to perpetuate the memory of Ode Custer, Elmer Stillwell, Harry Karnemont, Robert Fletcher and Robert Harvey who made the supreme sacrifice in World War II. Loans from this fund may be obtained by any male upperclassman with a point-hour ratio of at least 2.5 The loans are non-interest bearing.

J. TOWNER SMITH LOAN FUND—Established in 1966 by the Gamma Phi Chapter of Alpha Phi Omega to honor J. Towner Smith, former adviser of this service fraternity and Dean of Men, who retired in 1966. Loans from this fund are available to any worthy student.

SOUTHERN CALIFORNIA ALUMNI LOAN FUND—Established in 1963 by the graduates of this University living in Southern California.

Loans from this fund, originated by the WMU Alumni Club of Los Angeles, are available to students in need of short-term financial assistance.

HELEN STATLER FUND—Established in 1944 by Mrs. Frederick C. Fischer and Frederick C. Statler in honor of their mother and is available to any worthy student.

RON STRAWSER MEMORIAL LOAN FUND—Established in 1965 to honor the memory of Ron Strawser, who was a teacher of the mentally handicapped and who was vitally interested in the field of Special Education. Loans are made to students whose major field is in Special Education.

STUDENT LOAN FUND—In September, 1912, a nucleus of a student loan fund was established by a gift of $200 from Miss Blanche Hull. This fund has been increased to a total of several thousand dollars. Money is loaned to deserving students on the recommendation of a faculty committee. An interest rate of five percent is charged.

KALAMAZOO VALLEY SECTION, TAPPI, ROTATING LOAN FUND—For students of paper technology. This fund amounts to $1,500. Loans are available to students upon recommendation of the head of the department of paper technology. There is no charge for interest while the student is enrolled at Western Michigan University.

DWIGHT B. WALDO MEMORIAL FUND—Initiated by a group of faculty members at the time of Dr. Waldo's death in 1939. Loans from the fund are available to any worthy student.

EDUCATIONAL OPPORTUNITY GRANT PROGRAM

Under this program federal funds are made available to Western Michigan University to award grants to students of exceptional financial need. These grants range in amount from $200 to $800. The combined total of the parents' contribution, as determined by the College Scholarship Service, and the amount of the grant may not exceed $800. The Office of Student Financial Aid will contact those students who according to the analysis of their Parents' Confidential Statement initially qualify for this grant.

THE COLLEGE WORK-STUDY PROGRAM

The College Work-Study Program is a cooperative program between the University and the Federal government. Its purpose is to promote the part-time employment in institutions of higher education of those students who are in need of these earnings to attend or remain in college. Earnings under this program will not meet all of a student's educational expenses. It is anticipated that a student will need other financial aid such as a loan, a scholarship (or a grant-in-aid), and summer earnings to get through a year of college.

Prospective candidates must meet the entrance requirements of the University and the financial guidelines established by the U.S. Office of Education to be eligible for financial assistance under this program. Further information is available from the Office of Student Financial Aid.

STUDENT EMPLOYMENT

A large percentage of students earn a portion of their expenses by working summers or by combining summer employment with employment while attending school. Students who find it necessary to work full-time and simultaneously carry more than ten semester hours of classes may anticipate academic difficulties. A full-time employee, no doubt, will require more than four years to secure his degree. Excessive employment usually leads to an unsatisfactory academic record.

Students who work while attending classes should adjust their work and academic loads so that they can achieve at the academic level of which they are capable. Students should not force themselves to give up all extracurricular activities in favor of long working hours or a shorter college career.

Students in good health and with reasonable ambition can carry an average academic load (12-16 credit hours) and work from ten to twenty hours per week. Men students may find work in the city of Kalamazoo in such places as restaurants, hotels and motels, service stations, police departments, factories and hospitals, in drug, clothing, department and appliance stores, and as custodians, chauffeurs, truck drivers, etc. Women students may find work in cafeterias, office and retail stores, and as waitresses and babysitters. Students may apply to the Student Aid Adviser, Office of Student Financial Aid, for assistance in securing off-campus employment.

On the campus, students are employed in cafeterias, offices, at switchboards, as staff assistants, custodians, waitresses, stenographers and machine operators. Students seeking work in Residence Halls and Food Service areas, Libraries, Maintenance, or various departmental student positions are encouraged to make direct application to the Dormitory Director, appropriate Departmental Supervisor, or Food Service Manager concerned. Students seeking office work are encouraged to leave an application for employment with the Personnel Office, Room 143, Administration Building.

AWARDS

DEPARTMENTAL

ACCOUNTING—The Ernst and Ernst Award is awarded annually on the basis of scholastic achievement to a graduating senior who has majored in Accounting. The student's grades in accounting and his overall grades are the factors considered in making the selection.

ATHLETICS—The Athletic Board of Control Award is a plaque given to an outstanding athlete who ranks high in scholarship and participation.

BIOLOGY—The Harold Cook Memorial Prize of $20 is given to a student judged most proficient by the Committee on Scholarship, in cooperation with the president of the Faculty Science Club.

BUSINESS—Gamma Tau chapter, Alpha Kappa Psi, professional fraternity in commerce, awards annually a Scholarship Key to the male senior student pursuing a degree in the School of Business, who has attained the highest scholastic average for three years of work at this University.

CHEMISTRY—The William McCracken Award was named in honor of the first head of the Chemistry Department. It is given to a senior who, in the opinion of the chemistry staff, has shown the greatest aptitude in the field of basic chemistry.

ECONOMICS—Harald Smith Patton prizes given in memory of Lieutenant Colonel Patton, accidentally killed in service 1945, while on military leave as Head of the Department of Economics, Michigan State University. The prizes will be given to outstanding Economics majors, one of $60 to a senior, and one of $30 to a junior.

ENGLISH—The George Sprau Award in English is given to the outstanding English major in the graduating class.

FRENCH—The French Embassy gives an annual prize to the outstanding student of French in the graduating class.

HISTORY—The James O. Knauss History Award was established in honor of a distinguished scholar and teacher who was on the faculty for thirty years and was head of the History Department for eleven. It is awarded annually to the senior history major who has made the most outstanding record in history during his university career.

The Smith Burnham Award was established to honor a widely known speaker and head of the department for twenty years. It is made annually to the junior history major who has the most outstanding record in history.

HOME ECONOMICS—An award to a freshman girl based on scholarship and leadership.

INDUSTRIAL EDUCATION—A plaque is given to the outstanding senior student in that department.

MATHEMATICS—This prize is awarded to the senior student judged by the Department of Mathematics to have exhibited the highest proficiency and promise in that field.

OCCUPATIONAL THERAPY—The Marion R. Spear Award was established in honor of the founder of the Kalamazoo School of Occupational Therapy (1922-1944) and director of the Occuaptional Therapy

curriculum at Western between 1944 and 1958. It is awarded annually to an outstanding senior who gives promise of being a superior occupational therapist.

PAPER TECHNOLOGY—Awards ranging from $100 to $500 are given to students above freshman level who have demonstrated superior performance in the curriculum. These awards may be for one year only, and vary in amount and number. These awards are made possible by American Cyanamid Co., Junior Award—$500; Boxboard Research and Development Association, Senior Student Award—$250; Kalamazoo Valley Section Tappi, Senior Thesis Awards—$100, $60 and $40; Northwest Division of the Paper Industry Management Association Award—$300; Paper Industry Management Association, Scholarship Award—$200.

PHILOSOPHY—The Robert Friedmann Essay Award was established by the Department of Philosophy and Religion in honor of Professor Robert Friedmann on his retirement. Any topic which is primarily philosophical may be chosen and competition is open to all undergraduate students. The prize is $50.

PHYSICS—An annual prize is given to the senior judged most proficient throughout his college course in the field of physics. An annual prize of a Handbook of Chemistry and Physics is awarded to the best students completing the first course in calculus-physics (210, 211, 212).

POLITICAL SCIENCE—The D. C. Shilling Awards were established in honor of a distinguished scholar and teacher who was on the faculty of Western Michigan University for thirty years, and Head of the Political Science Department for seven years. An annual award of about $30 is given to the graduating senior Political Science major or minor who has made the most outstanding record in Political Science during his university career. The D. C. Shilling Junior Scholarship Award of about $50 is given to the Political Science major or minor who, at the completion of his junior year, exhibits proficiency and promise in Political Science.

ORGANIZATIONAL

ASSOCIATED WOMEN STUDENTS—A prize to the outstanding woman student.

KAPPA DELTA PI—A prize to the outstanding student in academic areas.

MEN'S UNION—A prize to the outstanding male student.

PI KAPPA RHO—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding women's organization.

TAU KAPPA EPSILON—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding men's organization.

The Honors College

Samuel I. Clark, Director of Honors

The Honors College is open to superior students who desire to meet the challenges of outstanding educational programs. Admission is by special application and by mutual agreement between the student and the Director of Honors. Minimal requirement is a better than "B" average. Seniors are not admitted except under extraordinary circumstances. To continue in the Honors College a student must maintain high scholarship and full engagement in his program of study.

Once admitted to the Honors College, a student is expected to pursue a program of general education and a major area of intellectual interest. The student is advised to pursue basic intellectual skills, developing ability in communication, clear thinking, languages and mathematics. He is urged to acquire esthetic ability and insights in the visual, musical and literary arts. Students are expected to carry on a continuous reading program.

In his senior year the student is examined by the faculty and is required, in addition, to produce an original paper, work of art or similar creative achievement. An Honors College Graduate is so designated.

Unusual opportunities and privileges are provided in consultation with the faculty and Director of Honors. Students may pursue specially arranged programs of study and can utilize reading, research and independent study courses. They may be excused from certain course requirements and prerequisite obligations. Priority is given in course enrollment, the use of research equipment and other facilities. Being fully committed to the objectives of the University, Honors College students receive special consideration in housing, work, extracurricular and community activities.

The Honors College assists in applications for scholarships, graduate fellowships, travel projects, Fulbright grants and other forms of assistance.

Close association of student, staff and subject is the central theme of the Honors College. The discretionary authority of the program and the specific requests of students are justified in terms of this purpose. Students should be actively involved in the cultural life of the University and in the special programs of the schools, divisions, departments and the Honors College.

The ultimate objective of the Honors College is the cultivation in young men and women of the desire to achieve—in all dimensions of human excellence. The traditional trilogy of moral, esthetic and intellectual accomplishment applies. While the primary emphasis is intellectual, in keeping with the principal purpose of higher education, the program recognizes the interdependence of character, sensitivity and intelligence. Only in the presence of all three qualities is each realized.

Three types of honors programs are available at Western Michigan University. All are a part of, or associated with, the Honors College. They are:

THE GENERAL EDUCATION HONORS PROGRAM

Students in the General Education Honors Program are provisional members of the Honors College. This program is open to freshmen and sophomores, who because of excellent high school records, high test scores, and other evidence of ability, appear capable of unusual academic achievement.

The core of this program consists of five course series each lasting one year: The Life Sciences, The Physical Properties of Nature, The Social Sciences, The Humanities and Civilization. This program replaces the General Studies requirements of the University.

HONORS COLLEGE PROGRAMS

No single course of study is required of Honors College students provided they meet the general obligations of the College. Many Honors College students are enrolled in Departmental Honors Programs. Others are provided specially designed programs of study. The latter are frequently in the **Liberal Arts Honors Curriculum** which affords a maximum of freedom in course selection. Most Honors College students are enrolled in the regular curricula of the University.

DEPARTMENTAL HONORS PROGRAMS

Students with special talents in a particular discipline are urged to enter the Departmental Honors Program of that discipline. Departmental Honors Programs exist in the following disciplines: Accounting, Anthropology, Biology, Chemistry, Economics, English, Geography, Geology, History, Language, Management, Mathematics, Occupational Therapy, Physics, Political Science, and Sociology.

HONORS COLLEGE COURSES

The General Education Honors Program

Honors College 120 Humanities I **4 hours credit**

A study of man's creative and imaginative life as this is revealed in philosophical, religious and esthetic works.

Honors College 121 Humanities II **4 hours credit**

Continuation of Honors College 120, Humanities I. Prerequisite Honors College 120, Humanities I.

Honors College 106 Life Sciences I **4 hours credit**

An introduction to and a critical examination of the principles of such subdivisions of biology as ecology, genetics, growth and development, taxonomy, anatomy and physiology, how these principles evolved and their impact on man.

Honors College 107 Life Sciences II **4 hours credit**

An examination of the evidence serving as bases for the principles of biology, of the methodology and techniques employed in the accumulation of evidence and of the frontiers remaining to challenge biologists.

Honors College 208 Physical Properties of Nature I **4 hours credit**

By treating the fundamental ideas and concepts of the physical sciences as they appeared in history, this course attempts to provide the student with an understanding of the methods and the goals of present day investigations in the physical sciences. Being a course in physical science, it will apply care and rigor to the presentation of ideas where applicable.

Honors Colloge 209 Physical Properties of Nature II **4 hours credit**

Continuation of Physical Properties of Nature I. Prerequisite Physical Properties of Nature I.

Honors College 202 Social Science I **4 hours credit**

An historical account of the development of social science dealing with major questions about the nature of society and culture. Basic insights and concepts derived from anthropology, psychology, sociology, economics, geography and political science are presented.

Honors College 203 Social Science II **4 hours credit**

Continuation of Social Science I. Prerequisite Social Science I.

Honors College 200 Civilization I **4 hours credit**

The course is a study of human experience. It seeks a reasoned recognition of the unique and of the general in the casual factors of history. It searches, further, for a reasoned appreciation of the qualities of life that comprise a civilization. While drawing upon a broad historical base, the course uses selected themes for concentrated analysis (such as, "The Image of Man," "Creativity"). Students have a major responsibility in developing their ideas through discussion and papers.

Honors College 201 Civilization II **4 hours credit**

Continuation of Civilization I. Prerequisite Civilization I.

Honors College 299 Independent Study **Variable Credit**

An opportunity to explore individually, under the guidance of a member of the faculty, a topic or problem in almost any area.

Upper Level Honors College Courses

Honors College 490 Honors Seminar **Variable Credit**

An undergraduate seminar for honors students. The content of the seminar varies and will be announced in advance. Admission by permission.

Honors College 492 Visiting Scholars Seminar **Variable Credit**

A seminar involving visiting scholars from other institutions and countries. The content of the seminar varies and will be announced in advance. Admission by permission.

Honors College 499 Individual Studies **Variable Credit**

Students in the Honors College may enroll in this course for variable credit for one or several semesters upon approval of the Director of Honors. The course is an administrative facility for individual study outside the usual course structure.

Further information about the Honors College may be had from the Director of Honors, West Hillside Building.

Institute of International and Area Studies

Claude S. Phillips, Jr., Director
Charles O. Houston, Associate Director

The Institute of International and Area Studies was established by the University to assist in developing programs on various regions of the world. It cooperates with the School of General Studies in offering a general education course on the non-Western world.

It has established minors programs for certain regions of the world. These programs involve interdepartmental committees and combinations of courses regularly offered by the departments of the University.

It recommends standards for area studies and coordinates the offerings in such areas. It cooperates with various governmental agencies in exchange programs, visiting leaders programs, etc.

It houses information on foreign study, faculty exchange, foundations and the like, providing assistance to faculty in grant applications and research projects. It maintains current files on foreign embassy releases, international conferences, information services, and other immediately current affairs. It conducts conferences, seminars, lecture series, grant programs and the like, concerning different regions of the world.

In general, it coordinates activities of an international character centering at Western Michigan University.

INSTITUTE OF INTERNATIONAL AND AREA STUDIES COURSES

General Studies 304 The Non-Western World **4 hrs.**

A cultural survey of those societies which have developed essentially apart from European forces. This course is taught in the School of General Studies by a committee of the Institute of International and Area Studies.

Social Science 506 Studies in the Non-Western World **2 hrs.**

A course designed to give teachers an awareness of social forces operating outside of Western Civilization. The workshop approach will be used to introduce students to such problems in Asia and Africa as industrialism, nationalism, self-government, social integration, population explosion, and the Western impact. The answers which two-thirds of the world are now giving to these problems cannot help but affect Western society. The ultimate objective is to provide teachers with

selected resource materials and initial awareness of dynamic forces shaping over half the world.

This course is offered in the Division of Social Science in a cooperative arrangement with the Institute of International and Area Studies.

THE AREA COMMITTEES

Four area committees have been established under the Institute. All are authorized to offer area minors. These minors have been approved for teacher certification by the State Board of Education.

African Studies Program

Chairman: William Garland
Department of Anthropology

Students with a minor in African Studies must elect a minimum of twenty hours of course work from the following list. At least five courses are to be taken from the list of Core Courses, the remainder to be selected from the lists of Core and Cognate Courses.

Special Summer programs may be offered providing students with an opportunity to study and travel in Africa. Credits received for participation in such programs can be counted towards the African Studies minor.

Each student enrolled as an African Studies minor is expected to meet once each semester with the Chairman of the African Studies Program until the requirements for the minor have been completed.

Core Courses

Anthropology	334	**Peoples and Cultures of North Africa and the Middle East**	3 hrs.
	335	**Peoples and Cultures of Sub-Saharan Africa**	3 hrs.
	545	**Special Area Studies: Africa**	3 hrs.
Economics	585	**The Economics of Sub-Saharan Africa**	3 hrs.
English	519	**Non-Western Literature in Translation: Africa**	4 hrs.
Geography	386	**Geography of Middle and South Africa**	3 hrs.
	387	**Geography of Middle East and North Africa**	3 hrs.
History	587	**Pre-Colonial Sub-Saharan Africa**	3 hrs.
	588	**Twentieth-Century Africa**	3 hrs.
Political Science	342	**Political Systems of Developing Areas—Africa**	4 hrs.
Religion	304	**African Religions**	4 hrs.
Sociology	557	**Changing Social Systems—Sub-Saharan Africa**	2 hrs.

Cognate Courses

Anthropology	231	**Introduction to Anthropology: Cultural Anthropology**	3 hrs.
	534	**Peasant Societies in Cross-Cultural Perspective**	3 hrs.
	537	**Politics in Primitive Societies**	3 hrs.
	538	**Law in Primitive Societies**	3 hrs.
	539	**Economic Anthropology**	3 hrs.
	540	**Cultural Ecology**	3 hrs.
Economics	588	**Economic Development**	4 hrs.
Geography	244	**Economic Geography**	3 hrs.
	540	**Political Geography**	3 hrs.
	541	**Geographic Foundations of National Power**	3 hrs.
	543	**Cultural Geography**	3 hrs.
History	343	**Great Britain and the British Commonwealth**	3 hrs.
Political Science	250	**International Relations**	4 hrs.
Religion	300	**Prehistoric and Primitive Religions**	4 hrs.
Sociology	558	**Social Forces in Underdeveloped Areas**	3 hrs.

Asian Studies Program

Chairman: Andrew Nahm
Department of History

Students may minor in this program provided they elect 20 credit hours drawn from the following list and provided that not more than 8 hours are taken from the approved list of cognate courses. Students are strongly urged to elect General Studies 304, Introduction to the Non-Western World.

Core Courses

Anthropology	336	**Peoples and Cultures of Asia**	3 hrs.
	545	**Special Area Studies: Asia**	3 hrs.
Economics	587	**Studies in Asian Economics**	3 hrs.
English	519	**Non-Western Literature in Translation: Asia**	4 hrs.
General Studies	224	**Non-Western Arts and Ideas***	4 hrs.
Geography	388	**Geography of East Asia**	3 hrs.
	389	**Geography of Southeast Asia**	3 hrs.
	390	**Geography of South Asia**	3 hrs.
History	380	**The Early Far East**	3 hrs.
	381	**The Modern Far East**	3 hrs.
	580	**Early China**	3 hrs.
	581	**Modern China**	3 hrs.
	582	**Japan to 1853**	3 hrs.

*If not counted toward General Studies requirements.

	583	**Japan Since 1853**	3 hrs.
	584	**Modern Korea**	3 hrs.
	585	**Southeast Asia in the Twentieth Century**	3 hrs.
Philosophy	306	**Asian Thought: China**	4 hrs.
Political Science	342	**Political Systems of Developing Areas: Asia**	4 hrs.
	540	**Problems of Foreign Political Systems: Asia**	3–4 hrs.
Religion	302	**Religion in the Indian Tradition**	4 hrs.
	303	**Religion in the Chinese and Japanese Traditions**	4 hrs.
	500	**Historical Studies in Religion**	2–4 hrs.
Sociology	579	**Social Structure and Social Change in Japan**	2 hrs.
	678	**Seminar on Industrial Society in the Far East**	2 hrs.

Cognate Courses

Anthropology	231	**Introduction to Anthropology: Cultural Anthropology**	3 hrs.
	534	**Peasant Societies in Cross-Cultural Perspective**	3 hrs.
Economics	380	**International Economics**	4 hrs.
	584	**Comparative Economic Systems**	4 hrs.
	588	**Economic Development**	4 hrs.
Geography	244	**Economic Geography**	3 hrs.
	540	**Political Geography**	3 hrs.
	541	**Geographic Foundations of National Power**	3 hrs.
History	518	**History, United States Foreign Relations**	3 hrs.
Political Science	250	**International Relations**	4 hrs.
	350	**American Foreign Policy**	4 hrs.
Religion	300	**Prehistoric and Primitive Religions**	4 hrs.
Sociology	314	**Race Relations**	3 hrs.
	554	**Sociological Analysis of Population**	3 hrs.
	558	**Social Forces in Underdeveloped Areas**	3 hrs.
	577	**Comparative Institutional Studies**	2 hrs.

Latin American Studies Program

Chairman: Robert Jack Smith
Department of Anthropology

Students with a Minor in Latin American Studies must elect a minimum of twenty hours of work from the list below. Of these, at least twelve hours must be in core courses. A course program of broad interdisciplinary character is required. All minors are strongly urged to include language training in their programs. This is of particular significance to anyone intending to seek advanced training in a Latin American program and/or work or travel in the Latin American area.

Special summer programs may be offered, providing qualified students with an opportunity to study and to do research in selected parts of Latin America. Credit for participation—within certain limitations—can be counted towards the Latin American Studies Minor.

Core Courses

Anthropology	337	**Indian Cultures of Mexico, Central and South America**	3 hrs.
	545	**Special Area Studies: Latin America**	3 hrs.
Geography	381	**South America**	3 hrs.
	382	**Middle America**	3 hrs.
History	370	**Colonial Latin America**	3 hrs.
	371	**Latin American Republics**	3 hrs.
	571	**History of Mexico**	3 hrs.
	572	**History of the Plata Region**	3 hrs.
Political Science	342	**Political Systems of Developing Areas: Latin America**	4 hrs.
	540	**Problems of Foreign Political Systems: Latin America**	3–4 hrs.
	598	**Studies in Political Science**	1–4 hrs.
Spanish	323	**Life and Culture of Latin America**	3 hrs.
	329	**Introduction to Spanish-American Literature**	3 hrs.
	550	**Independent Study in Spanish**	1–3 hrs.
	560	**Studies in Spanish Literatures: Spanish-American Short Story**	3 hrs.
		Contemporary Spanish-American Novel	3 hrs.

Cognate Courses

Anthropology	534	**Peasant Societies in Cross-Cultural Perspective**	3 hrs.
Economics	588	**Economic Development**	4 hrs.
Sociology	558	**Social Forces in Underdeveloped Areas**	3 hrs.
Spanish	200, 201	**Intermediate Spanish**	8 hrs.
	316	**Spanish Composition**	3 hrs.
	317	**Spanish Conversation**	3 hrs.

Slavic Studies Program

Chairman: George Klein
Department of Political Science

Students minoring in this program must elect 20 hours of work from the following list, a minimum of 12 hours from the core courses and eight hours from the cognate courses.

Core Courses

Economics	501	**Studies in Economic Theory**	3 hrs.
	583	**Studies in Economic Planning**	3 hrs.
	586	**Economics of the Soviet Union and Eastern Europe**	3 hrs.
	590	**Contemporary Communism—A Survey**	2 hrs.
Geography	384	**USSR and Eastern Europe**	3 hrs.
History	340	**Russia to 1917**	3 hrs.
	341	**The Soviet Union**	3 hrs.
	344	**Eastern Europe**	3 hrs.
	345	**The Baltic Region**	3 hrs.
	470	**Independent Research in History**	2-3 hrs.
	540	**Social & Cultural History of Tsarist Russia**	3 hrs.
	541	**The USSR in World Affairs**	3 hrs.
	542	**Social & Cultural History of the USSR**	3 hrs.
	598	**Independent Readings in History**	2-3 hrs.
Political Science	540	**Problems of Foreign Political Systems: Eastern Europe**	3–4 hrs.
	546	**Governments of the Soviet Union and Eastern Europe**	3 or 4 hrs.
Sociology	578	**Social Structure of the Soviet Union**	3 hrs.

Cognate Courses

Economics	584	**Comparative Economic Systems**	4 hrs.
	588	**Economic Development**	4 hrs.
Geography	540	**Political Geography**	3 hrs.
	541	**Geographic Foundations of National Power**	3 hrs.
Language	100, 101	**Basic Russian**	8 hrs.
	200, 201	**Intermediate Russian**	8 hrs.
Political Science	250	**International Relations**	4 hrs.
	340	**European Political Systems**	4 hrs.
	362	**Contemporary Political Thought**	4 hrs.
	560	**Comparative Political Ideologies**	4 hrs.
	598	**Studies in Political Science**	1-4 hrs.

School of Applied Arts and Sciences

GEORGE E. KOHRMAN,
Dean

Departments:
Agriculture
Distributive Education
Engineering and Technology
Home Economics
Industrial Education
Military Science
Occupational Therapy
Paper Technology
Transportation Technology

The School of Applied Arts and Sciences includes the Departments of Agriculture, Distributive Education, Engineering and Technology, Home Economics, Industrial Education, Military Science, Occupational Therapy, Paper Technology and Transportation Technology.

The School seeks to assist young men and women in becoming useful and successful citizens in a democratic and technological society. At least three educational needs serve as guides in planning the various courses of study within the school.

First, the critical shortage of skilled and scientific manpower in business and industry is recognized. High speed production, automation, the increasing use of electrical and atomic energy, the demand for more and better materials, the scientific developments in agriculture, and the revolutionary changes in home and family living are all indicative of the type of educational program needed by a large segment of our population.

Second, the School recognizes the personal values that should accrue to an individual from a well-planned educational program. It accepts the responsibility of contributing to the student's understanding and appreciation of himself and his surroundings, and to his emotional, physical and intellectual growth.

Third, the School attempts to assist the student in the development of desirable attitudes, habits, and character traits essential for successful living in his home, community, or occupational environment.

I. DEGREE CURRICULA

THE GENERAL CURRICULUM

B.S. Degree

Students in Agriculture, Distributive Education, Home Economics, or Industrial Education may graduate with a Bachelor of Science degree if 124 hours are completed by fulfilling the following requirements:

A.	General Studies (See page 21 of this Catalog)	40 hrs.
B.	Physical Education or Military Science	4–8 hrs.
C.	Major in one of the departments	24 hrs.
D.	Minor	15 hrs.
E.	Electives	41–37 hrs.

Agriculture

AGRICULTURE DISTRIBUTION

B.S. Degree

The Agriculture Department offers a four year degree program for students who are interested in the distribution of agricultural products and the technical services rendered to farmers by the many agriculturally related industries.

The program in Agriculture Distribution requires 30 semester hours of Agriculture, including Coordinated Industry, or 18 semester hours for a minor.

Students majoring in agriculture may complete work for a B.S. degree at Western Michigan University or if a higher degree of specialization is desired, transfer to Michigan State University's College of Agriculture at the end of the sophomore year without loss of credit.

Courses will be selected with the approval of the adviser. Students who complete either a major or a minor and who qualify for the secondary certificate may teach general or basic agriculture in Michigan high schools.

AGRICULTURE DISTRIBUTION

B.S. Degree

A.	Minimum hours required for this curriculum	125 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of this catalog must be met.

2. Language and Literature, Speech and Philosophy and Religion
   a. Business and Prof. Speech 104 ..... 3 hrs.

3. Science, Mathematics, and Psychology
   a. Mathematics 100 or 122 ..... 4 hrs.
   b. Agriculture Geography 554 ..... 3 hrs.

4. Social Sciences
   a. Principles of Economics 200 ..... 5 hrs.
   b. Principles of Sociology 200 ..... 4 hrs.

5. Agriculture
   a. Animal Industry 110 ..... 3 hrs.
   b. Animal Industry 111 ..... 3 hrs.
   c. Agronomy 220 ..... 5 hrs.
   d. Introduction to Soils 320 ..... 4 hrs.
   e. Agriculture Electives ..... 12 hrs.

6. Vocational Division
   a. Coordinated Industry 300 ..... 3 hrs.

7. Business
   a. Principles of Accounting 210 ..... 3 hrs.
   b. Marketing 240 ..... 3 hrs.

8. Physical Education
   a. Military Science ..... 4 or 8 hrs.

9. Electives ..... 22–26 hrs.

C. Degree requirements must be met including minor course of study*

*The major is Agriculture Distribution with a minor in chemistry, business, marketing, biology, etc.

Distributive Education

COOPERATIVE OCCUPATIONAL EDUCATION

B.S. Degree

Western Michigan University is approved for the preparation of teacher-coordinators of cooperative and project method programs and teachers of preparatory and vocational-technical subjects.

The following is an outline of the sequence of courses that should be followed. The student should elect only one of the major options (A, B, or C). In addition to the B.S. degree, one is qualified to receive the Vocational Secondary Provisional Certificate and Secondary Provisional Teaching Certificate.

A. Minimum hours required for this curriculum ..... 124–130 Hours

B. Course Requirements

1. General Studies requirements as described in the catalog must be met

2. Social Sciences ..... 0–5 Hours
   - Principles of Economics 200 ..... 5 (Options A and B)

3. Education ..... 21 Hours
   - Human Development and Learning 250 .. 4
   - Teaching and Learning 300 3
   - Seminar in Education 410 2
   - Directed Teaching 470 9
   - Principles of Practical Arts and Vocational Education 520 3

4. Basic Core ..... 4–10 Hours
   - Teaching Techniques in Coop. Education 572 2
   - Coordination Techniques in Coop. Ed. 573 2
   - *Supervised Work Experience 0–6

5. Options A, B, or C

   Option A—Distributive Education ..... 26 Hours
   - Organization and Operation of D. E. 570 2

*Dependent upon amounts of previous acceptable work experience.

The Super Market Industry 130	3	
Introduction to the Petroleum Industry 120	3	
Seminar in Distributive Education 500	3	
Retailing Principles 375	3	
Salesmanship 370	3	
Advertising 374	3	
Electives	6	
Option B—Office Education		25 Hours
Industry and Business World 140	3	
or		
Marketing 240		
Beginning Shorthand 180 or equivalent	4	
Intermediate Typing 181	3	
Accounting 210	3	
Accounting 211	3	
Business Communication 242	3	
Office Machines 281	3	
Office Organization 252	3	
or		
Office Management 556		
Option C—Multiple Occupations Cooperative		22 Hours
Metals	6	
Electricity—Electronics	5	
Drafting	5	
Wood Technology	3	
Power Technology	3	
6. Physical Education	4	4 Hours
7. Electives—(Options A & B)	0–3	3–6 Hours

C. Degree (See adviser)

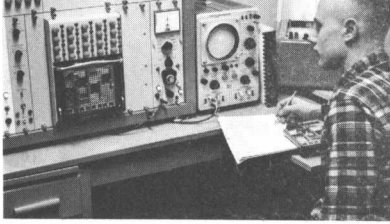
The major consists of one of three options:

A. Distributive Education

B. Office Education

C. Multiple Occupations Cooperative

A teachable minor of 20 hours is required in Options A & B, while in Option C two minors are required; one in distributive education, and one in office education.



Engineering and Technology

ELECTRICAL ENGINEERING TECHNOLOGY

B.S. Degree

The Electrical Engineering Technology Curriculum is an applied engineering program for the broad fields of electrical applications, instrumentation, communication electronics, and industrial electronics. Emphasis is placed on the fundamentals underlying the work of such areas as supervision, research and development, manufacturing, and industrial sales.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Mathematics I, II (122, 123)	8
Industrial Calculators 150	1
Engineering Drafting 230	3
Industrial Processes 152	3
General Chemistry 100 or 102	4-6
Electrical Circuits 240	3
Electronic Circuits 241	3
Physical Education or R.O.T.C.	2-4
	33-35

Second Year	S.H.
Physics 110, 111 or 210, 211	8
Introduction to Computers 106	1
Western Civilization 100 or 101	4
Statics 256	3
Metallurgy 252	3
Electromagnetic Devices 242	3
Electronic Devices 340	4
Physical Education or R.O.T.C.	2-4
Electives	5
	33-35

Third Year	S.H.
Non-Western World 304	4
*Social Science 202, 203 or 204	4
Dynamics 355	3
Thermodynamics 352	4
Fluid Mechanics 356	3
Communication Electronics 441	4
Industrial Electronics 341	4
Control Systems 360 or Engineering Analysis 556	3
Strength of Materials 353	3
Electives	4
	36

Fourth Year	S.H.
Arts and Ideas 222 or 224	4
Measurements and Instrumentation 440	4
Servomechanisms 442	4
General Studies II Elective	4
Electives	18
	34

*Substitution—Economics 201 and 202

RECOMMENDED ELECTIVES

Mathematics III, IV (222, 223)
Business and Professional Speech 104
Statistical Methods for Industry 360
Chemistry 109
Physics 212
Programming Computers 506
Production Control 306
Quality Control 308
Conference Leadership 406
Industrial Supervision 502
Industrial Safety 504
Accounting 215
Business Communication 242
Marketing 240
Salesmanship 370
Advertising 374
Machining Metals 151
Production Tooling 250
Testing Materials 354
Heat Transfer 451
Product Engineering 550
Independent Research and Development 490
Electrical Fields 541
Advanced Circuits 542
Electrical Power Systems 545

INDUSTRIAL ENGINEERING

B.S. Degree in Industrial Engineering

The Industrial Engineering Curriculum provides the essential foundation, experience and understanding in science, mathematics, humanities and engineering so graduates may find gainful employment in industries or utilities. The Industrial Engineer is particularly responsible for the improvement and development of management and production techniques. Special emphasis is placed, therefore, on studies dealing with production, planning and control, plant organization, manufacturing processes and inspection, plant safety, and employee and employer relations.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
General Chemistry 102 or 100, 109	8-10
Mathematics I, II (122, 123)	8
Engineering Drawing 230	3
Descriptive Geometry 231	3
Industrial Calculators 150	1
Industrial Processes 153	3
Introduction to Computers 106	1
Physical Education or R.O.T.C.	2-4
	35-37

Second Year	S.H.
College Physics 210, 211	8
Mathematics III, IV (222, 223)	8
Western Civilization 100 or 101	4
Metallurgy 252	3
Statics 256	3
Electrical Circuits 240	3
Electronic Circuits 241	3
Physical Education or R.O.T.C.	2-4
Electives	3
	37-39

Third Year	S.H.
Accounting 215	3
*Social Science 202, 203, or 204	4
Statistical Method for Industry 360	4
Strength of Materials 353	3
Non-Western World 304	4
Motion and Time Study 304	5
Dynamics 355	3
Fluid Mechanics 356	3
Electives	4
Industrial Supervision 502	3
	36

Fourth Year	S.H.
Thermodynamics 352	4
Production Control 306	3
Arts and Ideas 222 or 224	4
Material Handling and Layout 404	5
Product Engineering 550	3
Labor Management Relations 500	4
General Studies Elective	4
Electives	9
	36

RECOMMENDED ELECTIVES

Mechanism Analysis 332
Differential Equations 500
Testing of Materials 354
Control Systems 360
Industrial Safety 504
Work Simplification 506
Advanced Quality Control 508
Technical illustrations 552
Mechanical Vibrations 558
Product Design and Development 554
Engineering Analysis 556

Ordinarily most students will need an additional semester or summer session to complete this curriculum.

INDUSTRIAL SUPERVISION

B.S. Degree

This curriculum is intended for young men and women who are planning to qualify for industrial or distribution positions in such areas as supervision, production control, time and motion study, quality control, plant management, personnel work, purchasing, and other managerial areas.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Industrial Processes 152, 153	6
Mathematics 100, 200	8
Industrial Calculators 150	1
Western Civilization 100 or 101	4
Business and Professional Speech 104	3
Physical Education or R.O.T.C.	2-4
Electives	2
	32-34

Second Year	S.H.
Physics 110, 111	8
Chemistry 100 or 102	4-6
Electrical Circuits 240	3
Technical Drafting 132 or Engineering Drafting 230	2
Psychology I, 150	3
Business Statistics 244	3
Introduction to Computers 106	1
Physical Education or R.O.T.C.	2-4
Electives	6
	32-34

*Substitution—Economics 201 and 202

Third Year	S.H.
Non-Western World 304	4
*Social Science 202, 203 or 204	4
Accounting 215	3
Production Control 306	3
Quality Control 308	3
Motion and Time Study 304	5
Business Law 340	3
Industrial Supervision 502	3
Industrial Safety 504	2
Electives	4
	34

Fourth Year	S.H.
Work Simplification 506 or Advanced Quality Control 508	3
Materials Handling and Layout 404	5
Conference Leadership 406	3
Labor Management Relations 500	4
Arts and Ideas 222 or 224	4
General Studies II Elective	4
**Electives	9
	32

Spring or Summer	S.H.
Modern Industrial Practices 400	6

RECOMMENDED ELECTIVES

Introduction to Computers II 107	Electronic Data Proc. 555
Psychological Testing 381	Marketing 240
Industrial Psychology 540	Purchasing 358
Labor Problems 510	Salesmanship 370
Collective Bargaining 512	Fundamentals of Management 254
Labor and Government 514	

MECHANICAL ENGINEERING TECHNOLOGY

B.S. Degree

The Mechanical Engineering Technology Curriculum is intended for those who are interested in pursuing a program of applied engineering for such industrial areas as product development, production, supervision, and technical sales.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Mathematics I, II (122, 123)	8
Industrial Calculators 150	1
Machining Metals 151	3
Engineering Drafting 230	3
Descriptive Geometry 231	3
Metal Casting I 254	3
General Chemistry 100 or 102	4-6
Introduction to Computers 106	1
Physical Education or R.O.T.C.	2-4
	34-36

Second Year	S.H.
Physics 110, 111 or 210, 211	8
Western Civilization 100 or 101	4
Metallurgy 252	3
Statics 256	3
Production Tooling 250	3
Electromagnetic Devices 242	3
Machine Drafting 330	3
Electrical Circuits 240	3
Industrial Welding 251	2
Physical Education or R.O.T.C.	2-4
	34-36

*Substitution—Economics 201 and 202
**Business electives—6 hrs.

Third Year	S.H.
Thermodynamics 352	4
Arts and Ideas 222 or 224	4
*Social Science 202, 203 or 204	4
Mechanical Analysis 332	3
Strength of Materials 353	3
Testing of Materials 354	3
Fluid Mechanics 356	3
Control Systems 360	3
Electives	7
	34

Fourth Year	S.H.
Non-Western World 304	4
Metallurgy 351	3
Pressworking of Metals 350	3
Air Conditioning 450	3
General Studies II Elective	4
Heat Transfer 451	4
Electives	13
	34

RECOMMENDED ELECTIVES

Mathematics III, IV (222, 223)
General Chemistry 109
Programming for Computers 506
Production Drafting 331
Industrial Design 430
Product Engineering 550
Electronic Circuits 241
Labor Management Relations 500
Casting Design 574
Industrial Supervision 502
Industrial Safety 504
Die Casting 575
Metal Casting II 370
Welding Design Analysis 551
Production Control 306
Business and Professional Speech 104
Business Statistics 244
Marketing 240
Advertising 374
Accounting 215
Independent Research and Development 490

METALLURGICAL ENGINEERING TECHNOLOGY

B.S. Degree

The Metallurgical Engineering Technology curriculum is intended for those who are interested in pursuing a program of applied metallurgy, particularly in the areas of foundry and materials engineering involving product development, production, and supervision.

First Year	S.H.
Mathematics I, II (122, 123)	8
General Chemistry 100 or 102	4-6
Qualitative Analysis 120	4
College Writing 116	4
Freshman Reading 140	2
Engineering Drafting 230	3
Electrical Circuits 240	3
Industrial Calculators 150	1
Machining Metals 151	3
Physical Education or R.O.T.C.	2
	34

Second Year	S.H.
Physics 210, 211	8
Western Civilization 100 or 101	4
Metal Casting I 254	3
Statics 256	3
Industrial Welding 251	2
Metallurgy 252	3
Introduction to Computers 106	1
Thermodynamics 352	4
Arts and Ideas 222 or 224	4
Physical Education or R.O.T.C.	2
	34

*Substitution—Economics 201 and 202

Third Year	S.H.
*Social Science 202, 203 or 204	4
Strength of Materials 353	3
Testing of Materials 354	3
Physical Metallurgy I 372	4
Physical Metallurgy II 373	4
Control Systems 360	3
Industrial Supervision 502	3
Industrial Safety 504	2
Electives	8
	34

Fourth Year	S.H.
Metal Fabrication 570	3
Non-Western World 304	4
General Studies II Elective	4
Electives—Metallurgy and/or Foundry	12
Electives	11
	34

RECOMMENDED ELECTIVES

Metal Casting II 370
Casting Design 574
Die Casting 575
Welding Design Analysis 551
Production Tooling 250
Fluid Mechanics 356
Electronic Circuits 241
Production Control 306
Business Statistics 244
Quality Control 308
Labor Management Relations 500
Business and Professional Speech 104
X-Ray Diffraction 572
Physical Metallurgy III 573
Mathematics 222, 223, 360, 380
Physics 212, 342
Chemistry 222
Dynamics 355
Independent Research and Development 490

*Substitution—Economics 201 and 202

Home Economics

The Home Economics Department offers four-year programs leading to a B.S. degree for teachers, dietitians, and home economics for business personnel. A student who has a major in home economics and meets the requirements of the Department of Public Instruction for a certificate may teach home economics.

DIETETICS

B.S. Degree

A student completing a Bachelor of Science in Dietetics is eligible for a year's internship in a hospital, food clinic or industrial food service as approved by the American Dietetics Association.

The dietitian after the year of internship is eligible for positions in Hospitals as food administrator, therapeutic dietitian or teaching dietitian. She is also qualified for positions in commercial food establishments as restaurants, hotels, airlines, industrial feeding. Other areas open to her are school lunch, community nutrition positions and food service in the Armed Forces.

First Year	S.H.
Food Preparation and Meal Planning 114	5
Individual and Family Relationships 150	4
Chemistry 100 or 102, and 120	8-10
Western Civilization 100 or 101	4
College Writing 116	4
Freshman Reading 140	2
Physical Education	2
	29-30

Second Year	S.H.
Nutrition 210	3
Organic Chemistry 265	4
Textiles and Clothing 200, 201	5
Economics 200	5
Sociology 200	3
Psychology 200	3
General Biology 101	4
Arts and Ideas 222	4
Physical Education	2
	33

Third Year	S.H.
Housing and Home Furnishings 350	4
Quantity Foods 312	3
Human Physiology 219	4
Microbiology 412	4
Manpower Management 352	4
OR	
Fundamentals of Management 254	3
Non-Western World 304	4
Diet and Disease 410	2
Advanced Nutrition 510	3
Inter-Disciplinary Course	4
	31-32

Fourth Year	S.H.
Home Management and Clothing 304	4
Biochemistry 551	3
Home Economics Education 340	4
General Studies	6
Accounting 210	3
Advanced and Experimental Foods 518	4
OR	
Food Technology 514	2
Institutional Management 512	3
Electives	1-4
	29-31

HOME ECONOMICS IN BUSINESS

B.S. Degree

A student completing a Bachelor of Science degree in the Home Economics in Business Curriculum is eligible for positions in many types of business. Some of these are: retailing and buying of clothing and home furnishings, interior decorating, writing for a newspaper or magazine, designing and producing clothing, radio and television production, home service representative for a public utility, appliance and laundry product companies, for the testing of recipes and foods, and many others.

Recommended minors: Business, Retailing Art or Sociology (of 20 hours). In addition, the student may also complete the Education courses and receive a teaching certificate.

First Year	S.H.
Individual and Family Relationships 150	4
Food Preparation and Meal Planning 114	5
College Writing 116	4
Freshman Reading 140	2
Design 114	2
Textiles and Clothing 200, 201	5
Western Civilization 100 or 101	4
Physical Education	2
Electives	2
	30

Second Year	S.H.
Selection and Design of Clothing 304	3
Nutrition 210	3
Science	8-9
Man and Society 202	4
Human Growth 254	4
Arts and Ideas 222	4
Physical Education	2
	28-29

Third Year	S.H.
Housing and Home Furnishings 350	4
Home Economics Education 340	4
Electives (Minor)	14
Non-Western World 304	4
Inter-Disciplinary Course	4
	—
	30

Fourth Year	S.H.
Equipment and Demonstration Techniques 520	4
Home Management and Consumer Buying 352	4
Principles of Economics 200	5
Electives (Minor)	6
General Studies	6
Electives	9-10
	34-35

HOME ECONOMICS EDUCATION

B.S. Degree

Western Michigan University prepares students to qualify as teachers of vocational Home Economics in Michigan under the provisions of the State plan for vocational education. Courses are planned in the Department for a major in home economics and minor outside the curriculum. Provision is also made for meeting the requirements for a vocational certificate in Michigan. Only persons holding this certificate can teach in the reimbursed homemaking departments in Michigan public schools.

First Year	S.H.
Individual and Family Relationships 150	4
Food Preparation and Meal Planning 114	5
College Writing 116	4
Western Civilization 100 or 101	4
Design 114	2
Textiles and Clothing 200, 201	5
Freshman Reading 140	2
Physical Education	2
Electives	2
	—
	30

Second Year	S.H.
Selection and Design of Clothing 304	3
Nutrition 210	3
Science	8-9
Human Growth 254	4
Man and Society 202	4
Arts and Ideas 222	4
Physical Education	2
	28-29

Third Year	S.H.
Home Management and Consumer Buying 352	4
Housing and Home Furnishings 350	4
Home Management Residence 354	3
Home Economics Education 340	4
Non-Western World 304	4
Teaching and Learning in Junior-Senior High School 300	3
Electives	9
	31

Fourth Year	S.H.
Directed Teaching:	
School and Society 450	3
Seminar 410	2
Teaching 471	9
General Studies	10
Equipment and Demonstration Techniques 520	4
Electives	
	34-36

HOME ECONOMICS — GENERAL CURRICULUM

B.S. Degree

A student completing a Bachelor of Science degree in the Home Economics General Curriculum will take additional work in one of the major home economics areas. This curriculum is broad in scope and will prepare for many positions in business or be used as a base upon which advanced course work in a specialized area may be pursued.

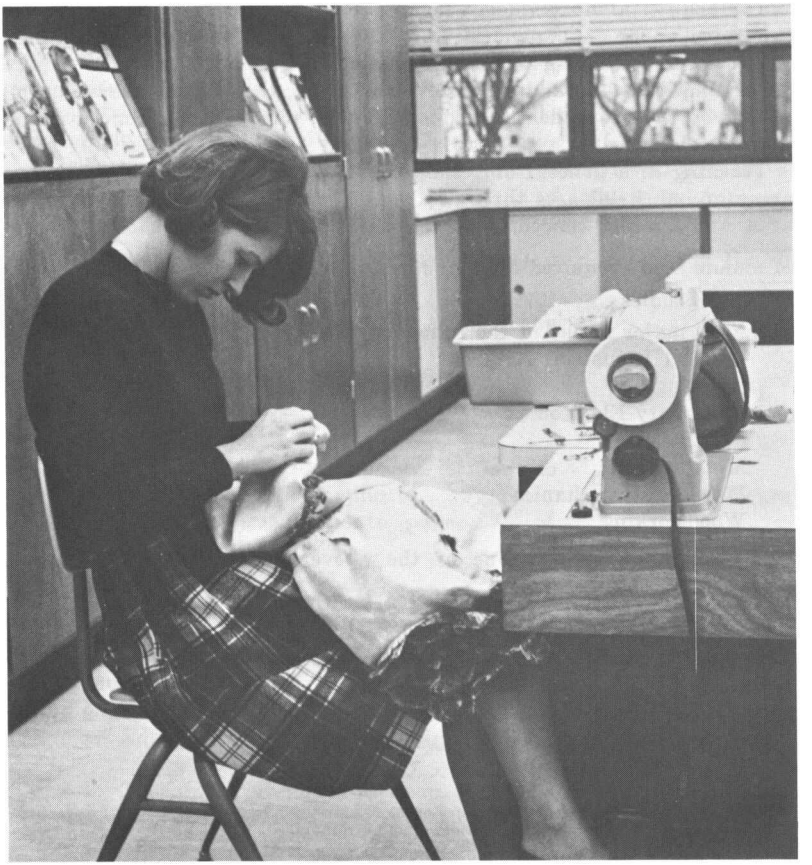
Recommended minors: Art, Sociology, Science.

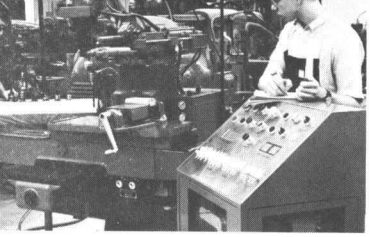
First Year	S.H.
Individual and Family Relationships 150	4
Food Preparation and Meal Planning 114	5
College Writing 116	4
Freshman Reading 140	2
Elementary Design 114	2
Textiles and Clothing 200, 201	5
Western Civilization 100 or 101	4
Physical Education	2
Electives	2
	30

Second Year	S.H.
Selection and Design of Clothing 304	3
Nutrition 210	3
Science	8-9
Man and Society 202	4
Human Growth 254	4
Arts and Ideas 222	4
Physical Education	2
	28-29

Third Year	S.H.
Home Management and Consumer Buying 352	4
Pattern Design and Tailoring 306	4
Housing and Home Furnishings 350	4
Non-Western World 304	4
Elective (Home Economics)	4
Electives (Minor)	10
	30

Fourth Year	S.H.
Equipment and Demonstration Techniques 520	4
Home Economics Education 340	4
Electives (Minor)	10
General Studies	10
Principles of Economics	5
	33





Industrial Education

These curricula meet the needs of students specializing in the fields of Industrial Arts, Printing Management, Vocational-Industrial Education, and Technical Education, providing a background to enter business, industry, or teaching.

Students enrolled in technical programs in community colleges can apply the technical courses to a major and minor in Industrial Education on approval of the departmental counselor.

INDUSTRIAL ARTS

B.S. Degree

The Industrial Arts student is prepared to teach in a comprehensive general shop or in a general unit shop at the junior or senior high school level. Teaching in a comprehensive general shop will require basic competence in, and an understanding of, the various areas encompassed by the broad field of industrial arts, plus a minor concentration in one technical area.

Teaching in a general unit shop requires superior competence in two areas of industrial arts through a major concentration in one technical area, and a minor concentration in one other technical area.

Minimum hours required for this curriculum		127 Hours
General Studies		40 Hours
Technical major in one of the following areas:*		30 Hours
General Industrial Arts		
Drawing		
Electricity-Electronics		
Graphic Arts		
Metalworking		
Power-Automechanics		
Woodworking		
Technical minor in any one of the above areas other than the major*		20 Hours
I. A. Electives		3 Hours
Mathematics		3 Hours
Education		21 Hours
Professional I. E. Courses		9 Hours
†140 American Industry	2 hrs.	
342 Course Construction	2 hrs.	

*Design 276, and Mech. and Cond. of Equip. 573 are required of all General Ind. Arts, Metalworking, and Woodworking majors and/or minors.

†Must be taken during first year on campus.

344 Teaching of Ind. Ed. ..... 3 hrs.
345 Plan & Orgn. of School Shop ..... 2 hrs.

Physical Education ..... 4 hours

VOCATIONAL-TECHNICAL EDUCATION

B.S. Degree

Western Michigan University has been approved by the State Board of Control of Vocational Education to prepare vocational industrial and technical teachers for the secondary and post-secondary schools. In order to be eligible for a vocational certificate, under Option I, the prospective teacher must have completed a B.S. degree, including required courses in education and in addition, (a) have completed three years of industrial experience in the shop area to be taught, or (b) if less than three years, pass a trade competency examination in the shop area to be taught. Each student, in consultation with his major adviser, will work out a fifty hour combined major and minor sequence of vocational-technical courses which will prepare him for teaching in the trade or industrial field of his choice. Twelve semester hours of credit may be earned through Coordinated Industry, course No. 300. Option II (Industrial Cooperative Education) is designed to prepare graduates as coordinators of vocational-industrial cooperative education programs in secondary schools. The technical education Option III will prepare a person for employment in the training divisions of industries, or as an instructor in a technical institute or community college.

A. Minimum hours required for this curriculum: .. 130 Hours

B. Course Requirements

1. General Studies Requirements (See Page 21.)
2. Mathematics ..... 8 Hours
3. Technical Major ..... 30 Hours
4. Technical Minor ..... 20 Hours
5. Vocational Education Option leading to Secondary Teaching Certificate ..... 30 Hours
   a. Education requirements page 201 of this catalog ..... 21 hrs.
   b. Course Construction 342 ..... 2 hrs.
   c. Teaching of Ind. Ed. 344 ..... 3 hrs.
   d. Plan & Org. of School Shop 345 ..... 2 hrs.
   e. Vocational-Technical Ed. 240 ..... 2 hrs.
6. Industrial Cooperative Education Option II Leading to Secondary Teaching Certificate ..... 30 Hours
   a. Education requirements page 201 of catalog ..... 21 hrs.
   b. Teaching Techniques in Coop. Ed. 572 .. 2 hrs.
   c. Coordination Techniques in Coop. Ed. 573 ..... 2 hrs.

d. Teaching of Ind. Ed. 344 ..... 3 hrs.
e. Vocational-Technical Ed. 240 ..... 2 hrs.

7. Teaching Education Option III (Without Teaching Certificate) ..... 30 Hours
   a. Vocational-Technical Ed. 240 ..... 2 hrs.
   b. Psychology ..... 3 hrs.
   c. Technical Ed. Methods 340 ..... 3 hrs.
   d. Conference Leadership 406 ..... 3 hrs.
   e. Industrial Supervision 502 ..... 3 hrs.
   f. Electives ..... 16 hrs.
8. Physical Education or R.O.T.C. ..... 4 Hours

C. Degree
Major consists of one or two options:
Vocational Industrial Education (Certificate)
Technical Education (Non-Certificate)

PRINTING MANAGEMENT CURRICULUM

B.S. Degree

A. Minimum hours required for this curriculum .. 124 Hours

B. Course Requirements
1. General Studies requirements as described on page 21 of the catalog must be met ..... 40 Hours
2. Printing Courses ..... 31 Hours
   Graphic Arts 150 ..... 3 hrs.
   Letterpress Presswork 152 ..... 3 hrs.
   Typographic Design 250 ..... 5 hrs.
   Machine Composition 254 ..... 4 hrs.
   Photolithographic Techniques 350 ..... 3 hrs.
   Lithographic Presswork 351 ..... 3 hrs.
   Advanced Presswork 450 ..... 3 hrs.
   Estimating 452 ..... 3 hrs.
   Printing Production Control 453 ..... 2 hrs.
   Electives ..... 6 hrs.
3. Industrial Supervision ..... 18 Hours
   Paper Industry Processes 550 ..... 3 hrs.
   Industry Safety 504 ..... 2 hrs.
   Industrial Supervision 502 ..... 3 hrs.
   Production Control 306 ..... 3 hrs.
   Motion & Time Study 304 ..... 5 hrs.
   Labor Mgmt. Relations 500 ..... 3 hrs.
4. Business ..... 15 Hours
   A selection of courses must be made from those suggested for the General Business minor on page 172 of the catalog.
5. Physical Education or Military Science ... 4 or 8 hours

C. Degree requirements must be met

Occupational Therapy

B.S. Degree

The curriculum is designed to prepare students to treat patients in various disability areas and to complete requirements established by the American Medical Asssociation in cooperation with the American Occupational Therapy Association. It includes a minimum of nine months of clinical affiliation in selected hospitals providing experience with patients with a wide range of physical and psychosocial dysfunction.

The student who wishes to prepare for the profession of Occupational Therapy must take the following steps:

1. He will declare his intention to follow the Occupational Therapy curriculum at the time of application to the University; or, if he decides to transfer at a later date, the change in curriculum must be made over the signature of the departmental counselor.

2. The student will apply for admission to clinical affiliation early in the semester in which he will have earned credits equal to 60 semester hours. Applications are made in the departmental office. To enroll for clinical affiliation the student must hold a point hour ratio of 2.00 or above with no grade less than a "C" in courses in the major or minor sequence or their prerequisites. In addition, the students shall receive satisfactory recommendations from departmental faculty as to physical and emotional health, academic and general competency.

   Transfer students with 60 or more credit hours or students holding Baccalaureate degrees will apply for clinical affiliations before the end of the first month in the curriculum.

The department may refuse to permit a student to continue in the curriculum if at any time it is deemed that physical or emotional disability will jeopardize his success professionally. Academically, no grade less than "C" will be accepted in courses in the major or minor sequences or their prerequisites.

Minimum hours required for this curriculum ... 130 Hours

1. General studies requirements as described on page 21 of the catalog must be met.

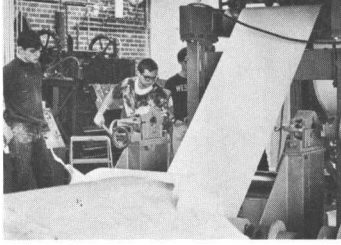
2. Science and Psychology: ..... 20 Hours

*Biology 101	3 hrs.
Mammalian Anatomy 210	4 hrs.
Human Physiology 219	4 hrs.
Psychology I 150	3 hrs.
Psychology II 160	3 hrs.
Behavior Modification I 250	3 hrs.

*Curricular biology courses substitute for one-half of General Studies Science requirement.

3.	Occupational Therapy		61 Hours
	O.T. Woodshop 198	3 hrs.	
	General Crafts 110	3 hrs.	
	**Occupational Therapy Orientation 130	1 hr.	
	Ceramics 203	3 hrs.	
	General Crafts 210	2 hrs.	
	Weaving 300	3 hrs.	
	Therapeutic Techniques 310	4 hrs.	
	Gross Human Anatomy and Neuroanatomy 321	5 hrs.	
	Psychiatric Conditions 322	3 hrs.	
	Clinical Neurology 323	3 hrs.	
	Growth, Development, and Aging 325	3 hrs.	
	Application in Physical Disabilities 332	5 hrs.	
	Clinical Affiliation 340	3 hrs.	
	Application in Psychiatry 342	5 hrs.	
	Organization for Patient Service 430	4 hrs.	
	Clinical Affiliation 440	3 hrs.	
	Clinical Affiliation 441	3 hrs.	
	Kinesiology 520	3 hrs.	
	Medical and Orthopedic Conditions 524	4 hrs.	
4.	Physical Education:		4 Hours
	Physical Education	4 hrs.	
5.	Electives:		15 Hours
	Electives	15 hrs.	
	***Independent Study in Occupational Therapy	2–4 hrs.	

**Not required but recommended for transfer and change of curriculum students.
***Consent of Department Head—Honors course.



Paper Technology

The department of Paper Technology offers a B.S. curriculum which provides extensive foundational scientific and technical training to prepare graduates for responsible employment in the research and development, technical-manufacturing, and sales areas of the paper, pulp, and related industries. The breadth and depth of the program is such that a significant number of graduates have progressed into management positions and about twenty percent have taken study toward graduate degrees.

The Paper Technology Curriculum consists of academic majors in paper technology and chemistry, in addition to significant offerings in mathematics, physics, and engineering. A total of 144 semester hours is required for graduation.

Industrial experience is provided through employment by paper or related companies for at least two out of the three summers, as well as through operation of the outstanding pilot plant papermaking and coating machines of the department.

Close cooperation with the paper industry is maintained through committees of the Paper Technology Foundation, Inc. An extensive scholarship program is made possible through the membership of the Foundation.

A B.S. and **major** in Paper Technology may be earned only by meeting all the requirements of the curriculum.

A **minor** in Paper Technology may be earned by completing the following 20 semester hours in the department: 100, 142, 320, 333, 341.

PAPER TECHNOLOGY CURRICULUM

B.S. Degree

FIRST YEAR

First Semester	S.H.	Second Semester	S.H.
Intro. Pulp & Paper Mfg. 100	3	Coating, Printing & Converting 142	3
Mathematics 1 122	4	Mathematics II 123	4
Gen. Chemistry 102	4	Qualitative Analysis 120	4
College Writing 116	4	Freshman Reading 140	2
Technical Drafting 132*	2	Western Civilization 100 or 101	4
	—	Phys. Ed. or R.O.T.C.	1-2
	17		18-19

Summer Mill Practice**

*May be waived if high school drafting was taken. Substitute technical elective in Junior or Senior year.

**Two summers of mill practice without credit will be required. Technical elective credit may be earned for one of the summers by writing a satisfactory report.

SECOND YEAR

First Semester	S.H.	Second Semester	S.H.
Physical Characteristics of Pulp, Paper & Fibers 320	4	Chemistry of Wood & Pulp 333	4
Mathematics III 222	4	Mathematics IV 223	4
Organic Chemistry 360	4	Organic Chemistry 361	4
Prin. of Economics 200	5	Phys. Ed. or R.O.T.C.	1-2
Phys. Ed. or R.O.T.C.	1-2	Arts & Ideas 222	4
	18-19		17-18

Summer Mill Practice*

THIRD YEAR

First Semester	S.H.	Second Semester	S.H.
Pulp Manufacture 340	4	Paper Manufacture 341	4
Quantitative Analysis 222	4	Effluent Control & Microbiology 451	2
Prin. Chem. Engineering 330	3	Prin. Chem. Engineering 331	3
Mechanics & Heat 210	4	Elect. Sound & Light 211	4
Current Topics in Paper & Pulp	0	Current Topics in Paper & Pulp	0
Phys. Ed. or R.O.T.C.	1-2	Statistical Methods for Ind. 360	4
**Elective, Technical	2-3		
	18-20		17

Summer Mill Practice 310, 2 S.H. (elective)*

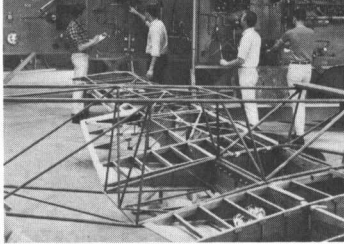
FOURTH YEAR

First Semester	S.H.	Second Semester	S.H.
Physical Chemistry 530	4	Physical Chemistry 531	4
Senior Thesis 470	2	Senior Thesis 471	2
Polymer Chemistry 530	2	Non-Western World 304	4
**Electives, Technical	7-8	***Elective, General Studies	7
Current Topics in Paper & Pulp 440	1	Current Topics in Paper & Pulp 440	1
Printing Processes 451	2		
	18-19		18

*Two summers of mill practice without credit will be required. Technical elective credit may be earned for one of the summers by writing a satisfactory report.

**Suggested electives are Programming for Computers, 506; Advanced Analyt. Chem. 520; Engineering Problems 580; Introd. Computers, 106, 107; Statics 256; Thermodynamics 352; Strength of Materials 353; Fluid Mechanics 356; Control Systems 360; Heat Transfer 451; Labor Management Relations 500; Industrial Supervision 502. Other technical electives must be approved by the Department Head.

***Must be Junior-Senior level courses as given in the General Studies section of the Catalog.



Transportation Technology

AUTOMOTIVE ENGINEERING TECHNOLOGY

B.S. Degree

The Automotive Engineering Technology Curriculum is designed to provide a combination of applied and theoretical sciences and practical skills to enable students to move rapidly into technical positions in the automotive fields. To help students achieve their employment objectives, two options are offered. Option I leads toward careers in automotive sales, service, supervision, and management. Option II is structured for positions in such areas as Manufacturing, Engineering, Production, Testing, and Service Engineering.

Minimum hours required for this curriculum ..... 136 hours

Course Requirements	S.H.	
1. General Studies		
Western Civilization 100 or 101	4	
College Writing 116	4	
Freshman Reading 140	2	
Arts and Ideas 222 or 224	4	
Non-Western World 304	4	
General Studies Jr.-Sr. Elective	4	
2. Automotive Courses		24 hours
Automotive Chassis 125	4	
Automotive Carburetion and Electricity 126	4	
Fuels and Lubricants 222	2	
Automotive Engines 226	4	
Automotive Service Management 322	2	
Automotive Testing 325	4	
Automotive Design Analysis 422	4	
3. Additional courses common to both options		17-20 hours
General Chemistry 100 or 102	4-6	
Introduction to Computers 106	1	
Technical Drafting 132 or Engineering Drafting 230	2-3	
Industrial Calculators 150	1	
Principles of Economics 200	5	
Physical Education or R.O.T.C.	4	
4. Major Option		74 hours

OPTION I MANAGEMENT AND SERVICE	S.H.	OPTION II PRODUCTION AND TESTING	S.H.
Mathematics 100, 200	8	Mathematics I, II (122, 123)	8
Business and Professional Speech 104	3	College Physics 210, 211 or 110, 111	8
General Physics 110	4	Machining Metals 151	3
Industrial Processes 152, 153	6	Electrical Circuits 240	3
Accounting 215	3	Electronic Circuits 241	3
Marketing 240	3	Electromagnetic Devices 242	3
Business Communication 242	3	Metallurgy 252	3
Business Statistics 244	3	Statics 256	3
Quality Control 308	3	Machine Design 330	3
Fundamentals of Managem't 254	3	Thermodynamics 352	4
Advertising 374	3	Strength of Materials 353	3
Conference Leadership 406	3	Testing of Materials 354	3
Industrial Supervision 502	3	Dynamics 355	3
Electives	26	Fluid Mechanics 356	3
		Electives	21

Adviser: Mr. Ellinger

AVIATION ENGINEERING TECHNOLOGY

B.S. Degree

The Aviation Engineering Curriculum provides two options—Management and Transportation, Production and Testing. The Management and Transportation Option is intended for those who are interested in the business aspects of aviation. The Production and Testing Option is primarily for those who wish to be associated with the manufacturing or engineering phases of aeronautics. Both Options permit students to qualify for the F.A.A. Airframes and Powerplant certificate.

Minimum hours required for this curriculum ..... 136 hours

Course Requirements	S.H.	
1. General Studies		
Western Civilization 100 or 101	4	
College Writing 116	4	
Freshman Reading 140	2	
Arts and Ideas 222 or 224	4	
Non-Western World 304	4	
General Studies Jr.-Sr. Elective	4	
2. Aviation Courses		23 hours
Introduction to Aviation 110	3	
Powerplants 112, 212, 215	12	
Airframes 113, 216	8	

3. Additional Courses Common to Both Options ..... 23-25 hours

General Chemistry 100 or 102	4-6
Introduction to Computers 106	1
Industrial Calculators 150	1
Technical Drafting 132 or Engineering Drafting 230	2-3
Principles of Economics 200	5
Electrical Circuits 240	3
Metallurgy 252	3
Physical Education or R.O.T.C.	4

4. Major Option ..... 68 hours

OPTION I

MANAGEMENT AND TRANSPORTATION

Mathematics 100, 200	8
General Physics 110	4
Accounting 215	3
Industrial Processes 152, 153	6
Marketing 240	3
Business Statistics 244	3
Fundamentals of Managem't 254	3
Quality Control 308	3
Production Control 306	3
Industrial Supervision 502	3
Electives	29

OPTION II

PRODUCTION AND TESTING

Mathematics I, II (122, 123)	8
Physics 110, 111, or 210, 211	8
Machining of Metals 151	3
Static 256	3
Dynamics 355	3
Strength of Materials 353	2
Testing of Materials 354	3
Thermodynamics 352	4
Fluid Mechanics 356	3
Machine Design 330	3
Electronic Circuits 241	3
Electromagnetic Devices 242	3
Electives	22

Students desiring to qualify for the FAA Airframes and Powerplant licenses must complete:

Aircraft Servicing 218	4	FAA Regulations 219	2
Aircraft Welding 214	2	Fuels and Lubrication 222	2

Adviser: Mr. VanDeventer

II. TWO YEAR CURRICULA

Distributive Education

FOOD DISTRIBUTION

This curriculum is designed to prepare students for management positions in the food industry. Emphasis is placed on merchandising, operations and supervision. Graduates will be prepared to assume management positions in the food distribution industry.

The curriculum is a cooperative work-study program which combines school and work on an alternating basis. The students are assigned in pairs to cover one job or work area. When one student is attending classes, the other is at work on the job.

CERTIFICATE

A.	Minimum hours required for this curriculum		64 Hours
B.	Course Requirements		
	1. General Studies		14 Hours
	College Writing 116	4	
	Freshman Reading 140	2	
	Early Western Civilization 100 or alternatives	4	
	Man and Society 202 or alternatives	4	
	2. Language and Literature, Speech and Philosophy and Religion		3 Hours
	Business and Professional Speech 104	3	
	3. Science, Mathematics and Psychology		3 Hours
	Psychology I 150	3	
	4. Social Science		5 Hours
	Principles of Economics 200	5	
	5. Applied Arts and Sciences—Food Distribution		25 Hours
	Super Market Industry 130	3	
	Super Market Merchandising 132	4	
	Super Market Supervision 231	4	
	Super Market Operations 232	4	
	Industry Survey 109	2	
	*Super Market Foods 116	2	
	Coordinated Distribution Practices 202	6	
	Food Forum	0	
	6. Business		6 Hours
	Accounting 210	3	
	Marketing 240	3	

*Home Economics Dept.

7. Physical Education ..... 2 Hours
8. Electives ..... 6 Hours

PETROLEUM DISTRIBUTION

This curriculum is designed to prepare students in distribution methods and techniques used by the petroleum industry. Graduates will be prepared to sell, transport and otherwise work in the marketing and distribution of petroleum products to and through bulk plants and terminals to dealers and jobbers and other distributors, as well as to industrial and agricultural users.

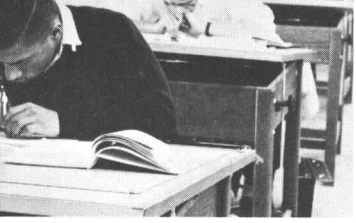
The petroleum curriculum is a cooperative work-study program which combines school and work internship.

CERTIFICATE

A. Minimum hours required for this curriculum ..... 64 Hours

B. Course Requirements

1. General Studies ..... 22 Hours
   - College Writing 116 4
   - Freshman Reading 140 2
   - Early Western Civilization 100 or alternative 4
   - Physical Science 108 4
   - Man and Society 202 or alternatives 4
   - Arts and Ideas 222 or alternatives 4
2. Language and Literature, Speech and Philosophy and Religion ..... 3 Hours
   - Business and Professional Speech 104 3
3. Science, Mathematics and Psychology ..... 3 Hours
   - Applied (Petroleum) Chemistry 107 3
4. Social Science ..... 5 Hours
   - Principles of Economics 200 5
7. Applied Arts and Sciences—Petroleum ..... 18 Hours
   - Introduction to Petroleum Industry 120 3
   - Properties and Application of Petroleum Products 220 3
   - Service Station Supervision 230 4
   - Industry Survey 109 2
   - Coordinated Distribution Practices 202 6
8. Business ..... 6 Hours
   - Accounting 210 3
   - Accounting 211 3
9. Physical Education ..... 2 Hours
10. Electives ..... 5 Hours



Engineering and Technology

DRAFTING AND DESIGN TECHNOLOGY

This curriculum is designed specifically to prepare men and women for positions in the field of Industrial Drafting and Design. All practical work experience in layout, detailing and design is in accordance with standard practices recommended by the U.S. Department of Defense, American Society of Mechanical Engineers, the Society of Automotive Engineers and other recognized standardizing agencies.

First Year	S.H.	Second Year	S.H.
College Writing 116	4	Freshman Reading 140	2
Mathematics 100	4	Machine Drafting 330	3
General Chemistry 100 or 102	4-6	Production Drafting 331	4
General Physics 110	4	Metallurgy 252	3
Industrial Processes 152, 153	6	Electrical Circuits 240	3
Engineering Drafting 230	3	Electromagnetic Devices 242	3
Descriptive Geometry 231	3	Production Tooling 250	3
Industrial Calculators 150	1	Survey of Office Machine 246	2
Physical Education	2	Technical Electives	8
	31-33		31

ELECTRONICS TECHNOLOGY

This curriculum is offered to students who want to prepare themselves for gainful employment as electronics technicians. Training is given in the skills necessary to install, maintain, and operate electrical and electronic equipment. Information necessary for classification, distribution testing and production of components is presented. Students taking Electronic Technology are prepared for electrical and electronics positions in Industry, Business and Government. Provisions can be made for qualifying for Federal Communication Commission licenses.

First Year	S.H.	Second Year	S.H.
College Writing 116	4	Physics 110 or 210	4
Freshman Reading 140	2	General Chemistry 100 or 102	4-6
Mathematics 122, 123	8	Machine Drawing 330	3
Industrial Calculators 150	1	Introduction to Computers 106	1
Technical Drafting 132 or		Supervision and Safety 302	4
Engineering Drafting 230	2	Electronic Circuits 241	3
Industrial Processes 152	3	Electronic Devices 340	5
Machining Metals 151	3	Industrial Electronics 341	4
Electrical Circuits 240	3	Electives	3
Electromagnetic Devices 242	3		31-33
Physical Education	2		
	31		

Transportation Technology

AIRCRAFT TECHNOLOGY

FAA Approved Technical School No. 3304
FAA Approved Airman Agency No. CE-08-1

The Aircraft Technology curriculum is intended for students who wish to qualify for the Federal Aviation Agency Airframe and Powerplant License. Students completing this curriculum will be prepared to enter maintenance and supervisory positions in the aviation industry.

Minimum hours required for this curriculum ..... 70 hours

Course Requirements

1. General Studies ..... 20-22 hours

	S.H.
Mathematics 100	4
General Chemistry 100 or 102	4-6
General Physics 110	4
College Writing 116	4
Freshman Reading 140	2
Physical Education	2

2. Technical Courses ..... 50 hours

Introduction to Aviation 110	3
Powerplants 112, 212, 215	12
Airframes 113, 216	8
Technical Drafting 132	2
Industrial Processes 152, 153	6
Aircraft Welding 214	2
Aircraft Servicing 218	5
FAA Maintenance Regulations 219	2
Fuels and Lubricants 222	2
Electrical Circuits 240	3
Metallurgy 252	3
Technical Elective*	2

*Recommended Elective - Pilot Training 310

Adviser: Mr. VanDeventer

III. DESCRIPTION OF COURSES

George Kohrman, Dean Elmer Brune Gordon O. Johnson

300 Coordinated Industry **3 hrs. Fall, Spring, Summer**

A cooperative education program involves a full-time planned and supervised work experience in industry during the semester or the equivalent on a part-time basis. A written report of the student's activities will be required. May be elected four semesters for a maximum of twelve semester hours credit. Prerequisite: Consent of instructor.

520 Principles of Practical Arts and Vocational Education
3 hrs. Summer, Fall

The place and function of the practical arts and vocational education in the modern school; fundamental principles upon which this work is based. For teachers of agriculture, business, home economics, industrial subjects and administrators. For upperclassmen and graduate students.

Agriculture

Lee O. Baker, Head Norbert L. Noecker

The Department of Agriculture recognizes the following responsibilities:

To provide opportunities to learn more about the important role of agriculture in the economy of the nation; basic training for workers in services sponsored by government or farmer group organizations; basic training for students planning to enter employment in the many agriculturally related industries servicing agriculture; technical information in the production of agricultural commodities needed by farm families dependent on sales of farm products; and to prepare teachers of agriculture for public secondary schools and to provide basic courses in agriculture for all teachers.

100 Agriculture Science **3 hrs.**

A broad perspective of the field of Agriculture and an overview of the entire Agricultural society is presented so that students may obtain some idea of Agriculture's place today in our economy.

It is a survey type of course with many different fields being explored. We will examine the historical development of agriculture, and consider the various problems pertaining to agricultural production and farm management. We will explore opportunities in the many agriculturally related fields.

110 Animal Industry **5 hrs.**

The fundamental problems and essential general concepts of livestock production and marketing in the United States are studied. It is an introduction to types, breeds, selection, feeding and management of dairy cattle, beef cattle, and sheep.

111 Animal Industry **3 hrs.**

A continuation of 110 with swine, horses, and poultry being considered.

220 Agronomy **5 hrs.**

A study of the field of plant science with consideration given to the many applications of plant morphology, physiology, nutrition, pathology, genetics, and ecology as they relate to farm practice.

222 Principles of Horticulture **4 hrs.**

A basic course which will provide students with the opportunity to learn the skills and practices of modern horticulture. The scope of study includes: fruits, vegetables, turf, flowers, ornamental trees, plant propagation and nursery culture.

310 Feeding and Animal Nutrition **4 hrs.**

A study of the recent advances and the most important facts concerning the nutrition, feeding, care and management of the various classes of farm animals.

320 Introduction to Soils **4 hrs.**

A course designed to give the student an opportunity of becoming familiar with soils as natural units or entities and with their inherent characteristics; to develop in the student an understanding of the significance of fundamental soil properties; to set forth basic relationships between soils and plants; and last, to develop an understanding of the principles involved in the practical use and conservation of the soil.

322 Landscape Gardening **3 hrs.**

A course where students become involved in the initial stage of planning through the final planting of property for use and attractiveness. It includes such topics as the care and planting of trees and shrubs, lawn establishment and care, identification and selection of planting materials, and design.

323 Landscape Design **3 hrs.**

Emphasis in this course will be placed on the environmental approach to landscaping. This concept considers the relationship between a house and its lot and consequently their relationship to the neighborhood, the community, and ultimately the whole region.

324 Land Use and Soil Conservation **3 hrs.**

A study of the utilization of land by man and ways and means of promoting better use of various land types, including recommended practices for conservation of the productivity of our lands.

330 Farm Organizations and Management **5 hrs.**

The role of the many farm organizations and their influence on today's agriculture. Basic principles of production, economics, and general problems in over all farm management are also studied.

332 Agriculture Marketing and Finance **4 hrs.**

This course will deal with more specific organized marketing facilities for farm products, using the existing facilities in Southwest Michigan, covering grains, fruits, livestock, and vegetable markets. How farming enterprises are financed and their relations to local sources of credit is included.

400 Independent Study **2 hrs.**

Qualified students may pursue a specific area of study on an individual basis depending upon background and need. (May be taken twice for credit.)

520 Soil Science **2 hrs.**

Treats soil as an organic resource. Soil formation, composition and classification are related to various physical, chemical and biological factors in the environment. Consideration is given to soil fertility, water retention and runoff, plant growth and land use as they are affected by these factors.

Distributive Education

Adrian Trimpe, Head Lawrence A. Williams William O. Haynes
Raymond A. Dannenberg Wendall B. Fidler Richard Neschich

The Department provides a variety of educational programs and services for individuals who are interested in the field of distribution in schools and business.

WORK-STUDY PROGRAMS

The Department has two cooperative programs, one in Petroleum Distribution and the other in Food Distribution. These programs are jointly sponsored with the industries. The students in petroleum and food programs can earn a certificate in two years or complete a four-year program with a Bachelor of Science degree.

COOPERATIVE OCCUPATIONAL EDUCATION

The Department has a degree program for individuals interested in preparing as teacher-coordinators of cooperative education programs and project method programs and teachers of preparatory and vocational-technical subjects.

SERVICES

The Department provides secondary schools having cooperative educational programs with consultative services and has available related instructional materials for classroom use.

The Department also assists schools and businesses in planning and conducting Adult Education Programs, Workshops, Conferences and Institutes.

Four Year Curricula—B.S. Degree

Cooperative Occupational Education

Two Year Curricula—Certificate

1. Food Distribution
2. Petroleum Distribution

A major can be earned only by being enrolled in one of the curricula offered by the department.

A minor may be secured upon the approval of the departmental adviser.

After completing a certificate program, a student may transfer into a degree program upon the recommendation of the counselor.

DEPARTMENTAL COURSES

109 Industry Survey **2 hrs.**

Inspection trips are made to representative businesses and industrial establishments to observe such functions as production, transportation, storage, research and marketing. Company representatives will lecture to the class on the phases listed. Written reports are to be made of the visits, and a fee of $20.00 for transportation is required from each student.

202 Coordinated Distribution Practices **3 hrs.**

The student will be employed as a trainee in a work situation for an entire term under the supervision of the University and the participating company. Written reports will be required and a performance appraisal of the trainee will be made by the employer. Students may elect two units for a total of six semester hours.

302 Coordinated Distribution Practices **3 hrs.**

This is an advanced course in supervised work experience under the supervision of the University and the participating company. Written reports will be required and a performance appraisal of the trainee will be made by the employer. Students may elect two units for a total of six semester hours.

500 Seminar in Distributive Education **2-4 hrs.**

An intensive study of problems related to distribution and education for distribution. This seminar is especially recommended for seniors and graduates in the distributive education department.

598 Readings in Distributive Education **1-3 hrs.**

Directed, individual study of topics and areas of interest which are not otherwise treated in departmental courses. Consent of Department Head.

FOOD

130 The Super Market Industry **3 hrs.**

An introductory course for those entering the field of food distribution. A study of the super market, its history, evolution, and structure with emphasis on the growing importance of the store unit will be analyzed. Basic principles and practices of the industry will be considered.

132 Super Market Merchandising **4 hrs.**

A course designed to acquaint the student with the various merchandising techniques peculiar to the super market. Receiving emphasis will be buying, display, promotion, turnover, pricing for profit, and increasing departmental sales. The over all objective will be to develop a "merchandising character" in the students. Resource people from the industry will be utilized to support classroom activities.

231 Super Market Supervision **4 hrs.**

A course designed for providing techniques in supervising and developing people in the food industry. Attention will be directed toward organization principles, labor relations, understanding people, communication, coaching, and building a store team. Leadership concepts so necessary in the industry will be stressed. Periodic lectures from industry resource people will support classroom instruction.

232 Super Market Operations **4 hrs.**

Super Market Operations is a study of the principles and methods used in the operation of a super market with regard to organization, planning and control. The over-all objective will be to develop an attitude and ideal in the students for efficient store operation. Resource people from the super market industry will appear in the classroom to support the instructional program.

331 Food Distribution Managerial Processes **3 hrs.**

A study of advanced techniques in the development of food distribution personnel. Emphasis will be placed on job understanding, career dynamics, performance review, performance interview, behavior principles, and career discussions including appraising promotability. Time will be allowed for classroom practice of these techniques using role-playing procedures. Prerequisite: Super Market Supervision 231.

PETROLEUM

120 Introduction to Petroleum Industry **3 hrs.**

A basic course in the study of the petroleum industry dealing with its history, exploration, drilling, production refining, distribution, service

station records and sales, and general economics and structure of the industry. The course includes the orientation necessary for the student to understand the cooperative work program and the student's responsibility to such a program.

220 Properties and Application of Petroleum Products **3 hrs.**

A comprehensive study of the properties of petroleum products such as fuels, lubricants, greases, naphthas, waxes, pesticides and petroleum chemicals. The application and uses of these products in manufacturing, transportation, agriculture and the individual consumer are covered.

230 Service Station Supervision **4 hrs.**

The responsibilities and activities of the petroleum company salesman and supervision as they relate to retail establishment are dealt with. Such items as merchandising policies, advertising, inventory, product knowledge, plant layout, location, equipment and selling to the consumer are covered.

327 Petroleum Distribution Finance **3 hrs.**

A course dealing with service station dealer finance counseling. An understanding of general finance of petroleum businesses, including retail outlets, jobber operations and major oil companies. Such topics as service station financing by major petroleum companies and jobbers, securing capital, interest, insurance and analysis of profit and loss statements are discussed. It also deals with principles of credit, and collections as it relates to the petroleum industry.

380 Distribution and Handling of Petroleum Products **3 hrs.**

A course covering the wholesale and retail distribution channels used by major and independent companies. The transportation and handling of petroleum products from the oil field to the retail outlet. The analysis of a sales territory and the selection of a service station site.

COOPERATIVE OCCUPATIONAL EDUCATION

570 Organization and Operation of Distributive Education **2 hrs.**

Deals with the organization and operation of distributive education in relation to the total educational program. It is concerned with preparatory, cooperative, and adult programs. Consideration is given to advisory committees and local, state and federal relationships.

571 Job Supervisory Training **2 hrs.**

This course provides for mastery of the techniques and skills used in supervision of employees. It deals with conference leading, how to train, how to develop the skills of leadership and the corrective interview. This training is useful for vocational teachers and those preparing for supervisory positions.

572 Teaching Techniques in Cooperative Education **2 hrs.**

This course deals with the methods and techniques used in teaching the related subjects to students on cooperative work-study programs. Special emphasis will be given to group and individual methods of instruction.

573 Coordination Techniques in Cooperative Education **2 hrs.**

This is a study of duties and responsibilities of the coordinator. The organization and establishment of training programs, supervision of trainees on the job, development of individual training programs, establishing working relationships between the school, business, and home; and participation in extra-curricular activities in the community. Especially adapted to prospective coordinators.

Engineering and Technology

Roger Bennett
Henry J. Beukema
Donald Black
Robert Boughner
Elmer J. Brune
Michael Carroll
Robert B. Day
Charles Davis
Roscoe Douglas
Joseph Gill
Roy Groulx
Jack Haynes
Cassius Hesselberth
G. Stewart Johnson
Dale King
Roy Klein
Don W. Nantz
John Patton
Arden Pridgeon
Leo S. Rayl
L. D. Ryan
William Schrieber
Frank Scott
William Stiefel
Roger Urich
Roger Wallace
Booth Watmough
William Weeks
William Wichers
Glade Wilcox
Charles Yunghans

The various degree curricula offered by the Department of Engineering and Technology are designed primarily to prepare product and manufacturing oriented engineering personnel for industry. The programs provide extensive laboratory experiences where students are required to apply engineering principles to such industrial functions as product design and improvement, production planning and control, production, manufacturing engineering, and plant engineering. The following curricula are currently offered:

Four Year Curricula—B.S. Degree

1. Electrical Engineering Technology
2. Industrial Engineering
3. Industrial Supervision
4. Mechanical Engineering Technology
5. Metallurgical Engineering Technology

Two Year Curricula—Certificate

1. Drafting and Design Technology
2. Electronics Technology

A major can be earned only by being enrolled in one of the curricula offered by the department.

A minor may be secured upon the approval of the departmental advisor and by completing 15 to 20 semester hours of work, depending upon the area of specialization. No minor will be given in industrial supervision.

After completing a two-year program, a student may transfer into a degree technical program upon the recommendation of the counselor.

Cooperative Education in Engineering and Technology

Students enrolled in any Engineering and Technology degree curriculum may pursue a cooperative plan of education whereby one semester is spent in industry followed by one semester of study on the campus. Only students of junior standing having a minimum scholastic average of 2.5 are eligible.

Students are usually selected in pairs and alternate by semester between campus and industry. While on the job, the student is enrolled in the course "Coordinated Industry 300" and is paid an appropriate salary by the company.

Cooperative students work in such areas as manufacturing, assembly, research, design, quality control, and safety. They may perform tests, prepare engineering drawings, collect and record data, design tools and fixtures, and assist in supervision. The student's cooperative program is closely supervised by a University Coordinator.

DRAFTING

132 Technical Drafting **2 hrs. Fall, Winter**

A condensed course covering the basic principles and techniques of engineering drafting and its relationship to industrial manufacturing processes. Open only to students having had no drafting in high school.

230 Engineering Drafting **3 hrs. Fall, Winter**

The essentials of drafting—lettering, instrument usage, applied geometry, freehand sketching, orthographic projections, auxiliaries and sections, dimensioning practice, detail and assembly drawing, conventions and standard drafting practices. Pictorial drawing and presentation of engineering data through the media of charts and graphs is also included. Prerequisite: ET 132 or equivalent.

231 Descriptive Geometry **3 hrs. Fall, Winter**

The development of clear and accurate space concepts through the medium of a comprehensive study of points, lines, planes and solids in all possible relative positions, measurements of distances and angles, intersections, true sizes and shapes of plane areas and development of curved surfaces. Emphasis is placed on analytical procedures and the importance of accuracy and systematic notation in graphical solutions. Prerequisite: ET 230.

330 Machine Drafting **3 hrs. Fall, Winter**

This course is an intensive treatment of the elements of machine design. Specific problems are undertaken in the design of gears, cams, linkages, springs, etc., as well as the fabrication of other machine components. Emphasis is placed on the use of standard and purchased parts in manufacturer's and supplier's catalogs. Standard engineering department practices are followed throughout. The use and maintenance of modern print-making equipment is also included. Prerequisite: ET 230.

331 Production Drafting **4 hrs. Fall**

A study of drafting for industrial production and the design and development of the necessary tooling for mass-produced products. Illustrative techniques involving drawings for catalogs, sales and service manuals, etc., will also be included. Prerequisite: ET 330.

430 Industrial Design **3 hrs. Winter**

A course in design and development of manufacturing products through a study of basic elements of industrial design. Models, mock-ups, prototypes, etc., will be constructed of students' designs. Prerequisite: ET 230.

552 Technical Illustrations **3 hrs. Spring**

A course involving the techniques of illustrating for technical publications such as engineering reports, technical and service manuals, parts catalogs, etc.

553 Industrial Drafting Practice **2 hrs. Summer**

A course dealing with the organization, administration, and procedures and methods involving personnel, planning, equipping, and systematizing an industrial drafting department. Prerequisite: ENT 331 or equivalent.

ELECTRICAL

240 Electrical Circuits **3 hrs. Fall, Winter**

Analysis of direct and alternating current circuits using Ohm's Law, Kirchhoff's Laws, mesh and nodal analysis, superposition, Thevenin's Theorem, Norton's Theorem and other network theorems and equations. Phasors, expressed as complex numbers in both polar and rectangular form, as well as periodic functions are used in analyzing steady-state alternating current circuits. Magnetic circuits are also covered.

241 Electronic Circuits **3 hrs. Fall, Winter**

An introduction to analysis and design of electronic devices, circuits, and system. Covers rectification, large and small signal amplification, oscillators, switching and shaping circuits using tubes, semi-conductors and integrated circuits. Includes an introduction to equivalent circuits using z, y, and h parameters. Prerequisite: ET 240.

242 Electromagnetic Devices **3 hrs. Fall, Winter**

Analysis, design and construction of electro-magnetic circuits and devices such as transformers, motors, generators and controls. Alternating and direct current circuit analysis techniques are used extensively. Prerequisite: ET 240.

340 Electronic Devices **4 hrs. Fall, Winter**

Analysis, design, and construction of modern electronics circuits with emphasis on the use of solid-state devices and integrated circuits. Prerequisites: ET 241 and ET 242.

341 Industrial Electronics **4 hrs. Fall, Winter**

Analysis and design of industrial electronic systems. Includes power sources, motor control, timing and sequencing. Emphasis is on the application of solid-state devices. Also includes laboratory analysis of industrial equipment. Prerequisites: ET 340 and ET 242.

440 Measurements and Instrumentation **4 hrs. Fall**

Theory, calibration, and application of electronic instruments which are used in the measurement of electrical, magnetic, and nonelectrical quantities. Students design, construct, and standardize electronic instruments used in both measurement and control. Prerequisite: ET 340.

441 Communication Electronics **4 hrs. Winter**

The analysis and design of communication circuits and systems. Includes FCC standards and practices, receivers, transmitters, transmission lines, and antenna systems. Prerequisite: ET 340.

442 Servomechanisms **4 hrs. Winter**

The analysis and synthesis of linear feedback systems by the use of LaPlace transforms, Bode diagrams, Nyguists plots, Nicholas charts, and Root-Locus plots. Includes an introduction to the analysis of nonlinear servo systems. Laboratory work involves the use of analog computer. Prerequisites: ET 340, ET 360 or ET 556 or ET 542.

541 Electric Fields **3 hrs. Fall**

A course in electrostatics covering such topics as Goulomb's Law, Gaus' Law, Maxwell's Equations, Laplace's and Poisson's Equations, Faraday's Law, Stoke's Theorem, Ampere's Law. Use is made of Vector calculus in rectangular, cylindrical and spherical coordinates. Prerequisite: Math 223 or consent of instructor.

542 Advanced Circuits **3 hrs. Winter**

A course in advanced circuit analysis covering both steady-state and transient responses, writing and solving integro-differential equations by classical methods and by Laplace transforms, network theorems, Fourier series analysis, complex frequency, poles and zeroes. Prerequisites: Math 123, ET 240 or consent of instructor.

545 Electrical Power Systems **3 hrs. Spring**

Economic and engineering considerations concerning power plants, generating equipment, transmission and distribution systems, switch gear and industrial power distribution. Prerequisite: consent of instructor.

MECHANICAL

150 Industrial Calculators **1 hr. Fall, Winter**

A course designed to give students an opportunity to acquire proficiency in the use and application of the slide rule.

151 Machining Metals **3 hrs. Fall, Winter**

This course provides theory and laboratory experiences in layout procedures, common measuring techniques, standard inspection methods, and machine tool processes.

152 Industrial Processes **3 hrs. Fall, Winter**

A course designed to give students laboratory experiences and technical knowledge of tools, machines, and processes used to join and test the mechanical properties of such metals as galvanized iron, stainless steel, aluminum, and plastics. Joining processes include oxyacetylene, arc, inert-gas-shielded arc, spot welding, soldering, and riveting.

153 Industrial Processes **3 hrs. Fall, Winter**

Theory and laboratory experiences dealing with the processes used to machine, shape, cast, and finish metals. Machining processes include turning, shaping, milling, grinding, drilling, reaming, and threading. Metal casting involves molding and coremaking techniques, and laboratory testing methods.

250 Production Tooling **3 hrs. Fall, Winter**

Practical problems are assigned in the machining of various metals using production and numerical control equipment. Special attention is given to cutting forces, tool life, power, chip formation, cutting fluids, tool shapes, speeds, feeds, and precision inspection methods. Prerequisite: ET 151 or ET 153.

251 Industrial Welding **2 hrs. Fall, Winter**

This course involves a study of the techniques and processes used to fabricate metal products by welding. Laboratory experiences will include oxyacetylene, metallic-arc, gas shielded-arc (Mig, Tig), and other special welding processes.

256 Statics **3 hrs. Fall, Winter**

Mathematical and graphic techniques for ascertaining the magnitude of forces acting on structural bodies under static loads. Included will be concepts of vectors, moments and couples, resultants and equilibrium of general force systems, free body analysis, and a study of beams, friction, and elementary structures. Prerequisite: Math. 123.

300 Coordinated Industry **3 hrs. Fall, Winter**

A course designed for students pursuing a cooperative education program, involving a full semester of supervised work experience in industry. A written report of the student's activities will be required. May be elected four semesters for a maximum of twelve semester hours credit. Prerequisite: Consent of Coordinator.

332 Mechanism Analysis **3 hrs. Winter**

Analysis of displacement, velocity, and acceleration in mechanisms by analytical and graphical methods. Prerequisite: ET 256.

350 Pressworking of Metals **3 hrs. Fall, Winter**

Standard pressworking methods are analyzed in the construction and use of dies for blanking, shaving, bending, forming and stamping metals in standard power presses and brakes. Prerequisite: ET 151 or ET 153.

352 Thermodynamics **4 hrs. Fall, Winter**

A comprehensive course dealing with the fundamental laws of thermodynamics, including gas and vapor processes, both non-flow and steady-flow, and thermo-dynamic cycles. Study is made of pressure-volume, temperature-entropy, temperature-enthalopy relationships, steam table, psychometric charts, and atmospheric air. Prerequisite: Math 123.

353 Strength of Materials **3 hrs. Fall, Winter**

This course deals with compression, tension, shear, torsion, and bending forces in structural members, including distribution of stress, deflections, buckling, and fatigue on engineering materials. Prerequisite: ET 256.

354 Testing of Materials **3 hrs. Fall, Winter**

A study of the principles and methods of destructive and non-destructive testing for determining the mechanical properties of materials. Included will be the planning of test procedures, interpretation of test results and report writing. Prerequisite: ET 353.

355 Dynamics **3 hrs. Fall, Winter**

A course dealing with the kinematics of rectilinear and curvilinear motion. Included will be a study of rigid bodies in plane motion and about a fixed axis as well as a study of relative motion and moments of inertia. Prerequisite: ET 256 and Math 123.

356 Fluid Mechanics **3 hrs. Fall, Winter**

A study of static fluids, manometers, and hydrostatic pressure on plane and curved surfaces. Also included is the flow of fluids based on Bernoulli's theorem, flow through orifices, flow in pipe system, and flow in open channels. Prerequisite: ET 256.

360 Control Systems **3 hrs. Fall, Winter**

Theory and analysis of linear closed-loop control systems containing electronic, electro-magnetic, and mechanical components. Prerequisite: ET 240 and ET 256.

450 Air Conditioning **3 hrs. Fall, Winter**

Theory and application of the conditioning of air including air purification, humidity control, temperature control for both heating and refrigeration, distribution of air, and ventilation. Prerequisite: ET 352.

451 Heat Transfer **4 hrs. Fall, Winter**

A study of the processes of heat transfer including steady state and transient conduction, emissivity, radiation functions, radiation networks, natural and forced convection, and design of heat exchangers. Prerequisite: ET 352.

490 Independent Research and Development **1-4 hrs. Fall, Winter**

Designed for qualified undergraduate students who wish to pursue individual research or a special project in engineering technology. Open only to juniors and seniors having the approval of the department head and the faculty member under whom the student will work.

550 Product Engineering **3 hrs. Winter**

An analysis and evaluation of the engineering elements involved in the designing, testing, production, and economics of a product. Prerequisite: ET 230, ET 353.

551 Welding Design Analysis **3 hrs. Winter**

Modern techniques of electron beam welding, inertia welding, application of the laser for welding, use of various protective enclosures, plasma arc welding, automated electronic welding and weld testing are studied. Problems in design and production methods are analyzed.

554 Product Design and Development **3 hrs. Spring**

A course in the research, design and development of an individually planned product for eventual manufacture and sale. A complete working model or proto-type produced in the applicable laboratories must be included with the product proposal, engineering documentation and merchandising analysis of the student's design.

556 Engineering Analysis **3 hrs. Fall**

Application of vector analysis and differential equations to the solution of complex engineering problems. Prerequisite: Math 223 or equivalent.

558 Mechanical Vibrations **3 hrs. Winter**

A study of the oscillatory motion of physical systems with emphasis on the effects of vibrations on the performance and safety of mechanical systems. Prerequisite: ET 355, Math 223, or equivalent.

METALLURGY AND FOUNDRY

252 Metallurgy **3 hrs. Fall, Winter**

A study of the fundamental characteristics and properties of metals and alloys. Elementary theories of bonding, crystal structure, deforma-

tion phenomena and phase relationships in binary alloys. Annealing and heat treatment of alloys with major emphasis on iron-carbon alloys. Prerequisite: Chem. 100 or 102.

254 Metal Casting I **3 hrs. Fall, Winter**

A course designed to give the student laboratory experience and a knowledge of the processes, methods, tools, machines, and materials used in casting metals, coremaking, and sand testing.

351 Metallurgy **3 hrs. Fall, Winter**

A study of oxidation, corrosion, physical properties, principles of alloying, and the fabrication of metals and alloys. Not open to metallurgy majors. Prerequisite: ET 252.

370 Metal Casting II **3 hrs. Winter**

The theory and application of the metallurgy of casting alloys, gray iron, ductile and malleable iron, steel, brass, bronze and aluminum alloys will be studied. Melting, casting and heat treating processes will be analyzed for each alloy and the basic theory of the solidification of metals will be covered. Prerequisites: ET 252, ET 254.

372 Physical Metallurgy I **4 hrs. Fall**

Introduction to the thermodynamics and kinetics of metallurgical alloys. Special emphasis on the thermodynamic properties of the solid state, binary equilibrium diagrams, solidification of alloys, solid state diffusion, oxidation and solid state phase changes occurring in the heat treatment of alloys. Prerequisites: Chemistry 102, Math 123.

373 Physical Metallurgy II **4 hrs. Winter**

Introduction to the free electron theory, the defect structure of metals and alloys, and simple theories of deformation and fracture. Structure-insensitive properties such as electrical conductivity, specific heats and magnetism; and the structure-sensitive properties of strength, hardness, toughness and ductility are considered. Special emphasis is placed on the strength, deformation and fracture properties of engineering alloys. Prerequisites: Chemistry 102, Math 123, Physics 210.

570 Metal Fabrication **3 hrs. Fall**

A study of mechanical forming methods and special processes of fabricating metals. Includes rolling, forging, extrusion, drawing, bending, shearing, powder metallurgy, and explosive forming. Special emphasis is given mechanical variables in fabricating. Prerequisite: ET 373.

574 Casting Design **3 hrs. Fall**

A course emphasizing the relationship of casting design to foundry processes and economical production. The foundry is considered from various aspects such as, organizational and equipment requirements, and responsibilities to customers, employees and the community. Instruction will include classroom lectures and laboratory exercises. Prerequisites: ET 252, 254, 353.

575 Die Casting **3 hrs. Winter**

A course dealing with the production of die casting, including design, melting, casting and finishing processes. Instruction will include classroom lectures and laboratory exercises. Emphasis will be directed toward the production of quality casting economically. Prerequisites: ET 252, 254, 352.

572 X-Ray Diffraction **3 hrs. Fall**

Application of x-ray methods to the study of crystal structure determination, non-destructive testing, cold working, age hardening and phase changes in metal alloys. Prerequisites: Math 123, Physics 210, Chemistry 102 or ET 252.

573 Physical Metallurgy III **3 hrs. Winter**

Classification and selection of metal alloys and heat treatments for engineering applications. Special emphasis on cost, corrosion, and the metallurgical factors that govern the mechanical and fabrication properties of engineering alloys are analyzed. Prerequisite: ET 373.

INDUSTRIAL SUPERVISION

304 Motion and Time Study **5 hrs. Fall, Winter**

Techniques involving work analysis and simplification, measurement, and motivation, with emphasis on the supervisory problems involved in controlling methods, rates of production, and incentive earnings. Prerequisite: ET 150.

306 Production Control **3 hrs. Fall, Winter**

A course in the methods of controlling and coordinating production. Special attention is given to such features as production planning, scheduling, inventory control, and dispatching.

308 Quality Control **3 hrs. Fall, Winter**

A course dealing with the methods for controlling the quality of materials in a production system. The principles and techniques of administration are discussed as well as the application of statistical methods. Standard practices in quality control measures including frequency distribution, control charts, sampling procedures, and continuing analysis are covered. Prerequisite: Bus. 244.

400 Modern Industrial Practices **6 hrs. Spring, Summer**

Students will observe and analyze actual supervisory and managerial functions in industrial and commercial establishments. Conference procedures will be used with consultants participating in exploring all facets of supervisory and managerial practices and procedures.

404 Material Handling and Layout **5 hrs. Fall, Winter**

Planning and integrating the most effective and economical interrelationship between men, equipment, and materials in the manufacture and distribution of any given product.

406 Conference Leadership **3 hrs. Fall, Winter**

Designed to prepare the student entering industry with the basic methods of planning and presenting an industrial conference. Audio-visual aids will be reviewed as to importance and ways of presentation. Techniques of leadership with opportunity for practical application of these techniques will be provided. Prerequisite: Speech 104.

500 Labor Management Relations **4 hrs. Fall, Winter**

A course dealing with existing relationships between government agencies, labor organizations, and management. Particular emphasis is placed on collective bargaining procedures.

502 Industrial Supervision **3 hrs. Fall, Winter**

A study of the supervisory duties and responsibilities of foremen, engineers, and technicians in industry.

504 Industrial Safety **2 hrs. Fall, Winter**

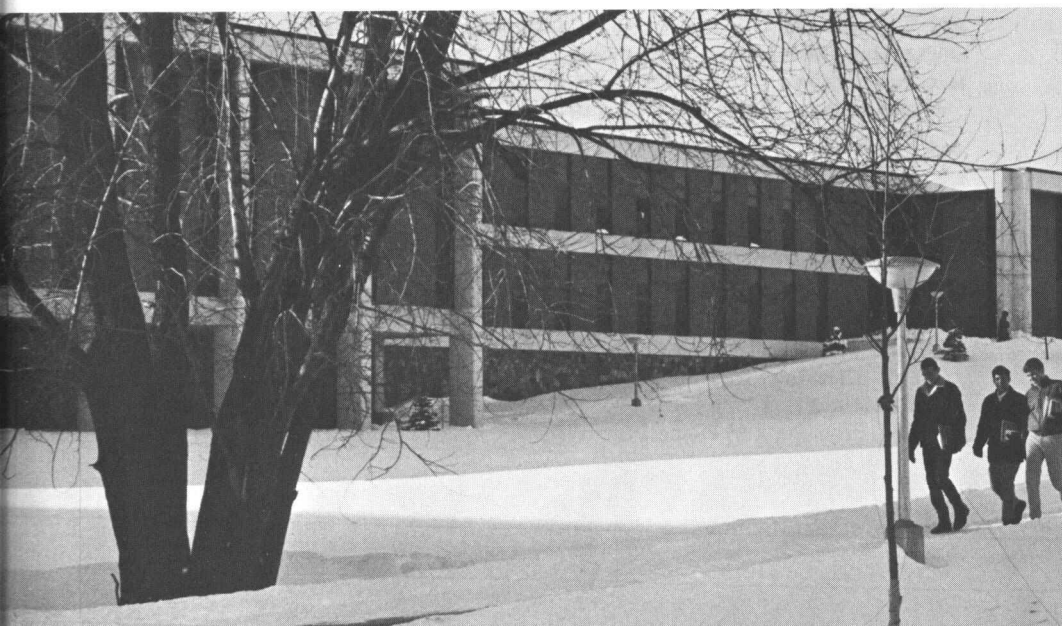
A course dealing with the importance of safety in industry. The cost of accidents, fundamentals of accident prevention, the elements of an effective safety program, accident investigation, and first aid are all aspects to be studied.

506 Work Simplification **3 hrs. Fall, Winter**

A course devoted to the fundamentals of motion economy and work simplification. The techniques of 16 mm. motion pictures of manufacturing operations and consequent analysis of the operations will be stressed. Prerequisite: ET 304.

508 Advanced Quality Control **3 hrs. Winter**

Analysis and application of new concepts in the fields of quality control. Prerequisite: ET 308.



Home Economics

Eunice E. Herald, Head

Irene Bibzba
Margaret A. Brennan
Susan P. Brown
Julie Dugger
Carol Fites
Sally Freudenburg
Ruth E. Gates
Alice Kavanaugh
Marjorie L. Savage
Betty Taylor
Florence Tooke

Western Michigan University prepares students to qualify as teachers of Vocational Home Economics in Michigan under the provisions of the State plan for vocational education. Courses are planned in the department for a major and a minor in Home Economics. Provision is also made for meeting the requirements for a vocational certificate in Michigan. Only persons holding this certificate can teach in the reimbursed homemaking departments in Michigan public schools.

Home Economics at the under graduate level has for its primary objectives helping the individual student to achieve a rich and satisfying home, family and community life. It is concerned with the personal and group values that are desirable outcomes of successful living. It deals with the social, economic, aesthetic, managerial, health, and ethical aspects of family relations, child development, foods, clothing, and housing. Home Economics is an education for personal development, for family and community living, and for several areas of professional specialization.

Home Economics majors are required to complete courses in the General Studies program of 40 semester hours.

Students who plan to teach Home Economics in Michigan schools must complete Home Economics Education 254, 340 and Education Courses 300, 410, 450 and 470 in order to be eligible for a provisional certificate.

The Home Economics Department offers four-year programs leading to a B.S. degree.

Major areas in Home Economics include:

Dietetics
Home Economics in Business
Home Economics Education
Home Economics—General Degree

BASIC HOME ECONOMICS COURSES		Required of All Majors
114	Food Preparation and Meal Planning	5
150	Individual and Family Relationships	4
200	Textiles	3
201	Clothing Construction	2
210	Nutrition	3
350	Housing and Home Furnishings	4

352 Home Management and Consumer Buying 4

25 semester hours

The following courses are open to students from other curricula who wish a minor of 20-24 semester hours in Home Economics providing they meet the prerequisites for the courses: 150, 152, 200 or 201, 212, 304, 306, 340, 350, 352, 520.

TEXTILES AND CLOTHING

200 Textiles **3 hrs. Fall, Winter**
(majors and electives)
A study of basic textiles from the consumer's point of view to provide a knowledgeable use of fibers.

201 Clothing Construction **3 hrs. Fall, Winter**
Basic principles of clothing construction, including pattern alteration and fitting related to the construction of three garments.

304 Selection and Design of Clothing **3 hrs. Fall, Winter**
Includes selection of appropriate clothing for individual family members. Emphasis is given to the planning and purchasing of clothing in terms of family resources and the family life cycle. Prerequisite: Art 114, HE 200 or 201.

306 Pattern Design and Tailoring **4 hrs. Winter**
A study of the basic principles of pattern designing and fitting applied to tailored garments such as coats and suits. Prerequisites: Art, HE 200 and 201.

500 Advanced Textiles **2 hrs.**
A study of the composition, construction, finishing, and care of textiles. Prerequisite: HE 200 or 201.

502 Textile Clinic **2 hrs.**
A workshop type program. Specialists and visual aids will present the newest information on textiles. To be followed by a study of methods implementing the new learnings.

504 The Socio-Psychological Aspects of Clothing **2 hrs.**
A study of the social and psychological implication of clothing for the individual and the family. Clothing has many sociological and psychological implications, for the person as an individual and as a member of society. This course would bring together some of the pertinent findings of these two fields as they relate to the total area of clothing, ranging from the individual's selection of clothing as an expression of personality and social status to the impact of the clothing and fashion industries on the national economy.

506 History of Costume **3 hrs. Winter**
History and development of Western costume. Dress is studied as an

expression of many interacting forces. Areas of influence include social structure, political thought, religious beliefs, cross-cultural interaction, technological developments, and outstanding persons of the period.

FAMILY RELATIONSHIPS, CHILD DEVELOPMENT, AND HOME MANAGEMENT

150 Individual and Family Relationships **4 hrs. Fall, Winter**

The contributions and concerns of personal and family adjustments in planning for careers and marriage. Elective. Freshmen. Nursery laboratory 9 hrs.

152 Personality Development **2 hrs. Fall, Winter**

Social usage and personality development are considered. Elective, Non-majors, Freshmen.

254 Human Growth and Development **4 hrs. Fall, Winter**

This course involves study of the physical, social, emotional, and intellectual growth and development of children and adolescents. Elective. Substitute for ED 250. Nursery laboratory 9 hrs. included.

350 Housing and Home Furnishings **4 hrs. Fall, Winter**

A study of the economics, psychological, and social aspects of housing. Basic principles in the areas of art, textiles, and consumer buying are applied to the home. Prerequisite: Art.

352 Home Management and Consumer Buying **4 hrs. Fall, Winter**

A study of buying problems and consumer credit in relation to time, energy, and financial management for the family. Principles are applied to individual problems with respect to purchasing a specific type of consumer goods.

354 Home Management Residence **3 hrs. Fall, Winter**

Students live in family size groups. There is opportunity for the application of principles from all areas of Home Economics. Prerequisite: HE 352.

520 Equipment and Demonstration Techniques **4 hrs. Fall, Winter**

A study of principles of equipment and demonstration as applied to the areas of Home Economics. Prerequisite: HE 210, 200.

552 The Homemaking Center and the Equipment **2 hrs.**

Consideration of fundamentals in planning laboratory and living area in terms of needs with special emphasis on built-ins, furnishings and equipment. Selected problems to be chosen by the individual.

HOME ECONOMICS EDUCATION

340 Home Economics Education **4 hrs. Fall, Winter**

Course designed to acquaint students with the teaching field in home economics. Includes basic philosophy of home economics education,

observations, unit planning, effective teaching materials as a basis for special methods and student teaching. Planning local programs of homemaking education in high school equipment and the organization of homemaking department, developing the home experience programs, and methods of teaching for junior and senior high schools and adult homemaking classes. Majors and minors in Home Economics.

FOODS AND NUTRITION

114 Food Preparation and Meal Planning **5 hrs. Fall, Winter**

Basic principles of food preparation. Planning, preparing, and serving of meals with emphasis on management. Majors.

116 Family Foods (Supermarket) **2 hrs. Fall**

A study of foods with reference to processing, marketing and use in the home, and the basic principles of nutrition.

210 Nutrition **3 hrs. Fall**

A study of the essential nutrients and their function in the human body. Prerequsite: Science 8 or 9 hours.

212 Foods and Nutrition **4 hrs. Fall, Winter**

Food preparation, purchasing, and menu planning for family groups. Emphasis on nutritional needs for growing children and adults. Elective.

312 Quantity Foods **3 hrs. Winter**

Quantity food preparation in a college residence hall kitchen and the school lunchroom. Prerequisite: HE 114, 210.

410 Diet and Disease **2 hrs.**

Study of the dietetic treatment of impaired digestive and metabolic condition. Planning of diets and reports of current research. Prerequisite: 210.

510 Advanced Nutrition **3 hrs. Fall**

Study of recent developments in nutrition through readings and experiences. Prerequisite: HE 210.

512 Institutional Management **3 hrs.**

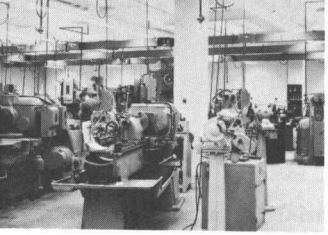
Study of institutional administration, job analysis, labor policies, personnel problems and cost control in different types of food-service institutions. Prerequisite: HE 210.

514 Food Technology **2 hrs. Winter**

Food preparation with special emphasis on individual problems related to school food teaching units. Study of commercial food preparation.

518 Advanced and Experimental Foods **4 hrs. Fall**

Concentrated study of principles of food preparation. Development of experimental techniques and opportunities for individual studies. Prerequisite: HE 210.



Industrial Education

John L. Feirer, Head

John L. Bendix	Wallace F. Fillingham	Erwin Rayburn
Phillip L. Bruce	Rex E. Hall	Charles G. Risher
Arvon D. Byle	Gilbert R. Hutchings	George K. Stegman
Dennis Darling	Waldemar E. Klammer	James L. Ulmer
Lindsay G. Farnan	John R. Lindbeck	Theo C. Zimmerman

INDUSTRIAL EDUCATION COURSES

The Industrial Education Department offers shop and professional courses for five purposes: (a) to educate teachers and supervisors of Industrial Arts who will teach general Industrial Arts in all levels of the public schools; (b) to educate teachers who will be qualified to teach vocational-technical subjects in the secondary schools, or community college; (c) to educate students who wish a broad background in industrial subjects; (d) to educate students in Printing Management; and (e) to educate teachers who will be qualified to teach in Industrial Arts therapy programs.

Industrial Arts Teaching — A student must take one major sequence and one minor sequence as shown on page 104. If a student wishes to prepare as a general industrial arts teacher, and also be qualified as a unit area teacher, he must take a major in general industrial arts and a minor in a technical sequence. Students who plan to qualify for unit shop teaching must take one major sequence and one minor sequence in a different technical area or general industrial arts. A student may not elect a major and a minor sequence in the same technical area. For example, the student may major in metalworking and minor in drawing so that he would be qualified to teach only in these two areas. For students not majoring in Industrial Education a minor can be taken in any of the minor sequence areas plus the professional courses, Course Construction, and Teaching of Industrial Education.

Vocation-Technical Education — A forty-five hour combined major and minor sequence leading to

Option I —Vocational Education—Teaching Certificate
Option II —Cooperative Training—Teaching Certificate
Option III—Technical Education—Without Teaching Certificate

Industrial Education General Curriculum — Students wishing to secure a broad general industrial background can major in Industrial

Education. The exact combination of courses will be determined by the needs of the student.

Printing Management — Students must pursue a major sequence of courses in Printing and Graphic Arts and a minor sequence in Business.

Industrial Arts Therapy — Students must pursue a major sequence of courses in Industrial Education, selected courses in Special Education, and spend one semester in participation at an approved veteran's hospital.

DRAWING (Industrial Graphics)

120 Survey of Drafting **3 hrs.**

A survey course in general drawing predicated on man's ability to symbolize graphically in life and industry. Emphasis is placed on the underlying concepts involved in freehand perspective, flat drawing, elementary shading, technical sketching, multiview drawing, sectional views, size description, pictorial drawing and basic graphic analysis.

226 Industrial Graphics **3 hrs.**

An extension of 120 emphasizing standardized and industrial graphic practices. Course content encompasses view analysis by direct and orthogonal methods, sections, primary, and secondary auxiliaries, precision measurements, fasteners, pictorials, surface development and basic principles of descriptive geometry. New developments and studies in graphics and drafting are presented as they relate to industry. Drawings and intermediates will be reproduced on white print equipment. Prerequisite: 120 or consent of instructor.

227 Technical Sketching **3 hrs.**

A study of freehand and mechanical methods of illustrating. Primary consideration is given to angular, parallel and oblique perspective as a basis for freehand illustration. Emphasis is then placed on various types of paraline drawings, techniques of shades and shadows, shading films, and pencil and ink renderings for reproduction. Selected problems in surface treatment and textures, still life and chalkboard practice. Prerequisite: 120.

326 Advanced Industrial Graphics **3 hrs.**

Advanced technical work for the specialist desiring to teach drafting. Included are applications of descriptive geometry, gears, cams, linkages, research problems, and checking. Current developments in the field of graphics and their impact will be discussed. Prerequisite: 226.

520 Architectural Graphics **4 hrs.**

A graphical study of architectural details and methods of construction relative to frame and masonry veneer residential dwellings. Emphasis is placed on residential planning and design principles, calculating safe loads, FHA minimum property standards, and local codes. Each student

is required to design a single family dwelling, including preliminary studies, floor plans, elevations, all necessary details, plot plan, and specifications. Methods of estimating, heat loss and gain calculation, and financing are included. Drawings will be reproduced on white print equipment. Prerequisite: 226.

522 Laboratory Practices in Drafting **2 hrs.**

A course in the methods and problems of teaching drafting and graphics on the secondary and post secondary level. In addition, emphasis is placed on a review of secondary and collegiate texts, resource materials, problem design and checking of drawings. Prerequisite: 18 hrs. in Drafting.

ELECTRICITY-ELECTRONICS

160 Basic Electricity **3 hrs.**

This course provides both theoretical and practical applications of basic electrical principles. The cause, effects, and control of electrical currents in circuits will be discussed and demonstrated. Practical experiences will include wiring, experimentation, repair, and maintenance of electrical equipment.

360 Electronic Servicing Techniques **4 hrs.**

A course designed to round out technical competencies of students planning to teach electricity-electronics. Laboratory problems will point toward fundamental applications of electronic test instruments in diagnosing malfunctions and servicing radio, TV, and other electronic services. Also included are fundamentals of ham radio. Prerequisite: 12 hrs. of electricity-electronics.

460 Laboratory Practices in Electricity-Electronics **3 hrs.**

Designed for laboratory teachers of electricity-electronics. Emphasis will be placed on textbook selections, course materials, methods, and instructional devices. Laboratory practice will be provided in applying techniques and developments to teaching.

560 Electricity-Electronics for Teachers **2 hrs.**

Designed for junior and senior high school shop and laboratory teachers of electricity and electronics. Emphasis will be placed on new methods and materials. Laboratory practice will be provided in applying new techniques and development of teaching projects in electricity and electronics. Industrial Arts and science teachers should find this workshop quite valuable in the light of our increasing technological development.

Note:
Additional courses in Electricity-Electronics can be obtained from the Engineering and Technology Department or by transfer from community colleges.

GENERAL INDUSTRIAL ARTS

170 Industrial Crafts Techniques **3 hrs.**

An introductory course for industrial arts teachers in the crafts area, including ceramics, jewelry, art metal, leather, and plastic. Industrial applications and procedures will be stressed.

276 Industrial Arts Design **2 hrs.**

A laboratory course dealing with functional, material, and visual requirements for products. Emphasis is upon design practices as they relate to projects and products in a variety of material areas.

370 Organizing and Administering the General Shop **3 hrs.**

A course concerned with promoting, developing, and improving instruction both general unit shops and comprehensive general industrial arts laboratories. Emphasis is on curricular organization, personnel administration and management, trends in equipment, supplies, safety and teaching methodology applied to multiple activity instruction. Prerequisite: Junior and 15 hrs. in I. E. Tech. Labs.

570 Arts and Crafts Techniques **2 hrs.**

Advanced laboratory experiences in the fields of internal plastic carving, leather work, model work, archery, photography, and related crafts in conjunction with a study of current technical literature in these areas. Written reports will be required. Course content will be adapted to individual needs.

573 Mechanics and Conditioning of Equipment **2 hrs.**

A study of the principles of machining wood, metal, and synthetic materials. Practice in installation, adjustment, preventive maintenance and conditioning of power equipment will be included. Particular emphasis will be given the relationship between proper installation and condition to efficient machine operation.

GRAPHIC ARTS AND PRINTING MANAGEMENT

150 Graphic Arts **3 hrs.**

An introductory course in which the student will have an opportunity to become familiar with the large area of graphic arts. Work is undertaken in hand composition, presswork, bindery, screen, and offset printing, etc. A thorough study of all graphic arts processes used in industry is undertaken. Advantages and best uses as well as disadvantages and limitations are considered for each process.

152 Letterpress Presswork **3 hrs.**

This course includes hand-fed and automatic platen presswork. Emphasis is placed on forms requiring special preparation such as numbering, perforating, and envelope cut-outs. The various types of make-ready techniques and impositions receive special consideration. Related information on letterpress inks and paper is included. Prerequisite: 150.

250 Typographic Design **5 hrs.**

A lecture-laboratory course in which the principles of design and typography are studied and applied to the completion of a printed job. Practical experience in the elements of design, tools, and methods used by the artist are included. Prerequisite: 150.

253 Science for the Graphic Arts **4 hrs.**

A study of the principles of science involved in such things as printability tests, inks, photographic chemicals, paper, etc.

254 Machine Composition **4 hrs.**

This course considers the problems of machine composition. It involves a study of the various hot metal machines such as Linotype and Ludlow and also considers the cold type and photographic machines such as Varitype, Fotosetter, and Linofilm. Advantages, uses, limitations, etc. of each machine are considered. Prerequisite: 150.

350 Photolithographic Techniques **3 hrs.**

This course is designed to provide the student with basic offset photographic skills. Darkroom procedures, stripping techniques, and platemaking will be stressed. Information will also be presented concerning line and halftone work, lithographic films, copy preparation, cold type uses, and lithographic plates. Prerequisite: 150.

351 Lithographic Presswork **3 hrs.**

Experience will be given on basic offset equipment regarding lithographic principles, press operations, mechanical adjustments, simple chemical reactions, as well as the advantages and disadvantages of lithography. Other areas to be studied are multi-color processes, inks, and papers. Prerequisites: 150 and 350.

356 Printing Machine Maintenance **4 hrs.**

This course is designed to acquaint the student with the problems of care and maintenance of printing machinery including the Linotype. Simple adjustments are made on the various machines.

450 Advanced Presswork **3 hrs.**

Practical presswork and makeready of various kinds of type forms for both cylinder and jobbers is undertaken. The imposition and lockup of type forms for various kinds of presses is also studied.

451 Printing Processes **2 hrs.**

A course designed to provide Paper Technology students with a working knowledge of the various printing processes and their relation to the manufacture of paper. Open only to students enrolled in Paper Technology.

452 Estimating **3 hrs.**

A study of the methods used in estimating the price of printed matter before manufacture and in the final pricing of that matter after production.

453 Printing Production Control **2 hrs.**

A study of various systems used in the printing industry for planning and controlling the flow of work through the plant in order to maintain equalized work loads and meet delivery schedules.

455 Bindery Operations **2 hrs.**

Bindery and finishing operations are studied. Work in bookbinding, folding machines, stitching, plastic binding, punching, perforating, etc., is taken up.

METAL WORK

130 General Metals **3 hrs.**

A comprehensive course in the technology of modern metalworking principles and practices; encompassing the areas of hot and cold cutting, joining, forming, fabricating, and finishing techniques utilizing both hand and machine processes.

234 Machine Shop **3 hrs.**

A basic course in modern metal machining techniques involving theory and practice in the application of Machine Tool Metalworking principles. Prerequisite: 130.

235 Machine Tool Metalworking **3 hrs.**

Advanced theory and practice in the application of machine tool metalworking processes and procedures. Special problems involving advanced set-ups and tooling. Included will be material testing, gaging and inspection, tooling for production using special jigs and fixtures, the use of tables and handbooks for the solution of selected problem situations. Prerequisite: 234.

332 Tooling and Production Metalworking **3 hrs.**

An advanced course in the design and construction of metalworking tooling and equipment necessary for repetitive operations in the production of multiple units. Introduction to numerical control machining and programming. A study of the "state of the art" in the metalworking industry and its economic, social, and educational implications. Prerequisite: 235.

334 Metal Forming and Finishing **3 hrs.**

Basic principles and practices in the technology of forming and fabricating metal products. Included are standard sheet metal practices, press brake and punch press operation and set-ups; drawing, blanking, punching, and spinning; metal finishing using organic coatings with electrostatic spray and standard spray equipment; inorganic coatings using chemical and electro-chemical processes. Prerequisite: 130.

335 Patternmaking and Foundry **3 hrs.**

Basic principles, techniques and materials used in pattern construction. Theory and practice in metal casting principles and procedures using green sand, CO_2, investment, centrifugal, and shell processes. Prerequisite: 130 and General Woodworking 100.

336 Hot Metalworking **3 hrs.**

A basic course in the technology of modern processes and procedures for the joining of metals by fusion welding and brazing, employing recent developments in low temperature surface alloying materials. Included are principles and practices in the use of materials, tools, and equipment for electric arc, T.I.G. and M.I.G. welding of common and specialty metals; gas welding and brazing, off hand and automatic flame cutting of ferrous metals. Heat treating, and foundry processes and procedures. Prerequisite: 130.

338 Advanced Metalworking **3 hrs.**

An advanced comprehensive course in the technology of modern metalworking techniques, utilizing both hand and machine processes in the area of cutting, joining, forming, fabricating, and finishing. Prerequisite: 130.

538 Problems in Metalworking **2 hrs.**

Practical laboratory experiences in forging, foundry, heat treating, machine shop, and arc and acetylene welding. Course will emphasize methods of selecting and developing course materials for junior and senior high school students. Course content will be adapted to meet the needs of individual students. Prerequisite: 234.

POWER MECHANICS-AUTOMOTIVE

180 Power Mechanics **3 hrs.**

An introductory course designed to develop a knowledge of energy sources, power producing machines, and power transmission methods. Emphasis is on small internal combustion engines: principles of operation, carburetion, lubrication, ignition, governor controls, and transmission systems. Electric power transmission and rotating equipment are also studied.

280 Applied Energy and Power **4 hrs.**

A study of the historic development and economic implications of applied energy and power. Emphasis is on power units typical to land, marine, and air transportation and power transmission and applications in production and service industries. Laboratory experiments with fluid power, horsepower rating, data recording, and data analysis. Prerequisite: I. E. 180.

Note:

Courses in Auto Mechanics can be obtained from the Transportation Department or by transfer from community colleges.

582 Applied Fluid Power **2 hrs.**

Advanced study of typical hydro-electric and pneumo-electric transmission and control systems. Emphasis is on industrial applications of fluid power systems. Laboratory experience includes the design and application of a fluid power or control system to a manually powered or controlled machine.

588 Power Laboratory Techniques **2 hrs.**

An advanced course for laboratory teachers dealing with recent developments in energy and power applications. Planning and organizing laboratory facilities, tools, equipment, safety requirements, instructional materials, textbook selection and instructional devices for providing power mechanics and/or automotive instruction are included. Prerequisite: 180 or consent of instructor.

WOODWORKING

100 General Woodworking **3 hrs.**

Laboratory experiences and the development of skills and knowledge in planning and layout; lumber and lumbering; purchasing and measuring lumber and plywood; methods of fastening and adhering wood; preparation of wood for a finish; elementary finishing methods; and sizing stock and wood joinery with hand tools; electric portable tools; and machines.

200 Machine Woodwork **3 hrs.**

Laboratory experiences and the development of skills and knowledge in designing and construction; an introduction to cabinet making; advanced wood joinery on industrial woodworking machines; wood moisture realtionships; air seasoning; and kiln drying of wood; and an introduction to furniture finishing methods. Prerequisite: General Woodworking 100.

201 Wood Finishing **2 hrs.**

Principles of wood finishing; finishing materials and their characteristics; equipment and methods of application; finishing schedules; and finishing characteristics of different species of wood. Prerequisite: General Woodworking 10 and Machine Woodwork 200.

300 Upholstering **3 hrs.**

Mass production of chair frames and custom upholstering, which will include springing, padding, and the application of the final cover. Prerequisites: General Woodworking 100 and Machine Woodwork 200.

306 Residential Building Construction **4 hrs.**

A course designed to cover rough framing of a house or building which will include on the site building as well as prefabrication methods of wall panels and truss roof systems. It will also include layout, excavation, and the installation and use of concrete, masonry, insulation, lath and plaster, doors, window, sheetmetal roofing, and siding. Prerequisite: General Woodworking 100.

500 Furniture Production **2 hrs.**

Design and production of furniture, including the development of all phases of tooling and jig and fixture design necessary for the mass production of a piece of furniture. Prerequisites: General Woodworking 100 and Machine Woodwork 200.

501 Cabinetmaking **3 hrs.**

This course is designed to include finishing carpentry such as kitchen and built-in cabinets, millwork (including trim and finish flooring), floor covering, relationship of electrical work, plumbing and heating to the building trades. Prerequisites: General Woodworking 100 and Machine Woodwork 200.

502 Wood Technology **2 hrs.**

Experience in and study of the technical aspects of cellulose materials and their use in construction and manufacture. Included will be a study of the characteristics of lumber and man-made wood products, applied research done by the Forest Products Laboratory, and testing of materials. Prerequisites: General Woodworking 100 and Machine Woodwork 200.

PROFESSIONAL COURSES IN INDUSTRIAL EDUCATION

140 American Industry **2 hrs.**

Application of the conceptual approach to industrial processes as applied to common materials. Development of the basic elements of industry from crafts to automation will be reviewed. Laboratory experiences of a group problem, mass production type, developed around typical industries will be used.

240 Vocational-Technical Education **2 hrs.**

A course designed to familiarize the student with the many aspects of Vocational-Technical Education and the place of each in a highly industrialized society. The rapid changes in the occupational patterns of the workers in our society demand an awareness of the historical background social implications, and special methods and applications of this area of education.

340 Technical Education Methods **3 hrs.**

A course dealing with an analysis and methods of organizing instruction in technical education. Methods of determining objectives, making analysis of instructional units, and developing them into a teaching plan will be emphasized. Consideration will be given to organizing educational programs within industry.

342 Course Planning and Construction **2 hrs.**

Principles and techniques of selecting and analyzing suitable teaching activities and arranging such material into a functional instructional order. Instructional unity prepared will be based on an analysis of a trade, occupation, or activity. Opportunity will be provided to prepare a detailed course of study.

344 Teaching of Industrial Education **3 hrs.**

This course deals with problems in teaching industrial subjects, the techniques employed in the analysis of instructional units, construction of tests and rating scales, and problems dealing with administration and work. The principal methods of instruction used in industrial subjects will be emphasized. Prerequisite: 342.

345 Plan and Organization of a School Shop **2 hrs.**

This is a course to help teachers plan and organize the school shop. Topics concerned include physical needs, selection of activities, shop layout, purchasing equipment, establishing a supply routine planning personnel organization, and shop management. Prerequisites: Junior and 344.

444 Independent Study in Industrial Education **1-4 hrs.**

Open to advanced students in the Industrial Education area with good scholastic records. An independent study program arranged in consultation with a study supervisor. Approval of study program required prior to registration. Prerequisite: 9 hrs. of major area and instructor's permission.

548 History and Philosophy of Industrial Education **2 hrs.**

Industrial Education in America, with special attention to European influences, experiments, industrial developments and theories. Emphasizes developments leading to modern practices in industrial arts and vocational industrial education.

590 Industrial Arts for the Elementary School **2 hrs.**

Deals with the problems of organizing and teaching Industrial Arts for the elementary grade. Course materials, techniques, and materials in the industrial and craft areas will be stressed.

598 Special Problems in Industrial Education **1-3 hrs.**

Designed for qualified individual graduate students wishing to pursue special problems of individual need or interest under the direction of member of the graduate faculty. May be elected once in the industrial education department, and once in an associated department, with the approval of the Industrial Education Department Head and the faculty member under whom the student desires to work. Applications must be submitted and approved prior to the election of the course.

SERVICE COURSES

190 Industrial Arts for Elementary Teachers **3 hrs.**

This course is planned for prospective elementary school teachers and will include a study of Industrial Arts for grades one through six, Basic constructional techniques in the areas of sketching, woods, metals, leather, graphic arts, electricity, textiles, ceramics, and plastics will be included. An understanding of how industrial arts activities may be correlated with the elementary program will be emphasized. Special

Education students may take this course for four semester hours of credit.

191 O.T. General Shop **3 hrs.**

A course designed exclusively for individuals preparing for occupational therapy. This course will cover the fundamentals of sketching, drawing, plastics, art metals, and elementary electricity.

192 Related Arts and Crafts **3 hrs. (Extension only)**

A general course in arts and crafts including work in leather, plastic, wood, and other related craft activities.

193 Related Arts and Crafts **3 hrs. (Extension only)**

A course in arts and crafts including work in graphic arts, art metal, basketry, and other crafts not previously included.

196 O.T. Printing **3 hrs.**

This course is intended to acquaint the student with the various tools and equipment of a graphic arts shop. Studies are undertaken in such areas as typography, presswork, silk screen, block cutting, bookbinding and etching. Limited to students enrolled in the Occupational Therapy curriculum.

198 O.T. Woodworking **3 hrs.**

A basic course in shop fundamentals, including the use of hand tools and machines, construction design, fastening devices, and finishing. Limited to students enrolled in the Occupational Therapy curriculum.

590 Industrial Arts for the Elementary School **2 hrs.**

This course is concerned with the problems of organizing, correlating and teaching constructional activities in the elementary grades. Course materials, techniques, and materials in the industrial and craft areas will be stressed, through the construction of a teaching unit.

592 Aviation for Classroom Teachers **2 hrs.**

A course dealing with the educational, social, economic, and political implications of aviation in the modern world. A study will be made of basic aviation materials and activities that are appropriate for different grade levels. Consideration will be given to aviation literature and visual aids suitable for youngsters. Opportunities will be provided for participation in a variety of aviation experiences. This course is open to elementary and secondary education students.

593 Arts and Crafts for Teachers **2 hrs.**

This course will cover advanced craft techniques in the areas of art metal, jewelry, leather, plastics, wood crafts, and other related experiences. Teaching procedures, methods, and materials will be emphasized.

594 Home Mechanics for the Blind **2 hrs.**

A course to fulfill the needs for general knowledge and basic skills in home mechanics in the areas of woodworking, electricity, plumbing, and general maintenance.

Military Science

Colonel John F. Brownlow Jr., Head

Lt. Colonel Stephen F. Barton
Lt. Colonel George W. Mitchell
Major Paul W. Henry
Major Edward L. Chase
Major Theodore C. Frederick
Captain Albert N. Ward
SMaj Kenneth M. Ball
SSgt Paul Taylor
SSgt Louis F. Wade

Each male student shall enroll in the military science program unless he enrolls in general physical education. A male student must complete four semesters of military science or four semesters of general physical education.

This Department is a General Military Science Reserve Officers Training Corps Unit, which provides training in the Senior Division R.O.T.C. United States Army. Graduates may be commissioned Second Lieutenants in a branch of the Regular Army or United States Army Reserve. Enrollment in the R.O.T.C. program at Western Michigan University is on a voluntary basis and may be substituted for the Physical Education requirement. However, students who enroll in the Basic Course will be expected to complete the two-year Basic Course. Transfer students of less than Junior standing who started Army or Air Force R.O.T.C. training in another institution will be expected to enroll in the appropriate class of the Basic Course and complete the Basic Course.

The Head of the Department is an officer of the United States Army. He is assisted in his duties by other officers and enlisted men of the Army on active duty. The personnel assigned provide the instruction to the student cadets and the administration of the R.O.T.C. program at the university.

The Military Science Department offers both a basic and an advanced course. Upon completion of both the Basic and Advanced Courses, the prescribed summer camp training, and requirements for a college degree, students will apply for commissions as Second Lieutenants in the United States Army Reserve. Flight training is available in the Advanced R.O.T.C. Program on a competitive basis. (See page 155.) Upon completion of the prescribed courses, Distinguished Military Students are eligible to apply for appointment as Second Lieutenants in the Regular Army.

Uniforms are provided by the Government to all students who take R.O.T.C. work. Additional emoluments for advanced course students are described under the heading of Advanced Course.

An R.O.T.C. Activity fee of $2.00 per year is charged for support of R.O.T.C. activities such as rifle team, band, drill meets, military social events, and for providing suitable achievement awards.

BASIC COURSE

The first two years of Military Science comprise the Basic Course. It is designed to furnish a background of basic military subjects necessary to pursue the Advanced Course and to provide a general knowledge of military affairs to those students that do not enter the advanced program. The requirements for enrollment in the Basic Course are that: the student must be a citizen of the United States, over 14 and under 23 years of age, physically qualified and of good moral character. Students who have had three years of Junior R.O.T.C. (High School R.O.T.C.) or six months or more of active military service may substitute this training or service for the first year of the basic college R.O.T.C. course upon the approval of the Professor of Military Science. Students who are thus excused from taking the first year of the basic R.O.T.C. course will normally be allowed to enter the second year of the basic R.O.T.C. program at the beginning of their sophomore year. The records of students transferring from other institutions with less than two years basic R.O.T.C. credit will be reviewed by the Professor of Military Science to place such students in the appropriate R.O.T.C. class. Basic Course classes meet for two hours of classroom work and one hour of drill weekly. Although enrollment in R.O.T.C. is voluntary and may be substituted for the Physical Education Requirement, students who enroll in the Basic R.O.T.C. Course are expected to complete the course.

MS 100 Military Science **2 hrs.**

Includes instruction in Organization of the Army and R.O.T.C., Individual Weapons and Marksmanship, U.S. Army and National Security, School of the Soldier, and Exercise of Command.

MS 101 Military Science **2 hrs.**

Includes American Military History, School of the Soldier, and Exercise of Command.

MS 200 Military Science **2 hrs.**

Includes instruction in Map and Aerial Photograph reading, Combat Examples of the Application of the Principles of War, School of the Soldier, and Exercise of Command.

MS 201 Military Science **2 hrs.**

Includes Basic Unit Tactics, Counterinsurgency, School of the Soldier, and Exercise of Command.

BASIC SUMMER CAMP

Attendance at a six week Basic Summer Camp may be substituted for the Basic R.O.T.C. course in order to qualify a transfer student or

other student for the Advanced R.O.T.C. course. Students will receive travel pay and will be fed, clothed, and quartered at the expense of the Government and will be paid at the rate of approximately $95.70 per month while in camp. See the Professor of Military Science for details of this program.

ADVANCED COURSE

The selection of students for enrollment in the Advanced Course is on a competitive basis. Special attention is given to maintenance of high standards of conduct and academic achievement both before and after enrollment in the Advanced Course. The major emphasis of the Advanced Course is on the development of individual leadership and a sense of responsibility. For admittance to the Advanced Course, a student must have completed either the Basic Course or Basic Summer Camp, be selected by the Professor of Military Science and the President of the university, be 25 years of age or under at time of enrollment, be enrolled in the R.O.T.C. Reserve Control Group, execute a contract with the Government to finish the course, attend a six-week summer camp, and accept a reserve commission if tendered. Students who have had one or more years active service with one of the Armed Forces and students who are transferring from another institution with credit for the Basic Course may be authorized to register for the Advanced Course in phase with their collegiate academic standing. Advanced Course classes meet for two or three hours of classroom work and one hour of drill weekly. (See below.) Students accepted for the Advanced Course receive payment of $50 per month. Students attending summer camp are fed and quartered at the expense of the Government, paid at the rate of approximately $160.50 monthly while in camp, and are given a travel allowance of six cents per mile from the university to the summer camp and return.

A program of flight instruction in connection with R.O.T.C. is of special interest to the advanced course student. Under this plan the Army will pay for flight training of selected seniors who enroll in Pilot Training course No. 310. (See page 164.) Completion of this training qualifies the student for the award of an FAA pilot's license. It further qualifies the advanced course student upon receiving his commission for advanced Army flight training.

MS 300 Military Science **3 hrs.**

Instruction in Leadership; Organization, Function, and Mission of the Arms and Services; Military Teaching Methods; School of the Soldier and Exercise of Command.

MS 301 Military Science **2 hrs.**

Instruction in Small Unit Tactics and Communication, Counterinsurgency, School of the Soldier, and Exercise of Command.

MS Summer Camp

Between MS 301 and MS 400 a summer training camp must be attended for a period of six weeks. Transportation to and from camp will be provided and students will be fed, clothed, housed and paid while at camp. Instruction at camp consists of participation in various military activities to include field training.

MS 400 Military Science **2 hrs.**

Instruction in Operations, Command and Staff, Estimate of the Situation, and Combat Orders, Military Intelligence, Training Management, Logistics and Troop Movements, School of the Soldier and Exercise of Command.

MS 401 Military Science **3 hrs.**

Instruction in Military Administration and Personnel Management, Military Justice, Service Orientation to include the Role of the United States in World Affairs, Leadership, Officer Indoctrination, Counter-insurgency and School of the Soldier and Exercise of Command.

R.O.T.C. SCHOLARSHIPS

A limited number of scholarships are available to qualified students who are enrolled in the R.O.T.C. program. These scholarships will pay for tuition, fees, books and related expenses and provide $50 per month retainer pay. See the Professor of Military Science for details.

Occupational Therapy

Rosalia Kiss, Head

Lois Hamlin	Doris Slack	Dean Tyndall
Alice Lewis	Jane Thomas	Mabel ValDez

The Department offers courses leading to the B.S. degree. The curriculum is approved by the American Medical Association, and graduates are qualified to take the American Occupational Therapy Association examination for registration. In order to earn a B.S. degree in occupational therapy, a student must complete a major in occupational therapy and a minor in skills used in occupational therapy.

110 General Crafts **3 hrs. Fall, Winter**

A course planned to develop skill in various media and the care and use of special tools and equipment. Opportunity will be given for teaching experience through class demonstration of miscellaneous craft projects. Prerequisite: Occupational Therapy Major.

130 Occupational Therapy Orientation **1 hrs. Fall, Winter**

A lecture course designed to acquaint the beginning student with the profession.

203 Ceramics **3 hrs. Fall, Winter**

Designed to give a working knowledge of ceramics from pinch pots, slab techniques, tall pots, mold making methods, decoration and glazes through stacking and firing of kilns. Prerequisite: Occupational Therapy Major.

210 General Crafts **2 hrs. Fall, Winter**

Designed to develop skill in selection and use of various media for therapeutic application, and in relation to developmental level. Prerequisite: Occupational Therapy Major.

300 Weaving **3 hrs. Fall, Winter**

Designed to give a working knowledge of hand and floor looms, functional adaptations for special treatments, reading and drafting patterns, warping and threading looms, and types of weaving. Prerequisite: Occupational Therapy Major.

310 Therapeutic Techniques **4 hrs. Fall, Winter**

A lecture and laboratory course with direct participation in prevocational evaluation, activities of daily living, orthotics, and homemaking for the handicapped, joint measurement and muscle testing. Prerequisites: OT 321 and 520.

321 Gross Human Anatomy and Neuroanatomy **5 hrs. Fall, Winter**

A study of the structure and function of the various systems of the body. Lecture and laboratory. Prerequisites: Biology 210, Occupational Therapy Major.

322 Psychiatric Conditions **3 hrs. Fall**

Incidence, etiology, pathology of psychiatric conditions in children, adolescents, and adults will be presented. Prerequisites: Psychology 250, Biology 219.

323 Clinical Neurology **3 hrs. Fall, Winter**

Functional neuroanatomy, neuropathology will be presented. Case presentations and demonstrations of neurological examination will be included. Prerequisites: Biology 210, 219, OT 321.

325 Growth, Development, and Aging **3 hrs. Fall, Winter**

A study of physical, mental, emotional, and social patterns of growth, development, and aging. Aspects to be given special emphasis for the occupational therapy student will be motor development, physiology of aging, growth deterrents, and functional pathology in any of the above aspects. Prerequisites: Biology 210, Psychology 150, 160.

332 Application in Physical Disabilities **5 hrs. Fall, Winter**

The study of general medical, neurological, and orthopedic conditions with emphasis on treatment methods used by occupational therapists.

Included are preclinical experiences and clinical observations in local hospitals. Prerequisites: OT 310, 323, 520, 524.

340 Clinical Affiliation **3 hrs. Fall, Winter, Spring, Summer**

A three month affiliation in hospitals or agencies providing the student experience in the areas of psychiatry or General Medicine and Surgery. Departmental consent only. Prerequisites: Occupational Therapy 322, 342.

342 Application in Psychiatry **5 hrs. Fall, Winter**

A study of the philosophy and application of occupational therapy in the psychiatric field. Specific emphasis is upon the conscious use of one's own personality as a therapeutic tool and on acquainting the student with group processes used in occupational therapy situations. Includes observation of occupational therapy during required preclinical experience. Prerequisites: Psychology 250; Occupational Therapy 322 or concurrently.

430 Organization for Patient Service **4 hrs. Fall, Winter**

A study of the philosophy, development and current practices of medical and vocational rehabilitation. Special emphasis will be placed upon effective organization and administration of occupational therapy services. Prerequisites: Occupational Therapy 332, 342.

436 Independent Study in Occupational Therapy
2-4 hrs. Fall, Winter, Spring

Designed to allow outstanding students to work independently under faculty supervision. Consent of departmental head. Credit variable.

440 Clinical Affiliation **3 hrs. Fall, Winter, Spring, Summer**

Departmental consent only. Prerequisite: Completion of all academic work.

441 Clinical Affiliation **3 hrs. Fall, Winter, Spring, Summer**

Departmental consent only. Prerequisite: Completion of all academic work.

510 Arts and Crafts for Home Teachers of the Blind. **2 hrs. Winter**

Includes methods and techniques of teaching needlework, ceramics, and leatherwork to visually handicapped adults. Prerequisite: Occupational Therapy majors must have consent of Department Head.

520 Kinesiology **3 hrs. Fall, Winter**

Investigation and analysis of human motion. Includes a study of body mechanics, principles of muscle contraction, surface anatomy, range of motion, muscle testing, and activity analysis. This study is accompanied by a review of basic functions of the musculo-skeletal and nervous system. Prerequisites: Occupational Therapy 321, Biology 219.

524 Medical and Orthopedic Conditions **4 hrs. Winter**

A series of lectures concerned with medical and orthopedic conditions which are treated by the occupational therapist. Prerequisite: Occupational Therapy 321.

Paper Technology

Raymond L. Janes, Head

Andre L. Caron
Robert A. Diehm
James E. Kline
Stephen I. Kukolich
Truman A. Pascoe

100 Introduction to Pulp and Paper Manufacture **3 hrs.**

Includes consideration of the basic processes, equipment, techniques, and variables involved in the preparation of pulps and in the utilization of these pulps to produce papers. Prerequisites: High school chemistry, General Chemistry 102 concurrent.

142 Coating, Printing, and Converting **3 hrs.**

A lecture-laboratory course dealing with the fundamentals of pigmented and functional coating of paper, printing-ink-paper interrelationships, folded and corrugated carton manufacture and packaging. Laboratory study involves preparation, application, and evaluation of various coatings; and printing and its evaluation. Prerequisite: Paper Tech. 100.

310 Summer Mill Practice **2 hrs. Summer**

Full time employment in a pulp and/or paper mill or related industry in order to provide first-hand industrial experience. Typed report required. Open only to departmental majors. Prerequisite: One summer of summer employment.

320 Physical Characteristics of Pulp, Paper and Fibers **4 hrs.**

Lecture and laboratory study of techniques, theories and instruments used for the characterization and evaluation of the physical and optical properties of papers and pulps. Also the microscopy of fibers is studied in the laboratory for the determination of fiber species and pulp type. Prerequisite: Paper Tech. 100.

330 Principles of Chemical Engineering **3 hrs.**

A foundational course in chemical engineering concepts and calculations, stressing problem solving based on material and energy balances. Some problems are taken from paper industry operations. Prerequisites: Chem. 102, Physics 112 concurrent, Math. 222.

331 Principles of Chemical Engineering **3 hrs.**

A continuation of 330 emphasizing calculations and concepts of the unit operations of fluid dynamics and heat transfer. Also considered quantitatively are evaporation, humidification and drying. Prerequisite: Paper Tech. 330.

333 Chemistry of Wood and Pulp **4 hrs.**

A combined lecture-laboratory consideration of the chemistry of wood, pulp, and pulping by-products. Included topics are cellulose, lignin, accessory carbohydrates, extractives, and spent liquor utilization. Prerequisites: Chemistry 360; 361 (concurrent).

340 Pulp Manufacture **4 hrs.**

An advanced treatment of the topics introduced in Course 100. Processes, techniques, and equipment involved in pulping, chemical recovery, by-products, and bleaching of pulp are considered in depth from an engineering and chemical standpoint. Practical experience is gained through comparative laboratory pulping and bleaching studies using the various chemical, semi-chemical, and mechanical procedures. Prerequisites: Organic Chemistry 360, 361; Paper Tech. 100, 300; 333 concurrent.

341 Paper Manufacture **4 hrs.**

An advanced treatment of the topics introduced in Course 100. Lecture and laboratory time is devoted to theory, engineering practice, and control of equipment in the mechanical preparation of fibers and the formation, pressing, and drying of paper. Papermaking operation will be studied on the pilot scale papermachine. Prerequisites: Paper Tech. 100 and 330.

440 Current Topics in Paper and Pulp **1 hr.**

This course will be handled on a seminar basis utilizing guest speakers, University staff, and students. Its purpose is to add depth and breadth to the background of students. Required for third year students without credit. Fourth year students are required to elect this course twice for a total of two semester hours.

451 Effluent Control and Microbiology **2 hrs.**

The causes and control of paper and pulp mill effluents in air and stream are discussed. The relationship between microbiology, stream pollution, papermill operations, and finished product are explored.

470 Senior Thesis **2 hrs.**

This course is designed to increase the student's ability to develop a research or technical problem; to critically analyze the available information on this problem; to use this analysis to plan an experimental investigation; to carry out the experiments, and, finally, to present the completed program effectively both in writing and orally. About one-half of the semester is spent on developing the problem and completing the literature search. The second half is devoted to planning and initiating the experimental work. Prerequisite: Consent of Department Head.

471 Senior Thesis **2 hrs.**

A continuation of 470, including completion of the laboratory work and preparation of the final typed paper in duplicate. Oral presentation will be arranged.

530 Polymer Chemistry **2 hrs.**

A study of the molecular structure and polymerization reactions of high molecular weight compounds in relation to mechanical and rheological behavior and chemical properties. Methods for characterization of bulk and solution properties of polymers are considered in detail. Prerequisite: Chemistry 361.

550 Paper Industry Processes **3 hrs.**

Offered primarily for students in graphic arts and printing management programs in order to provide a basic understanding of the major aspects of the science and technology of pulping, papermaking, coating, and evaluation of materials, especially as they relate to printing.

560 Advanced Topics in Pulp and Paper Engineering **3 hrs.**

This course will stress the concepts of momentum transfer applied to fluid flow, heat transfer, and mass transfer. Mathematical consideration of filtration, extraction, mixing, and kinetics will be included.

590 Instrumentation and Process Control **3 hrs.**

A detailed consideration of the theory and practice of electronic and pneumatic sensing instruments and process control. Simulation of process dynamics and computer application will be emphasized.

591 Instrumentation and Process Control **3 hrs.**

Continuation of Course 590.

Transportation Technology

Harley D. Behm, Chairman

John W. Cummings
Herbert E. Ellinger
Forrest O. Hutchins
LaVerne M. Krieger
Ronald L. Sackett
Pat D. Schiffer
Curtis N. Swanson
James VanDePolder
Clarence N. VanDeventer

The Transportation Technology Department offers four-year curricula in Automotive and Aviation Engineering Technology, two-year curricula in Automotive and Aircraft Technology and Pilot Training.

A major can only be obtained by completing one of the curricula. A minor may be secured upon the approval of the departmental advisor and by completing 15 to 20 semester hours of work, depending upon the area of specialization.

After completing a two-year program, a student may transfer into a degree technical program upon the recommendation of the counselor.

Cooperative Education in Transportation Technology

Students enrolled in any Transportation Technology degree curriculum may pursue a cooperative plan of education whereby one semester is spent in industry followed by one semester of study on the campus. Only students of junior standing having a minimum scholastic average of 2.5 are eligible.

Students are usually selected in pairs and alternate by semester between campus and industry. While on the job, the student is enrolled in the course "Coordinated Industry 300" and is paid an appropriate salary by the company.

Cooperative students work in such areas as manufacturing, assembly, research, design, quality control, and safety. They may perform tests, prepare engineering drawings, collect and record data, design tools and fixtures, and assist in supervision. The student's cooperative program is closely supervised by a University Coordinator.

AUTOMOTIVE

125 Automotive Chassis **4 hrs. Fall, Winter**

A study of the design, operation and service techniques of the transmission, rear axle, brakes, power assist units, suspension and steering geometry. Theory is supplemented with laboratory work involving disassembly, visual inspection of parts, calculating loads, making adjustments and performing service operations.

126 Automotive Carburetion and Electricity **4 hrs. Fall, Winter**

Theory and practice in diagnosing, adjusting and tuning modern automotive engines and electrical accessories. Laboratory practice is provided using motor analyzers, oscilloscopes, distributor testers and generator test benches.

222 Fuel and Lubricants **2 hrs. Fall, Winter**

A study of petroleum products and their application to the fuel and lubricant requirements of automobiles and aircraft. Laboratory tests are conducted to ascertain octane requirements, octane numbers, viscosity, volatility, flash and fire point, carbon residue, API degree, and dropping point of grease.

226 Automotive Engines **4 hrs. Fall, Winter**

A study of the design, dynamic characteristics, thermodynamics, and basic service techniques of automotive engines. Theory is supplemented with laboratory work involving disassembly, visual and mechanical inspection of parts, plotting charts and graphs of engine characteristics, performing service operations, assembly, and engine operation. Prerequisite: Math 100 or equivalent.

322 Automotive Service Management **2 hrs.**

A study of the principles involved in managing automotive repair shops and procedures in maintaining proper customer service relations.

325 Automotive Testing **4 hrs. Fall**

Theory and application of the basic principles of engineering measurements, as applied to automotive testing. Laboratory assignments involve calibration of instruments, obtaining data, dynamometer operation, engine testing, and evaluation of engine modifications on overall performance. Written reports of laboratory assignments are required. Prerequisites: TT 125, 126, 222 and 226.

422 Automotive Design Analysis **4 hrs. Winter**

Individual and group design projects will be selected on subjects relating to automotive test, development, or modification. The student will design, build, test, develop and evaluate his project. Written reports such as project request, progress reports, and final reports are required. Prerequisite: TT 325.

AVIATION

110 Introduction to Aviation **3 hrs. Fall**

An introductory course covering basic principles and terminology of airframes, powerplants, helicopters, and theory of flight.

112 Powerplants **4 hrs. Fall, Winter**

Theory and laboratory work dealing with the disassembly, assembly, inspection, and overhaul of aircraft powerplants, carburetors, fuel, lubrication, and supercharge systems.

113 Airframes **4 hrs. Fall, Winter**

Theory and laboratory practice covering the repair of fabric and metal covered airframe components as prescribed by FAA.

212 Powerplants **4 hrs. Fall, Winter**

Theory and laboratory work covering ignition systems, testing, trouble diagnoses, and operation of aircraft engines. Prerequisite: TT 112.

214 Aircraft Welding **2 hrs. Fall, Winter**

Theory and practices governing FAA aircraft welding techniques. Prerequisite: ET 152.

215 Powerplants **4 hrs. Fall, Winter**

A study of aircraft propellers, jet propulsion powerplants, jet aircraft systems and their operation.

216 Airframes **4 hrs. Fall, Winter**

Theory and laboratory practice covering weight and balance, controls, rigging, inspections, hydraulic systems, and electrical systems. Prerequisites: TT 110, ET 240.

218 Aircraft Servicing **5 hrs. Spring, Summer**

The primary objective of this course is to provide the student with an opportunity to conduct periodic inspection, routine and preventive

maintenance, minor repairs on certificated flying aircraft, and a review of FAA publications. The student will also have the opportunity to learn servicing of aircraft and the management of a small airport. Required for all students who plan to qualify for the FAA Airframe and Powerplant Mechanics Certificate.

219 FAA Maintenance Regulations **2 hrs. Fall, Winter**

A course designed to prepare the student for the FAA written and practical examinations administered by the FAA. Prerequisite: TT 218.

309 Elementary Ground School **2 hrs. Fall, Winter**

A study of the principles of flight, navigation, and meteorology and the Federal Air Regulations as they apply to the private pilot. At the completion of the course, the student may take the written portion of the Federal Aviation Agency private pilot examination.

310 Elementary Pilot Training **2 hrs. Fall, Winter**

A course for any full-time university student. The course consists of forty hours of flight training. At the completion of the course, the student is eligible to take the Federal Aviation Agency private pilot examination.

311 Intermediate Ground School **2 hrs. Fall, Winter**

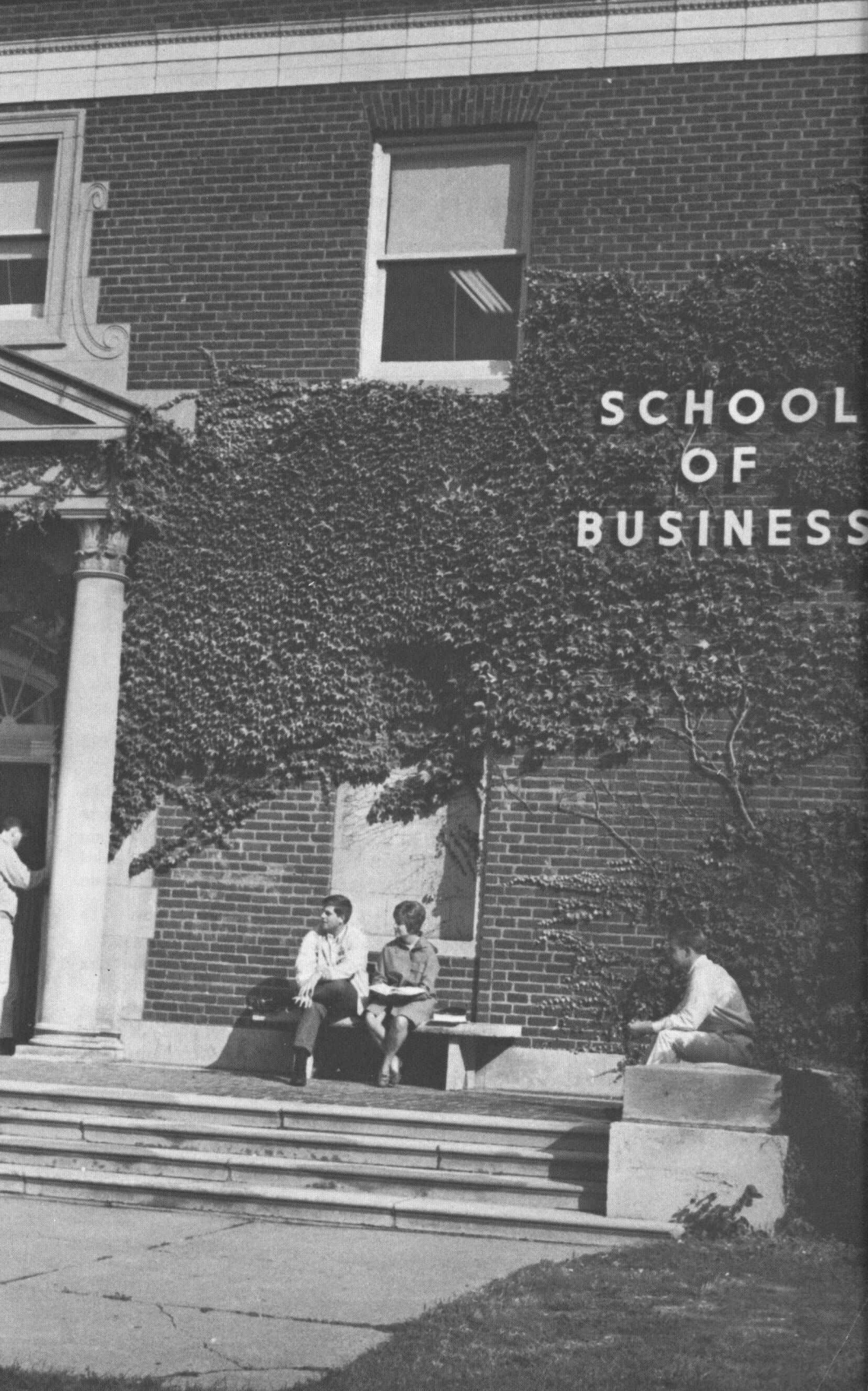
A continuation of TT 309 in which advanced systems and methods for commercial and instrument flying are explored.

312 Intermediate Pilot Training (A, B, C) **2-6 hrs. Fall, Winter**

The course is divided into three parts; Pilotage, Radio Navigation, and Commercial Refresher. Each part requires 40 hours of flight time and one semester to complete. May be elected three semesters for a maximum of six hours. Completing the flight training and ground school, the student is eligible to take the Federal Aviation Agency Commercial pilot examination. Prerequisite: TT 310 or Private Pilot License.

410 Advanced Pilot Training (A, B) **2-4 hrs. Fall, Winter**

Each of the two parts of this course require 40 hours of flight time and one semester to complete. May be elected two semesters for a maximum of four hours. One part deals with Instrument and the other part deals with Flight Instruction techniques. After completing each part, the student will be qualified to take the appropriate Federal Aviation Agency examination for the Instrument Pilot or Flight Instructor Rating. Prerequisite: TT 312C or Commercial Pilot License.


SCHOOL
OF
BUSINESS

School of Business

ARNOLD E. SCHNEIDER,
Dean

FRED V. HARTENSTEIN,
Associate Dean

Departments:

Accounting
Business Education
General Business
Management
Marketing

Institute:

Business Research and Service

Objectives of the School of Business

The function of the School of Business is to prepare capable men and women for responsible positions in business, industry, and public service. Three major areas of education are involved in the development process.

They are:

1. A foundation of liberal arts and sciences in full recognition that as a future leader in the business and industrial world, the student will need a sound understanding of his relationships to social, economic, political and cultural trends.

2. The presentation of a core curriculum which contemplates a thorough grounding in the fundamentals through which our free enterprise economic system operates. These fundamentals are met through core subjects such as accounting, business statistics, business law, finance, marketing, management and business communication.

3. An opportunity for specialization in various aspects of business activity.

Continuing opportunities are made available to resident students to participate in campus meetings with business, industrial, and public service leaders, as well as outstanding professional men from various disciplines. In addition, business firm visitations, as well as business internships, give ample opportunity for the student to relate himself to his future role. Western's Placement Office is visited by the major firms that are engaged in recruiting activities.

The four main programs in the School of Business are:

1. Business Administration — Bachelor of Business Administration Degree; 18 major areas.

2. Business Teacher Education—B.S., B.A., or B.B.A. degree with a State Secondary Provisional Certificate.

3. Master of Business Administration for graduate students with a Liberal Arts, Engineering, Business or other undergraduate preparation.

4. Accountancy—Master of Science in Accountancy for students desiring intensive preparation for a professional accounting career.

Business Administration Curriculum

Bachelor of Business Administration Degree

A. Minimum hours required for this curriculum — 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.*

2. Speech — 3 hrs.
   Business and Professional Speech 104, or
   General Speech 100 — 3 hrs. (a)

3. Mathematics and Psychology — 7 hrs.
   Algebra and Trigonometry 100 — 4 hrs. (a)**
   Psychology I 150 or equivalent — 3 hrs. (b)

4. Social Sciences — 12 hrs.
   American National Government 200 — 3 hrs.
   Principles of Economics 201, 202 — 6 hrs. (c)
   plus Economics elective — 3 hrs.

5. Business Administration Core — 30 hrs.
   Accounting Principles 210-211 — 6 hrs.
   Marketing Principles 240 — 3 hrs.
   Business Communication 242 — 3 hrs.
   Business Statistics 244 — 3 hrs.
   Fundamentals of Management 254 — 3 hrs.
   Business Finance 320 — 3 hrs.
   Business Law 340-341 — 6 hrs.
   Management Problems 550 — 3 hrs.

6. Major and minor requirements; electives — 43 hrs.

7. Physical Education or Military Science — 4 hrs.

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*Note the 15 hrs. of courses listed below may be used as approved alternatives in General Studies.

(a) Speech 100 or 104, and Math 100, are approved electives under General Studies III.

(b) Psychology I 150 is an approved alternative in Science under General Studies I.

(c) Economics 200 is an approved alternative in Social Science under General Studies I.

**The Math 100 requirement is waived for any student who has successfully completed 1½ or more units of high school algebra with a C or better average, or at least 2½ units of high school algebra, geometry and trigonometry with a C or better average.

Major Areas of Concentration In Business Administration

DEPARTMENT OF ACCOUNTING

Major Requirements:

Principles of Accounting 210, 211	6 hrs.
Intermediate Accounting 310, 311	6
Advanced Accounting 511	3
Cost Accounting 512	3
Income Tax Accounting 514	3
Auditing 516	3
	24

Recommended Accounting Electives:

Governmental Accounting 314	3 hrs.
Internship in Accounting 410	1–4
Accounting Systems 513	3
Cost Accounting—Theory and Practice 517	3
Accounting Theory and Problems 518	3
Studies in International Accounting 521	3

Advisers: Report to the Department of Accounting office for assignment to adviser. Your adviser will be pleased to assist you in recommending elective courses and planning your program.

BUSINESS EDUCATION DEPARTMENT

1. Teaching of Business Subjects **Adviser: Jones**

The B.B.A. degree with certification for teaching business subjects at the secondary school level requires the addition to the Business Administration curriculum of the 21 semester hours of professional education courses listed on page 177 and Methods of Teaching Business Subjects, 346.

For certification with the B.S. or B.A. degree see the curriculum in Business Teacher Education listed on page 176.

2. Secretarial Administration

The Secretarial Administration Curriculum is designed to enable students to progress through sequential preparatory phases as they move

toward the acquisition of a bachelor's degree and final preparation to undertake administrative secretarial and office supervisory positions.

A. Secretarial Internship Phase **Adviser: Null**

This work-study program concentrates on the development of skills through cooperative work experience combined with classroom experience. The latter is combined with part-time employment during the Sophomore year. Students have the opportunity to elect courses which fit their needs, schedules, and abilities.

First and Second Semesters		Third and Fourth Semesters	
College Writing 116	4	Business Communication, General Business 242	3
Freshman Reading 140	2	Records Management 288	2
**General Studies electives	8	Coordinated Business Exp. 282	3
Production Typewriting 185	3	Coordinated Business Exp. 283	1
Transcription 184	4	Accounting 210	3
Office Machines 281	3	Office Organization 386	3
Psychology I 150	3	Secretarial Practice 287	3
Industrial and Business World 140	3	**Electives	13
Physical Education	1		31
	31		

B. Administrative-Supervision Phase
(fifth, sixth, seventh and eighth semesters) Advisers: Null, Davis

This phase of the curriculum requires the completion of:

1. The General Studies requirements listed on page 21 of this catalog.
2. The Business Administration Curriculum requirements listed on page 169.
3. Administrative Behavior 451 ..... 3 hrs.
   Management Report Writing 552 3
   Office Management 556 4

GENERAL BUSINESS DEPARTMENT

1. Finance

Required Finance Core for Options A, B, and C

Bus. 310	American Financial System	3 hrs.
Bus. 320	Business Finance	3
Bus. 326	Investments	3
Bus. 427	Financial Management	3
Bus. 499	Senior Topics in Finance	3

**Electives chosen after consulting with adviser.

Option A: Corporate Financial Management
Adviser: Grossnickle

Finance Core Plus:

Bus. 324	Credit Management	3 hrs.
Actg. 310	Intermediate Accounting*	3
Actg. 512	Cost Accounting	3

*Students are highly recommended to take Accounting 311 also.

Option B: Securities and Investment Management
Adviser: Grossnickle

Finance Core Plus:

Bus. 428	Management of Financial Institutions	3 hrs.
Actg. 310	Intermediate Accounting	3
Bus. 520	Security Analysis	3

Option C: Financial Markets and Institutions
Adviser: Grossnickle

Finance Core Plus:

Bus. 426	Money and Capital Markets	3 hrs.
Bus. 428	Management of Financial Institutions	3
Bus. 520	Security Analysis	
	or	
Bus. 322	Real Estate	3

Additional Course Recommended:

Actg. 310	Intermediate Accounting	3

Option D: Insurance Adviser: Burdick

Bus. 310	American Financial System	3 hrs.
Bus. 320	Business Finance	3
Bus. 326	Investments	3
Bus. 224	Risk and Insurance	3
Bus. 422	Life and Health Insurance	4
Bus. 424	Property and Liability Insurance	4
Bus. 526	Advanced Life and Health Insurance	4
Bus. 528	Problems in Multiple-Line Insurance	4

2. General Business **Advisers: Morrison, Wharton, and Casey**

Major: In addition to the Business Administration core, elects a logical sequence of five **advanced** business courses, but not more than three courses from any one department.

Minor: *Any student who has completed five courses from the Business Administration core listed on page 169 shall be entitled to declare these as his General Business Minor of 15 semester hours. One advanced business course of three or more semester hours may be substituted for one of the five core courses. However, not more than two courses may be taken from any one of the following eight areas: Accounting, Business Communication, Business Statistics, Business Finance, Business Law,

*For a 20-semester-hour Business Education Teaching Minor, see Business Education adviser Jones.

Insurance, Management, and Marketing. Not more than 9 semester hours of transfer credit may be applied. The requirement of a written minor slip and consent of the adviser is waived.

3. Business Law Minor:

Any student who has completed five courses from General Business 340, 341, 442, 541, 542, and 544 may declare these as his Business Law Minor. Not more than 8 semester hours of transfer credit may be applied. The requirement of a written minor slip and consent of the adviser is waived.

MANAGEMENT DEPARTMENT

Four major sequences are available in Management: Personnel Administration, Industrial Management, Administrative Services, and Electronic Data Processing. Deviations from the programs listed for each sequence must be approved by advisers during the junior year. A minor in Management consist of 15 hours of departmental offerings, normally at the 300 or higher course level.

1. Personnel Administration — **Advisers: Couch, Klatt**

a. Manpower Management 352 ..... 4 hrs.
b. Personnel and Industrial Relations 360 4
c. Administrative Behavior 451 3

At least 13 additional credit hours to be elected with consent of the adviser from (a) Management Department offerings, and (b) cognate fields including the following: Sociology 575, Industrial Sociology; Psychology 381, Psychological Measurement; Psychology 540, Industrial Psychology; Economics 400, Managerial Economics; Economics 510, Labor Problems.

2. Industrial Management — **Advisers: Leader, Wilson**

a. Mathematics—Analysis and Application 200 or Mathematics 122 ..... 4 hrs.
b. Integrated Data Processing 355 4
c. Managerial Economics 400 3
d. Cost Accounting 512 3

PLUS

Option A—Production Management

e. Planning and Analysis for Production 553 ..... 4 hrs.
Two additional courses to be elected with consent of the adviser from the following:
Industrial Psychology 540; Quality Control—Industrial Supervision 308; Motion and Time Study—Industrial Supervision 304; Principles of Sociology 200; Industrial Sociology 575; Administrative Behavior 451; Readings in Management (Production) 598; Industrial Dynamics 564.

OR

Option B—Management Science

e. Introduction to Management Science 554 ..... 4 hrs.
Two additional courses to be elected with consent of the adviser from the following:

Mathematical Statistics 560; Human Factors in Engineering—Psychology 542; Electronic Data Processing 555; Readings in Management (Management Science) 598; Inventory Management 557.

3. Administrative Services **Adviser: Niemi**

a. Integrated Data Processing 355 ..... 4 hrs.
b. Accounting Systems 513 3
c. Office Management 556 4
d. Readings in Management (Office) 598 1–4
e. Administrative Behavior 451 3

Two additional courses to be elected with the consent of the adviser from the following: Mgt. 555, Electronic Data Processing; Mgt. 360, Personnel and Industrial Relations; Mgt. 352, Manpower Management; Accounting 512, Cost Accounting.

4. Electronic Data Processing **Adviser: Niemi**

a. Integrated Data Processing 355 ..... 4 hrs.
b. Electronic Data Processing 555 4
c. Introduction to Management Science 554 4
d. Accounting Systems 513 3
e. Readings in Management (E.D.P.) 598 1–4

Two additional courses to be elected with the consent of the adviser from the following: Accounting 512, Cost Accounting; Office Management 556; Industrial Dynamics 564; Economics 400, Managerial Economics; Mathematics 200, Analysis and Applications.

MARKETING DEPARTMENT

Requirements for five major areas offered in the Department:

1. Advertising **Adviser: Cannon**

Marketing 240 ..... 3 hrs.
Salesmanship 370 3
Advertising 374 3
Advertising Media and Campaigns 570 3
Advertising Copy and Layout 572 3
Market Research 576 3
Advertising Strategies 577 3
Approved elective—adviser 3

24 hrs.

2. Industrial Marketing **Adviser: Otteson**

Machining Metals, Eng. and Tech. 151 ..... 3 hrs.
Marketing 240 3

Production Control, Eng. and Tech. 306	3
Purchasing Principles 358	3
Salesmanship 370	3
Industrial Marketing 470	3
Market Research 576	3
Marketing Logistics 578	3
	24 hrs.

3. Purchasing — **Adviser: Sokolowski**

Beginning Drawing, Ind. Educ. 120	2 hrs.
Beginning Control, Eng. and Tech. 308	3
Purchasing Principles 358	3
Industrial Marketing 470	3
Management Report Writing, Mgt. 552	3
Planning and Analysis for Production, Mgt. 553	4
Purchasing Problems 558	3
Approved elective—adviser	3
	24 hrs.

4. Retailing — **Adviser: Embertson**

Marketing 240	3 hrs.
Salesmanship 370	3
Marketing Internship 371	1–6
Advertising 374	3
Principles of Retailing 375	3
Retail Promotion 474	3
Retail Merchandising 573	3
Approved elective—adviser	3
	22–27 hrs.

5. General Marketing — **Advisers: "A" thru "K"—Hardin; "L" thru "Z"—Orr**

Marketing 240	3 hrs.
Salesmanship 370	3
Advertising 374	3
Sales Management 376	3
Industrial Marketing 470	3
Marketing Problems 574	3
Marketing Research 576	3
Approved elective—adviser	3
	24 hrs.

RELATED MAJORS

I. Economics — **Adviser: Bowers**

Elect 30 semester hours from the Department of Economics.

II. Public Administration **Adviser: Morrison**

The Public Administration curriculum requires the completion of the Business Administration major and the Political Science minor listed below.*

Major: In addition to the Business Administration Core, elect at least 15 semester hours from the following:

Governmental Accounting, Accounting 314	3 hrs.
Personnel and Industrial Relations, Management 360	4
Integrated Data Processing, Management 355	4
Administrative Behavior, Management 451	3
Law of Business Organization, Gen. Bus. 544	3
Office Management, Management 556	4
Marketing Logistics, Marketing 578	3
International Marketing, Marketing 579	3
Income Tax Accounting 514	3

Minor: (Political Science)

American National Government 200	3 hrs.
State and Local Government 302	4
Public Administration 330	5
Problems of Public Administration 530	3–4
Administrative Law and Public Regulation	4

Business Teacher Education Curriculum

Bachelor of Science Degree**

BUSINESS EDUCATION DEPARTMENT

Teaching of Business

A State Secondary Provisional Certificate for teaching of business subjects in grades 7 to 12 is granted to students who complete this curriculum with a 30-semestr-hour major in business and a 20-semester-hour minor, which may also be in business.

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*Another option is available where a student may major in Political Science and minor in Business. See Political Science adviser.

**Completion of 70 semester hours in the School of Liberal Arts leads to a Bachelor of Arts degree.

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.

2. Social and Behavioral Sciences ..... 11 hrs.

American National Government 200	3 hrs.
Principles of Economics 201, 202	6 hrs.*
Psychology I 150 or equivalent	3 hrs.**

3. Professional Education courses ..... 21 hrs.

Human Development and Learning 250	4 hrs.
Teaching and Learning, Secondary 300	3 hrs.
Seminar in Education 410	2 hrs.
School and Society 450	3 hrs.
Directed Teaching 470	9 hrs.

4. Business Education Core ..... 15 hrs.

Coordinated Business Experience 282 or equivalent	3 hrs.
Business Communication 242	3 hrs.
Industrial and Business World 140 ..... or elective from Marketing or Management	3 hrs.
Teaching of Business Subjects 346	3 hrs.
Office Organization 386	3 hrs.

5. Major and minor requirements; electives .. 42 hrs.

6. Physical Education or Military Science .... 4 hrs.

C. **Suggested Areas of Emphasis** **Adviser: Jones**

1. Secretarial and related business subjects

Business Education Core ..... 15 hrs.
(See B. 4 above)

Transcription 184	4 hrs.
Production Typewriting 185	3 hrs.
Office Machines 281	3 hrs.
Secretarial Practice 287	3 hrs.
Records Management 288	2 hrs.

2. Accounting and related business subjects

Business Education Core ..... 15 hrs.
(See B. 4 above)

Accounting electives	9 hrs.
Integrated Data Processing, Mgt. 355	4 hrs.
Business electives	2 hrs.

*May be used as an approved alternative in Social Science under General Studies I.
**May be used as an approved alternative in Science under General Studies I.

3. Salesmanship, retailing and related subjects

Business Education Core (See B. 4 above)		15 hrs.
Intermediate Typewriting 183	3 hrs.	
Accounting 211	3 hrs.	
Courses from Marketing Department	9 hrs.	

4. General Business and related subjects

Business Education Core (See B. 4 above)		15 hrs.
Accounting 211	3 hrs.	
Records Management 288	2 hrs.	
Business Law 340, 341	6 hrs.	
Integrated Data Processing, Mgt. 355 or Business electives	4 hrs.	

5. Office Education Coordinator

Western Michigan University is approved by the State Board of Control for Vocational Education for the preparation of coordinators and related subjects teachers in office education. The following major will qualify the student for the Vocational Coordinator's Certificate and the Secondary Provisional Teaching Certificate.

Business Education Core (See B. 4 above)		15 hrs.
Teaching Tech. in Coop. Educ., D.E. 572	2 hrs.	
Coordination Tech. in Coop. Educ., D.E. 573	2 hrs.	
Principles of Practical Arts and Voc. Educ., Voc. Ed. 520	3 hrs.*	
Intermediate Typewriting 183	3 hrs.	
Office Machines 281	3 hrs.	
Business electives	2 hrs.	

6. Other areas of emphasis are available: See adviser.

D. Business Education Minors **Adviser: Jones**

1. For students majoring in Business Education

With the approval of the adviser, select 20 semester hours of courses from a subject matter area such as Accounting, General Business, Electronic Data Processing, Retailing, Salesmanship, or other areas appropriate for secondary education.

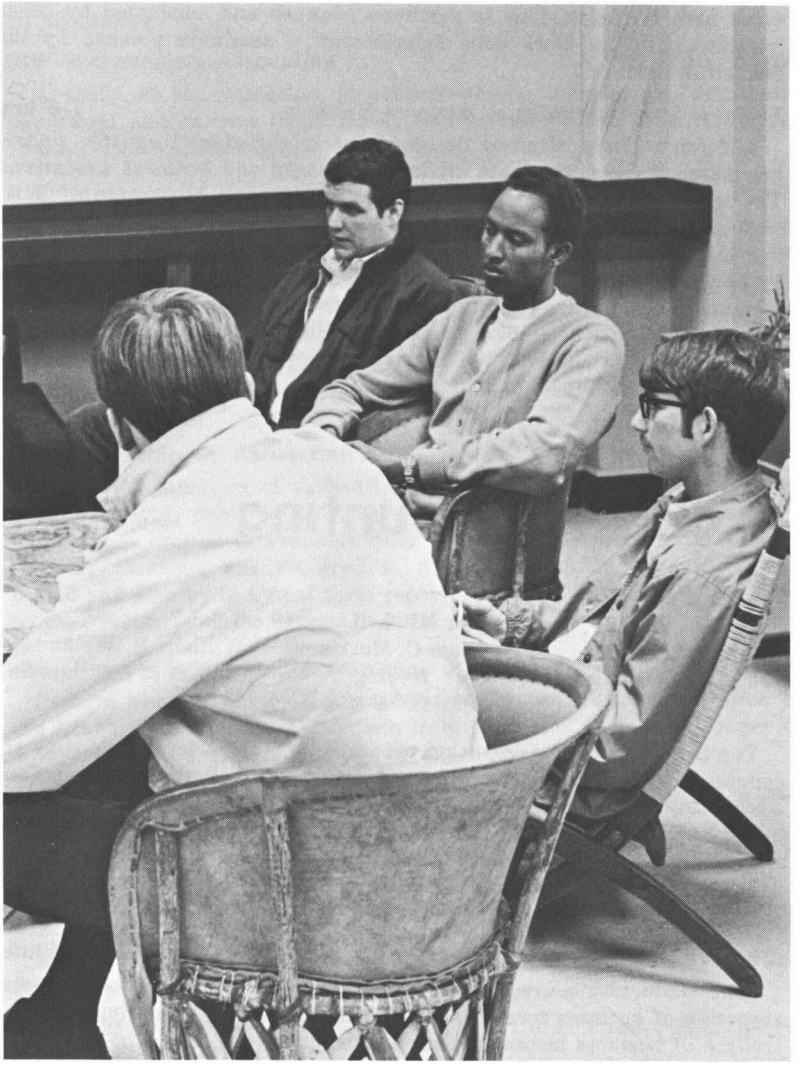
2. For education majors not majoring in Business Education

The Business Education minor of at least 20 semester hours is selected with the approval of the adviser. In addition to the Business Education core listed on page 177 of this catalog, 5 semester hours of courses from a subject-matter area such as Accounting, General Business, Electronic Data Processing, Retailing, Salesmanship, or other area appropriate for secondary education, will complete the minor.

*May be substituted for Education 450, School and Society.

3. Non-Teaching Administrative Services

   The Administrative Services minor is designed to provide preparation in the basic business tool courses that serve as complementary adjuncts for appropriate academic majors. With the approval of the adviser the student selects 18 hours with an emphasis on areas such as Clerical, Secretarial, Data Processing, Business Communications or a combination of these.



DESCRIPTION OF COURSES

Foreign Studies Seminars

Students may receive six hours credit in any combination of departments as described, provided the seminar is planned with that combination in mind. No student will receive credit under the course plan indicated here for work done in seminars planned and conducted by other institutions or for work done independent of seminars planned by the School of Business.

Business 504, International Business Seminar **1–6 hrs.**

A foreign study seminar designed for qualified and capable undergraduate students, graduate students, teachers and business executives. The seminar introduces participants to a firsthand knowledge of business operations abroad through on-site inspection of foreign manufacturing, marketing, financial, and governmental organizations, supplemented by coordinated faculty lectures and assigned reading. Students completing such a seminar may receive credit in the Departments of Accounting, Business Education, General Business, Management or Marketing, if approved by the Head of the Department prior to registration for the seminar.

Accounting

John T. Burke, Head

James E. Daniels
Frederick Everett
James J. Leisenring
James Mitchell
William C. Morris
Robert Neubig
Frederick Schaberle
John Sheppard
William R. Welke
Hubert R. Zelechowski

The Department of Accounting prepares its majors for positions as accountants in industrial, governmental and public accounting enterprises. Accounting majors must complete the Business Administration curriculum.

Students preparing for positions in industry wishing to minor in accounting are required to take 15 hours. Of these 15 hours, Accounting 210, 211, and 310 are required. The remaining 6 hours will be selected with the student's professional objective in mind.

210 Principles of Accounting **3 hrs. Fall, Winter**

An introductory course in accounting which includes the recording and reporting of business transactions, and the measuring, planning and controlling of business income, assets, and equities.

211 Principles of Accounting **3 hrs. Fall, Winter**

A continuation of course 210 with emphasis on financial and cost accounting concepts. Prerequisite: 210.

215 Accounting Concepts and Applications **3 hrs. Winter**

A study of the fundamental concepts and applications of accounting. Especially designed for the non-business student. This course does not serve as a prerequisite for any other accounting course and cannot be used for a major or minor in business. Not open to students with credit in accounting.

310 Intermediate Accounting **3 hrs. Fall, Winter**

A study of the valuation of current assets, investments, plant and equipment and current liabilities as well as their effect on business net income. Prerequisite: 211.

311 Intermediate Accounting **3 hrs. Fall, Winter**

A continuation of Accounting 310, including the following topics: Corporate capital, statements from incomplete data, financial statement analysis, and statement of application of funds. Prerequisite: 310.

314 Governmental Accounting **3 hrs. Winter**

A study of accounting principles and practices of school districts and of federal, state, county, and city governmental agencies. Prerequisite: 211.

410 Internship in Accounting **1-4 hrs. Fall, Winter**

Under the direction of a faculty adviser, students attain employment experience with public accounting or other business organizations. Participation is limited to available internships and selection by the faculty adviser. Students are required to file reports during the internship period and also write a final term report. In addition, they are evaluated by the executives of the firms.

418 Honors Seminar in Accounting **1 hr. Winter**

Seniors who are eligible for departmental honors, at the invitation of the Accounting Faculty, participate in and present an original paper to a departmental seminar.

510 Advanced Financial Accounting **3 hrs. Winter**

An intensive study of asset valuation, liabilities, corporate capital, and their relationship to income. Prerequisites: 211 or 519, and graduate standing.

511 Advanced Accounting **3 hrs. Fall, Winter**

Accounting for problems in special sales, consolidations and equities. Prerequisite: 311.

512 Cost Accounting **3 hrs. Fall, Winter**

The relation of cost accounting to management for control; general

principles involved in constructing a cost system; distribution of cost-materials, labor, and burden; cost records; operating reports; standard costs and budgetary control. Prerequisite: 211.

513 Accounting Systems **3 hrs. Winter**

An examination of the accounting system as an element of the management information system in various types of businesses. Prerequisite: Accounting 211 or consent of instructor.

514 Income Tax Accounting **3 hrs. Fall, Winter**

A study of the federal income tax laws, as they apply to individuals, partnerships, and corporations. Prerequisite: 310 or consent of instructor.

516 Auditing **3 hrs. Fall, Winter**

The theory and practice of public and internal auditing of business enterprises. Prerequisite: Senior standing, accounting major.

517 Cost Accounting—Theory and Practice **3 hrs. Fall**

The development and application of cost accounting principles to industrial situations. The course includes the application of costs to operation and to products. The preparation and analysis of detailed cost information, as well as methods and procedures for solving complex cost problems encountered in industry, are included as a major part of the course. Prerequisite: 512.

518 Accounting Theory and Problems **3 hrs. Winter**

Theoretical consideration of accounting problems. The analysis of the type of problems that are found in C.P.A. examinations, or encountered by business management is included. Prerequisite: Senior standing, accounting major.

519 Administrative Accounting **3 hrs. Fall**

Basic topics are the accumulation of financial data and the preparation of financial statements. Included are accounting topics related to business assets and entities and an introduction to analysis and interpretation of financial statements. Designed especially for graduate students who have not previously completed the equivalent at the undergraduate level. Prerequisite: Graduate standing. Not only to students with credit in accounting.

521 Studies in International Accounting **3 hrs. Winter**

A study of the differences in the principles of accounting, auditing standards, and auditing procedures in selected countries of the world. Emphasis is placed on those countries which are important in world commerce. Prerequisite: Consent of instructor.

598 Readings in Accounting **1-4 hrs.**

Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Consent of instructor.

Business Education

Darrell G. Jones, Head

Kimon Bournazos	E. L. Marietta	L. Michael Moskovis
G. Jay Christensen	Kenneth E. Martin	Leo Niemi
Jean O. Davis	John H. McBeth	Thomas W. Null
Darrell G. Jones	Max O. McKitrick	

E. L. Marietta, Coordinator, Student Teaching Supervision

The Department of Business Education includes the areas of preparation for business teaching, office education coordination, office supervision, administrative secretarial positions, and specialized stenographic and clerical work. Students enrolled in the secretarial internship phase of the Secretarial Administration Curriculum learn by combining the classroom theory and the practical experience gained from business, government, educational and industrial office situations.

In order to be vocationally certified as an office education teacher in the State of Michigan, it is necessary to have two years of unsupervised office work experience or one year of supervised internship experience. Therefore, a statement certifying the completion of the internship phase of the Business Teacher Education or the Secretarial Administration programs will be available upon request.

A major in the Department of Business Education consists of 30 semester hours. A teaching minor consists of 20 semester hours. The non-teaching Administrative Services minor consists of 18 semester hours.

140 Industrial and Business World **3 hrs. Fall, Winter**

This is an introductory course which, through a very broad approach, attempts to acquaint the student with existing principles and problems of business and industry. Such topics as types of American businesses, current business problems, current business trends, long-term financing, short-term financing, insurance, physical location and lay-out, production problems are included. Not open to B.B.A. students.

180 Beginning Shorthand **4 hrs. Fall, Winter**

A study of the theory and principles of Gregg shorthand. Typewriting 182 or its equivalent is a prerequisite or should be elected concurrently. Credit given to beginning students or students with not more than one semester of high school shorthand.

181 Intermediate Shorthand **4 hrs. Fall, Winter**

A continuation of 180. Emphasis on developing speed in taking dictation in Gregg shorthand and transcription procedures. Prerequisites:

Business Education 180 and Business Education 182 or equivalents. Credit given to students with not more than one year of high school shorthand.

182 Beginning Typewriting **2 hrs. Fall, Winter**

The mastery of the keyboard and the proper techniques of typewriting are developed in this course. Credit given to beginning students or to students with not more than one semester of high school typewriting.

183 Intermediate Typewriting **3 hrs. Fall, Winter**

Special emphasis is placed upon perfecting the techniques necessary for accuracy and speed in office typewriting. Includes office production problems at rates acceptable for initial employment. Prerequisite: Business Education 182 or equivalent. Credit given to students with not more than one year of high school typewriting.

184 Transcription **4 hrs. Fall, Winter**

Emphasizes superior skill in the typewritten transcription of business letters and other office communications. Prerequisites: Business Education 181, or 3 semesters of high school shorthand, or equivalent; Business Education 183, or equivalent.

185 Production Typewriting **3 hrs. Fall, Winter**

The development of superior skill in the production of typewritten materials for business office use. Prerequisite: Business Education 183 or equivalent. This course follows 3 semesters or more of high school typewriting.

246 Survey of Office Machines **2 hrs. Fall, Winter**

A study to develop a working knowledge of the basic mathematical operations applied to typical business problems on rotary calculators, printing calculators, key-driven calculators, ten-key adding listing machines, and full-key adding listing machines. Not open to Business Education or Secretarial Administration majors.

281 Office Machines **3 hrs. Fall, Winter**

This course is designed primarily for students preparing for office occupations and/or business teaching. Includes problems of office duplicating, voice writing and fundamentals of punched-card machines. Required of all secretarial majors. Prerequisite: Business Education 183 or equivalent.

282 Coordinated Business Experience **3 hrs. Fall**

A work-experience course meeting weekly for students in the Secretarial and Business Teacher curriculum. Prerequisites: current or previous enrollment in Business Education 184, and/or Business Education 185, and/or Business Education 287, or department permission.

283 Coordinated Business Experience **1 hr. Winter**

A continuation of Business Education 282 for students currently enrolled in Business Education 287 or those who have completed the equivalent of Business Education 287.

287 Secretarial Practice **3 hrs. Fall, Winter**

This course includes knowledges and abilities expected of executive secretaries. Emphasis is placed on intelligent choices and decision making at supervisory levels. Prerequisites: Business Education 184 and Business Education 185, or equivalents.

288 Records Management **2 hrs. Fall, Winter**

The study of efficient methods and procedures of processing, controlling, and disposing of the records of business. Includes information retention and retrieval, classifying, and the administration of paperwork. Emphasis on the role of supervisory personnel in a records management program.

346 Teaching of Business Subjects **3-5 hrs. Fall, Winter**

A course in the methods of teaching the business subjects including shorthand, typewriting, bookkeeping, and other business education knowledge and abilities. This course should immediately precede directed teaching in business education. This course is required for business education certification and follows this pattern:

Unit	Subject	Weeks	Credit
I	Introduction to Business Education	1–3	1
II	Basic Business Subjects	4–6	1
III	Bookkeeping	7–9	1
IV	Typewriting	10–12	1
V	Shorthand, Secretarial Subjects	13–15	1

All students enroll in Unit I and at least 2 others.

All students will enroll for at least 3 semester hours of credit. The course will then provide for those students who expect to teach Bookkeeping and Basic Business courses. Students who expect to teach Typewriting add an additional 3 weeks of classwork for a total of 4 semester hours of credit. Students who expect to teach Shorthand and other secretarial courses may enroll for 5 semester hours of credit for the full 15-week semester.

Prerequisites: Open only to Business Education majors or minors; Teaching and Learning, 300.

380 Alphabetic Shorthand I **4 hrs. Fall**

A system of alphabetic shorthand for personal use and for business use where 100 words a minute is adequate. Prerequisite: ability to typewrite.

381 Alphabetic Shorthand II **4 hrs. Winter**

A continuation of Business Education 380 with emphasis on transcription. Prerequisite: Business Education 380 and Business Education 183 or equivalent.

386 Office Organization **3 hrs. Fall, Winter**

Personnel policies and how they affect workers; handling and procurement of office equipment and supplies; charting of paperwork flow

and methods of paperwork simplification. Professionalization of office work and role of supervisory worker. Designed for those entering professional office work, or preparing to teach office workers.

584 Improvement of Instruction in Shorthand and Secretarial Subjects **2 hrs. Winter**

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future development in shorthand.

586 Improvement of Instruction in Typewriting **2 hrs. Fall**

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future development in typewriting.

588 Improvement of Instruction in Bookkeeping and Basic Business Subjects **2 hrs.**

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future developments in the business subject matter of this field.

589 Organization and Teaching of Office Practice **2 hrs.**

A consideration of aims and content of office-practice course in the secondary school, with plans and techniques for organizing and teaching the subject matter of the course and its laboratory material.

598 Readings in Business Education **1-4 hrs. Fall, Winter**

A series of directed readings in the area of Business Education. Prerequisite: Written consent of department head.

General Business

Arnold E. Schneider, Head
Leo Niemi, Administrative Assistant

Richard T. Adams	William L. Burdick	William F. Morrison
Ronald Anderson	James S. Casey	Hartley Nutting
Douglas V. Austin	Adrian C. Edwards	William B. Wharton
Charles A. Blagdon	Edwin Grossnickle	Don E. Wiseman
Lloyd E. Bowman	John B. Healey	H. C. Wu

The General Business Department includes the general knowledge areas in the field of business administration such as finance, insurance, and law. It also includes the commonly accepted tool areas such as statistics and business communication.

Specialized majors may be obtained from the areas of finance and insurance and specialized minors in finance, insurance, and law. In addi-

tion, non-specialized General Business majors and minors may be obtained by selecting a logical sequence of courses from the several departments within the School of Business. All majors and minors (except General Business and law minors) in this department must be approved by the assigned adviser.

FINANCE

310 The American Financial System **3 hrs. Fall, Winter, Spring**

A survey of the financial system of the United States designed to provide essential foundation for advanced finance and business administration courses. The emphasis is on the impacts and implications of changes in monetary policies and financial conditions upon the business community, especially as these changes affect business managers. The course covers the development of the American financial system, the major financial institutions, the financial markets, the monetary theory underlying modern financial systems, and stabilization policies. Prerequisite: 200 Economics.

320 Business Finance **3 hrs. Fall, Winter, Spring**

Presents a basis for understanding the financial management function of the business enterprise. Considers financial principles and techniques essential for planning and controlling profitability and liquidity of assets, planning capital structure and cost of capital, and utilizing financial instruments and institutions for capital raising. Prerequisite: 211 Accounting (May be taken concurrently). Recommended: 310 The American Financial System (May be taken concurrently).

322 Real Estate Fundamentals **3 hrs. Fall, Winter**

Supplies the basis for comprehension in real estate of the basic economic characteristics and the organization and techniques used in the real estate business. Treats real estate resources, marketing, financing, valuation, and trends.

324 Credit Management **3 hrs. Winter**

An analysis of the credit mechanism from the viewpoint of the financial executive of commercial- and consumer-oriented business enterprises. Considers the management aspects of accounts receivable acquisition and collection. The aim is to relate the credit area to the other working capital responsibilities of the chief financial officer.

326 Investments **3 hrs. Fall, Winter, Spring**

Concentrates on corporate securities as long-term investment media, largely from the standpoint of the individual investor. Examines security appraisal techniques and portfolio management strategies, with some discussion of strategies appropriate for selected financial institutions. Considers mechanics, markets, institutions and instruments important to the investment process. Prerequisite: 320 Business Finance. Recommended: 310 The American Financial System.

426 Money and Capital Markets **3 hrs.**

A systematic analysis of the functions and operations of the major American financial markets and institutions with special emphasis upon their function as suppliers of credit to the financial system. Examines the impact of cyclical and secular changes in business activity upon the money and capital markets through national income and flow-of-funds techniques. Prerequisite: 200 Economics.

427 Financial Management **3 hrs. Fall, Winter, Spring**

Stresses the financial officer's responsibilities—especially the marshalling and interpreting of figure data—in such activities as making and implementing capital expenditure policies, solving short-term and long-term financing problems, establishing dividend policies, effecting mergers and consolidations, and adapting to trends in financial markets. Case study method demonstrates financial management's role in the total management effort. Prerequisite: 320 Business Finance. Recommended: 310 The American Financial System.

428 The Management of Financial Institutions **3 hrs.**

This course is devoted to in-depth analysis of the operations of selected major financial institutions (commercial banks, savings and loans associations, insurance companies, trust companies, mutual funds, pension funds, etc.) with emphasis on management decision-making processes. Through case analysis and problems the student is introduced to cash, loan, deposit, investment, and management problems faced daily by managers of these financial institutions. Prerequisites: 310 The American Financial System, 320 Business Finance.

499 Senior Topics in Finance **3 hrs. Fall, Winter, Spring**

This course is designed as a capstone course for finance majors who can benefit from intensive study of selected current issues in finance. Course designed to increase research and analytical capacities of finance majors through intensive faculty-student work. Student permitted freedom to explore topics of interest in depth with assistance of professors. Required: "C" Card.

520 Security Analysis **3 hrs. Fall, Winter, Spring**

A sophisticated analysis of investment securities from the viewpoint of establishing meaningful valuation techniques. The course is designed for students anticipating careers in investment management in industrial firms and/or financial institutions. Prerequisite: 326 Investments.

INSURANCE

224 Risk and Insurance **3 hrs. Fall, Winter**

A comprehensive course which considers the nature and orientation of non-speculative risks and the methods of treating them, with major

emphasis on the insurance mechanism. The impact of these risks on public policy is also discussed, as are the primary functional aspects of insurance operations.

328 Internship in Insurance **1-4 hrs.**

Open only to insurance students. Under the direction of the adviser, students obtain home office or branch office experience with insurance companies. They are required to file reports during the internship period, and will be evaluated by company officers.

422 Life and Health Insurance **4 hrs. Fall**

This course combines a discussion of the economic aspects of life and health insurance with basic analysis of life insurance, health insurance and annuity contracts. It also includes investigation of the major functional aspects of life and health insurance companies. Prerequisite: 224 Risk and Insurance.

424 Property and Liability Insurance **4 hrs. Winter**

This course includes analytical study of the major property and liability contracts, together with discussion of the principal functional aspects of property and liability company operations. Prerequisite: 224 Risk and Insurance.

526 Advanced Life and Health Insurance **4 hrs.**

By means of problems and cases this course analyzes in detail the following areas: group life and health insurance, business life and health insurance, insured pension plans and estate and tax planning. Prerequisite: 422 Life and Health Insurance or consent of instructor.

528 Problems in Multiple-Line Insurance **4 hrs.**

The topics studied by means of cases and problems in this course include multiple-line insurance operations, special problems in functional areas of industry operations and personal and commercial risk surveys and analysis. Prerequisite: 424 Property and Liability Insurance or consent of instructor.

LAW

340 Business Law **3 hrs. Fall, Winter**

An introduction to the legal environment of business with an emphasis on contracts.

341 Business Law **3 hrs. Fall, Winter**

Continuation of Business Law 340 with emphasis on negotiable instruments and agency. Prerequisite: 340 Business Law.

442 Damage and Tort Liability **3 hrs. Winter**

The study of civil liability and remedies for intentional wrongs, defamation and negligence. Designed to equip the student to recognize problems arising in this area. Prerequisite: 340 Business Law.

541 Law of Personal Property **3 hrs. Winter**

The study of the law including sales, bailments and transportation. Prerequisite: 340 Business Law.

542 Law of Real Property **3 hrs. Fall**

The study of real property including property rights, mortgages, leases and land contracts. Prerequisite: 340 Business Law.

544 Law of Business Organizations **3 hrs. Fall**

Study of law of business organizations including partnerships, corporations and trust organizations. Prerequisite: 340 Business Law.

STATISTICS

244 Business Statistics **3 hrs. Fall, Winter**

A survey of statistical concepts and techniques of organizing and interpreting business data. Includes the use of statistics; tabular and graphical presentation of data; samplying methods; elements of probability; concept of populations sample and sample distribution; point and interval estimates. Also includes introduction to methods of analyzing business fluctuations through index numbers, correlation and regression. Prerequisite: Math 100 or equivalent.

420 Business Forecasting **3 hrs. Fall**

A study of the typical business cycle behavior, significant business indicators and methods of analyzing and forecasting business trends. Includes a critical analysis of published research on business trends and a small research study by the student on the analyses of various bodies of data. Prerequisite: 244 Statistics.

540 Advanced Statistics **3 hrs. Winter**

An intensive study of probability theory and statistical inference. Topics covered include theoretical probability distributions, hypergeometric binomial, normal, normal approximation of binomial, poisson and the t-distribution. Also included are point and interval estimation, tests of hypothesis, type I and type II errors, the power of a test, sequential sampling, correlation and regression analysis, and some Bayesian Statistics. Prerequisite: 244 Business Statistics.

COMMUNICATION

242 Business Communication **3 hrs. Fall, Winter**

Provision is made in this course for an analysis of and practice in writing various types of business letters and reports. A study is made of the principles of effective written expression. Prerequisite: General Studies 116 or equivalent.

ALL AREA COURSES

598 Readings in General Business **1-4 hrs. Fall, Winter**

Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of instructor.

Management

J. Michael Keenan, Chairman

Gene S. Booker	Alan H. Leader	Max C. Schnoor
Peter D. Couch	Sandra Mriscin	Melvin J. Tessin
Fred V. Hartenstein	Leo Niemi	Harold K. Wilson
Lawrence Klatt	Arnold E. Schneider	H. C. Wu

Four major sequences are available in management: Personnel Administration, Industrial Management, Administrative Services, Electronic Data Processing.

250 Small Business Management **3 hrs. Fall, Winter**

A study of the fundamental principles involved in the operation of a small business enterprise. The structure, functions, and basic operating principles will be discussed and developed.

254 Fundamentals of Management **3 hrs. Fall, Winter**

A consideration of management as a basic process applicable to all enterprises, with major emphasis on the basic management functions of planning, organizing, actuating, and controlling.

352 Manpower Management **4 hrs. Fall, Winter**

The manager-employee relationship, oriented toward the personnel responsibilities of all managers: the nature of the manager-employee relationship; selection, appraisal, and development of subordinates; communication, discipline, and leadership; relationship of the individual and the organization. Emphasis on case analysis and current research. This course is intended to be the introductory course in personnel mangement.

355 Integrated Data Processing **4 hrs. Fall, Winter**

A survey of electro-mechanical and electronic data processing equipment, methods, and applications. Programming computers in detailed machine, SPS, and FORTRAN languages.

360 Personnel and Industrial Relations **4 hrs. Fall, Winter**

The administration of the personnel program, with emphasis on formal personnel department functions. Special attention will be given to the

management of compensation and employee services, and to the administration of labor relations programs including contract negotiation and maintenance.

451 Administrative Behavior **3 hrs. Fall, Winter**

A course designed to integrate the contributions and implications of the behavioral sciences to modern business practice to promote and maintain effective human relations for the individual and the group. Extensive use of cases and conference methods is made.

490 Honors Seminar **1-3 hrs. Fall, Winter**

A discussion of selected topics in contemporary management. Prerequisite: Consent of departmental honors committee and instructor. May be repeated for credit.

499 Independent Honors Studies in Management **1-3 hrs. Fall, Winter**

Opportunity for independent reading and/or research under the direction of a faculty member. Prerequisite: Consent of departmental honors committee and instructor. May be repeated for credit.

550 Management Problems **3 hrs. Fall, Winter**

An integrating course intended to give the student an opportunity to solve management problems by bringing together the knowledge gained in the study of areas such as finance, accounting, marketing, economics, management. Case study method is used. Prerequisites: Business Finance 320 and Senior standing.

552 Management Report Writing **3 hrs. Fall, Winter**

A study of the techniques in, and applications of, management reports and management report writing. Actual management reports in the various fields will be studied. The development and practice of technical report writing will be stressed.

553 Planning and Analysis for Production **4 hrs. Fall, Winter**

An examination of modern methods of analyzing and solving recurrent problems in the area of production planning. Applications will be stressed. Prerequisites: Principles of Economics 201, 202; Statistics 244 and Math 122 or 200.

554 Introduction to Management Science **4 hrs. Fall, Winter**

Modern scientific techniques used in business and industry for controlling operations, maximizing profits or minimizing costs. Allocation of men, money and machines among alternative uses. Other strategies and control methods applicable to management, marketing and finance. Prerequisite: Statistics 244 and Math 122 or 200.

555 Electronic Data Processing **4 hrs. Fall, Winter**

Programming electronic computers in PL/1 and COBOL languages. Computers, computer applications, systems and procedures, and feasi-

bility studies. Prerequisite: An introductory computer course or consent of instructor.

556 Office Management **4 hrs. Fall, Winter**

Areas of office services from the managerial viewpoint. A brief overview of the problems of organizing, constructing, installing, and maintaining office systems. New concepts of office automation are introduced.

557 Inventory Management **3 hrs. Fall**

The practical application of modern management techniques in the definition and solving of problems in inventory systems. Prerequisite: Statistics 540 or equivalent.

562 Administrative Dynamics **4 hrs. Winter**

The development of a model to integrate management principles, administrative behavior, small groups research and individual psychological theory. Analysis of static and dynamic models. Prerequisite: Consent of instructor.

564 Industrial Dynamics **4 hrs. Fall**

Development of a model for the integration of the functional areas of business to create more successful mangement policies and organizational structures.

598 Readings in Management **1-4 hrs. Fall, Winter**

Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of department head. Repeatable with consent of department head.

Marketing

Robert B. Trader, Head

Zane Cannon
Richard E. Embertson
Lawrence Gilbert
Frances S. Hardin
William H. Japinga
Leonard D. Orr
Connor P. Otteson
Emil J. Sokolowski

240 Marketing **3 hrs. Fall, Winter**

Functions, institutions, and problems of marketing examined from the viewpoint of their effect on distribution of goods. Prerequisites: Principles of Economics 201 or permission of instructor.

358 Purchasing Principles **3 hrs. Fall, Winter**

The organization and operation of the purchasing department; policies dealing with inventory control, vendor relations, purchasing responsi-

bilities, and programs such as value techniques, standardization, scrap disposal and negotiations.

370 Salesmanship **3 hrs. Fall, Winter**

An introduction to the principles of selling. Includes study of selling in our present economy, analysis of the steps in a sales demonstration, and a classroom sales presentation.

371 Marketing Internship **1-6 hrs. Fall, Winter**

Cooperative internship training for BBA-degree Marketing majors having completed sophomore year. Variable credit at the rate of approximately one credit per 100 hours of internship training acceptable to adviser. May be repeated for a maximum of 6 hours credit. Term reports required; evaluations completed by executives of firms in which training takes place. Prerequisites: Marketing major and consent of instructor.

374 Advertising **3 hrs. Fall, Winter**

An analysis of the principles and practices used in various types of advertising such as newspaper, radio, and direct mail.

375 Principles of Retailing **3 hrs. Fall, Winter**

Designed to give the student an over-all view of the field of retailing. Includes history of retailing, types of retail institutions, store location, layout, fixtures, and equipment; store organization; store record-keeping; customer services; personnel management; systems and store protection.

376 Sales Management **3 hrs. Fall, Winter**

A study from management's viewpoint dealing with the organization and operation of the sales division within business enterprises. Includes work in the areas of sales organization structures, selection, training, compensation, territories, conventions, and sales performance evaluation. Prerequisite: Salesmanship 370, or approval of instructor.

470 Industrial Marketing **3 hrs. Fall, Winter**

A course designed to analyze the problems of marketing industrial goods. Attention given to market information, market planning, methods of distribution, pricing, and the promotional problems of industrial marketing. Prerequisite: Marketing 240 or permission of instructor.

474 Retail Promotion **3 hrs. Fall, Winter**

A study of publicity peculiar to retailing. Includes advertising, display, color-line-design, special sales, public relations, press publicity, and promotion research.

558 Purchasing Problems **3 hrs. Fall, Winter**

A study of problems confronting a purchasing department including evaluation of suppliers, source selection, stores control, budgets, foreign buying, lease, or buy, legality and capital equipment. Prerequisite: Marketing 358.

570 Advertising Media and Campaigns **3 hrs. Fall, Winter**

A frame of reference for the evaluation of media and advertising through communications research. Course includes both theory and practice of media research, use of Audit Bureau of Circulation data, broadcast ratings, copy testing, development of media plans and scheduling as required for advertising campaigns. Prerequisite: Advertising 374 or permission of instructor.

572 Advertising Copy and Layout **3 hrs. Fall, Winter**

Study of the theory and practice in the writing, preparation and typographical composition of advertising including the writing of radio, television, and newspaper copy. Prerequisite: Advertising 374 or permission of instructor.

573 Retail Merchandising **3 hrs. Fall, Winter**

A study in the development of an optimum blend of product, place, promotion, and price in the final consumer market. Includes study of buying policies and negotiations, resource selection and development, merchandise information, expense control systems and budgets, sales and customer analysis, pricing, and government regulations. Prerequisite: Principles of Retailing 375 or permission of instructor.

574 Marketing Problems **3 hrs. Fall, Winter**

Analysis of current marketing problems utilizing the case method of study. Prerequisite: Marketing 240 or permission of instructor.

575 Marketing Projects **1-4 hrs. Fall, Winter**

Concentrated study of specific areas of Marketing which seem to warrant current attention and in which the student indicates a strong interest. Prerequisite: Consent of instructor.

576 Marketing Research **3 hrs. Fall, Winter**

Designed to include an introduction to market research, the procedures and applications of research, and the accomplishment of a research project. Term project includes selection of problems, preparation of questionnaires, data collection, analysis of data, and final report. Prerequisite: Marketing 240, Jr. or Sr., status or approval of instructor.

577 Advertising Strategies **3 hrs. Fall, Winter**

Involves the analyses and preparation of advertising as a communicative tool. Utilizes case studies, discussions, extensive readings in the areas of consumer markets, media selection, budgeting, product promotion, and retail advertising coordination. Capstone course for advertising students. Three one-hour weekly sessions plus field work and individual consultations. Prerequisite: Advertising 374 or permission of instructor.

578 Marketing Logistics **3 hrs. Fall, Winter**

An analysis of problems relating to the movement, handling and storage of industrial products. Attention will also be given to changing

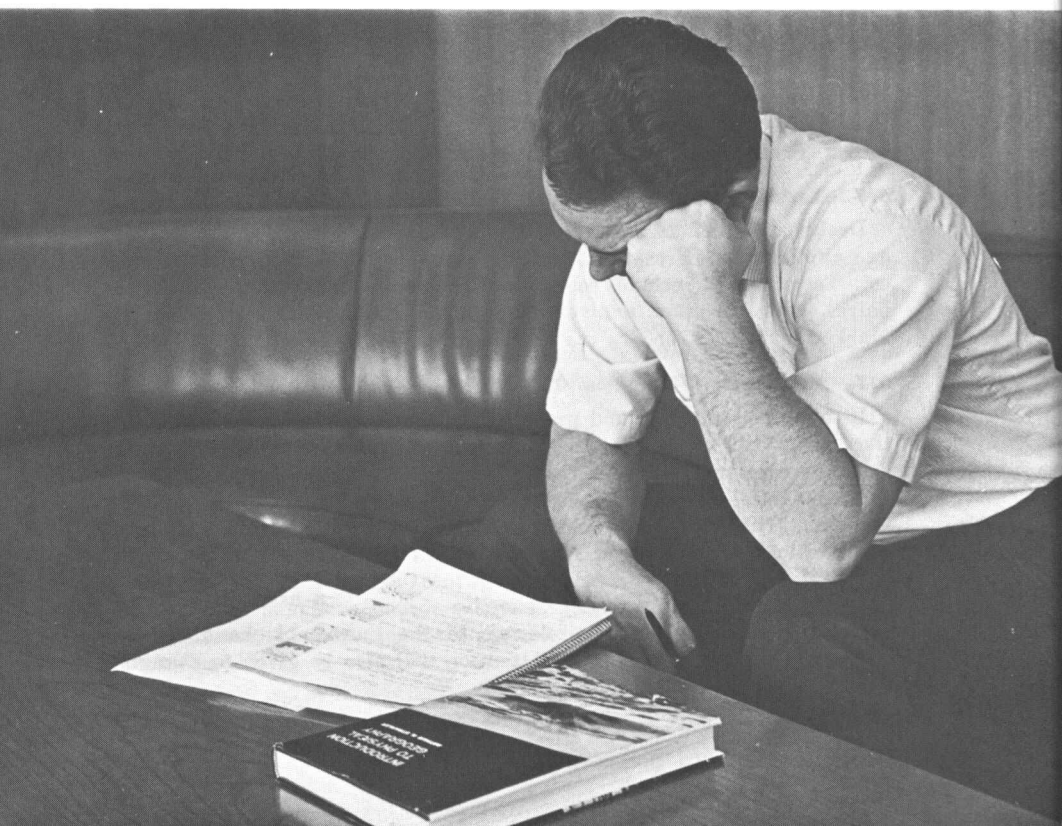
market conditions and industrial structure as they affect the physical distribution of industrial goods. Prerequisite: Marketing 240 or permission of instructor.

579 International Marketing **3 hrs. Fall, Winter**

An examination of the theories and principles of international marketing. Attention directed to related commercial policies, trade practices and procedures, and marketing research tools and techniques needed to locate and evaluate foreign markets. Prerequisite: Marketing 240 or permission of instructor.

598 Readings in Marketing **1-4 hrs. Arranged**

Directed individual study of bodies of knowledge not otherwise treated in departmental offerings. Prerequisite: Written consent of instructor.



School of Education

JAMES H. GRIGGS,
Dean

MYRON L. COULTER,
Associate Dean

Departments:

Teacher Education
Special Education
School Services
Physical Education for Men
Physical Education for Women

Agencies:

Campus School
Educational Resources Center
Institute of Blind Rehabilitation
Psycho-Educational Clinic

The School of Education consists of the following departments: Teacher Education, Special Education, School Services, Physical Education for Men, Physical Education for Women, Campus School, the Educational Resources Center, the Institute of Blind Rehabilitation, and the Psycho-Educational Clinic.

In general, the School of Education performs six functions:

(1) Supervises the selection, admission and retention of students in advanced teacher education curricula;

(2) Offers professional education courses designed to develop competent, efficient performance in the classroom and within a school system;

(3) Offers advanced specialized courses in selected major and minor fields in departments within the school;

(4) Offers service courses to students in other schools within the University;

(5) Provides clinical and curricular services to teachers and school personnel; and

(6) Conducts experimentation and research at all levels of professional education.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

The student who wishes to prepare for the profession of teaching will take the following steps:

Step 1—Declaration of Intent to Prepare for Teaching

The student will identify himself as a prospective teacher candidate by declaring at the time of application to the University his intention to follow a Teacher Education curriculum.

Step 2—Admission to the Teacher Education Program

The student will apply for formal admission to the professional education sequence early in the semester in which he will have earned credits equal to 45 semester hours. The application must be made not later than the semester in which the credits equal 60 semester hours. The student who applies later than this may be required to take additional hours of work at the University to fulfill requirements for teacher certification. Application for admission to the professional education sequence will be initiated by the student in the office of the Dean, School of Education, 2306 Sangren Hall. To enroll for the professional education sequence the student must have a cumulative point hour ratio of 2.00 or above. Factors such as academic achievement, health, personality, and general competence to teach are considered for admission to the Professional Education Sequence.

Step 3—Admission to Directed Teaching

The student should apply at the Directed Teaching Office for admission to the directed teaching program early in the semester following completion of seventy-five hours of credit. In addition to the general requirements stated above the student shall: (1) present satisfactory evidence of continued academic competency; (2) receive satisfactory recommendations from both the Department of Teacher Education and the major department in which he has been working; and (3) receive approval of an all-University teacher education selection committee.

COOPERATIVE TEACHING INTERNSHIP PROGRAM TO PREPARE ELEMENTARY SCHOOL TEACHERS

The Cooperative Internship Program offers the competent student intending to be an elementary school teacher the opportunity of obtaining an earlier start on a professional career. Paid internship begins in the fourth year of his college preparation, when approximately 106 to 110 semester hours of credit have been earned. The work-study design of the internship allows the student to earn a salary while learning. During intern teaching, the student is in complete control of his own classroom, aided by the guidance and counsel of a master teacher. Students interested in enrolling in this program should apply to the Directed Teaching Office, 2504 Sangren Hall. This program leads to full certification and the bachelor's degree.

CURRICULA FOR TEACHERS

The program for prospective teachers consists of three parts: (1) general education, designed to develop those understandings and competencies which make for effective living and good citizenship, offered largely in the School of General Studies; (2) advanced specialized study, with major and minor interests in the fields of the student's choice, offered in different schools; and (3) professional education courses offered in the School of Education.

In general, prospective teachers choose to work for the State Elementary Provisional Certificate, valid for grades kindergarten through eight, or the State Secondary Provisional Certificate, valid for grades seven through twelve.

Students majoring in art, music, librarianship, speech correction, or physical education for women may choose either the State Elementary Provisional Certificate or the State Secondary Provisional Certificate. Either certificate will authorize the candidate to teach his special sub-

ject in both the elementary and secondary grades when the candidate qualifies in both fields.

Those preferring to teach in smaller communities may elect the Rural Elementary curriculum which leads to the State Elementary Provisional Certificate.

Elementary Curriculum

A.B. or B.S. Degree

State Elementary Provisional Certificate

(For the preparation of Teachers of Kindergarten and Grades 1-8)

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course requirements

1. General Studies Requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 4 hrs.
   Children's Literature 282 ..... 4 hrs.
3. Science and Mathematics ..... 4 hrs.
   Structure of Arithmetic 150 ..... 4 hrs.
   Teaching of Elem. Sch. Math. 552 (strongly recommended)
4. Teacher Education ..... 26 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching and Learning in the Elem. School 300 ..... 3 hrs.
   Teaching of Reading 312 ..... 3 hrs.
   Elementary School Social Studies 507 ..... 2 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410, and 450 .....14 hrs.
5. Fine Arts (Art and Music) ..... 7 hrs.
   Music for the Classroom Teacher 140 ..... 4 hrs.
   Art Education Workshop 150 ..... 3 hrs.
6. Practical Arts ..... 3 hrs.
   One course in Home Economics, Industrial Education, or Occupational Therapy*
   (Ind. Ed. 190 recommended)
7. Physical Education ..... 4 hrs.
   (Must include Physical Education for the Elementary Teacher 340)

C. Two minors or group minors of 20 or 24 hours each; or one major or group major of 30 or 36 hours are required. All of these must be in subjects or subject fields taught in the elementary school. (Check catalog descriptions for major and minor requirements.)

*Students with a minor in librarianship may substitute 3 s.h. of library science courses for the practical arts requirement.

The following areas are acceptable fields for majors and/or minors in Elementary Education:

African Studies; American Studies**; Anthropology; Art; Asian Studies*; Biology; Chemistry; Earth Science; Economics; English; French; Geography; Geology; German; Health Education*; Health, Physical Education and Recreation; History; Integrated Creative Arts*; Latin-American Studies*; Library Science*; Mathematics; Music; Physical Education; Physics; Political Science; Rural Life and Education; Russian; Science; Slavic Studies*; Social Science; Social Work*; Sociology; Spanish; Speech; Special Education** (Blind and Visually Impaired, Crippled and Homebound, Emotionally Disturbed, Mentally Handicapped, Speech Pathology and Audiology) *Minors only **Majors only*

D. The candidate must satisfy the requirements of the A.B. or B.S. degree.

E. Nursery School Certification.*

Rural Elementary Curriculum

A.B. or B.S. Degree

State Elementary Provisional Certificate

Major attention is given to preparation for teaching in schools located in rural or small community areas—population 2,500 or less.

Students desiring to teach in schools serving these areas select the Rural Life major or two academic minors under the guidance of the Director of Rural Life and Education. Thought is given to the many demands made upon the teacher in the small school. Those preparing to serve the smaller communities in other professional groups, such as ministers, librarians, recreation leaders, etc., either at home or overseas, will find considerable basic work in the curricula of Rural Life and Education.

RURAL ELEMENTARY CURRICULUM

A. Minimum hours required for this curriculum ..... **124 hrs.**

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met. (Students should include Physical Geography and Biological Science.)
2. Language, Literature, Speech, Philosophy and Religion ..... **4 hrs.**
   Children's Literature 282 ..... 4 hrs.
3. Science, Mathematics and Psychology ..... **4 hrs.**
   Structure of Arithmetic 150 ..... 4 hrs.

*Students wishing to meet State Certification Requirements for Nursery Teaching inquire at Teacher Education Office (2112 Sangren).

4. Social Sciences ..... 10 hrs.
   Rural Sociology 220 ..... 4 hrs.
   Rural Economics 230 ..... 4 hrs.
   Rural Life (Seminar) ..... 2 hrs.
5. Teacher Education ..... 27–33 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching and Learning in Elem. School 300 .. 3 hrs.
   Teaching of Reading 312 ..... 3 hrs.
   Directed Teaching ..... 9 or 5* hrs.
   Seminar in Education 410** ..... 2 hrs.
   School and Society 450 ..... 3 hrs.

   Rural Education

   Curr. Organization in Small Schools 201 .. 3 hrs.
   Problems of Comm. Schools in Rural Areas 411 ..... 1-2 hrs.
   Supervision in Rural Area School (Sem.) 408 ..... 1-2 hrs.
6. Fine Arts (Art and Music) ..... 7 hrs.
   Music for the Classroom Teacher 140 ..... 4 hrs.
   Art Education Workshop 150 ..... 3 hrs.
7. Practical Arts ..... 3 hrs.
   One course in Business, Home Economics, Industrial Education, or Occupational Therapy
8. Physical Education ..... 4 hrs.
   (Must include Physical Education for the Elementary Teacher 340)

C. Either a group major in Rural Life, including Rural Sociology, Rural Economics, Rural Life Seminar, Introduction to the Non-Western World, and 22 additional hours selected from courses offered in liberal arts; or two academic minors in subject fields taught in the elementary school, chosen with the guidance of the Director of Rural Life and Education.

D. The candidate must satisfy the requirements for the A.B. or B.S. degree.

RURAL LIFE AND EDUCATION CURRICULUM — SPECIAL PROGRAM FOR EDUCATION OF CAREER TEACHERS IN RURAL AND SMALL COMMUNITIES

Individuals electing this curriculum will fulfill requirements for the Bachelor's degree and the Rural Elementary Curriculum as outlined above. Students who qualify will complete a Rural Life Major.

An important feature of this program is the teacher intern "earn and learn" provision. The student, upon recommendation of the Director of

*Only for students enrolled in the Special Program as described below.
**Not required of students enrolled in the Special Program.

Rural Life and Education, may teach full time with pay after successfully completing 90 hours of carefully selected courses from the curriculum, including directed teaching.

The teacher intern remains under close University and local supervision while teaching. He continues his academic and professional studies on a restricted but uninterrupted basis. The internship terminates at the end of two years, by which time all requirements for the degree and certificate must be met.

Junior High School Curriculum

A.B. or B.S. Degree

State Secondary Provisional Certificate

(With special emphasis for preparation of teachers in Grades 7, 8 and 9)

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 3 hrs.
   Speech for Teachers 102 ..... 3 hrs.
3. Science, Mathematics and Psychology ..... 3 hrs.
   Psychology II 160 ..... 3 hrs.
4. Social Sciences ..... 7 hrs.
   Principles of Sociology 200 ..... 4 hrs.
   Juvenile Delinquency and the Comm. 514 .... 3 hrs.
5. Teacher Education ..... 21 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching and Learning in Jr. H. S. 300 ..... 3 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410 and 450 .....14 hrs.
   Teaching of Reading (Secondary 322, strongly recommended)
6. Physical Education or Military Science ..... 4 or 8 hrs.

C. One group major of 36 hours and one minor of 20 hours **or** one major of 30 hours and one group minor of 24 hours must be completed in subjects or subject fields taught in the junior high school. Certain courses in some departments may not be counted toward majors or minors. (See course descriptions.)

Acceptable academic majors for this curriculum are designed in the following fields: English, Speech, Social Science, Mathematics, Science, and Foreign Languages. Minor areas must be chosen from fields related to the major. For example, desirable combinations

may relate the fields of English, Social Science and Speech, or Science and Mathematics. Majors in foreign language should choose minors in English, Speech, Social Science, or a second foreign language. Other combinations of major and minor areas may be elected with the consent of the academic adviser.

Students who plan to teach in areas such as Physical Education, Art, Music, Home Economics and Industrial Arts should follow major and minor requirements of the respective departments.

D. The candidate must satisfy the requirements of the A.B. or B.S. degree.

E. The candidate for the State Secondary Provisional Certificate must present a methods course in a major or minor field, preferably at the junior high school level.

Secondary Curriculum

A.B. or B.S. Degree

State Secondary Provisional Certificate
(For the preparation of teachers in Grades 7-12)

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Teacher Education ..... 21 hrs.
   Human Development and Learning 250 .... 4 hrs.
   Teaching and Learning in Jr. or Sr. H. S. 300 3 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410, and 450 .....14 hrs.
3. Physical Education or Military Science ..... 4 or 8 hrs.

C. One major or group major of 30 or 36 hours, and one minor or group minor of 20 or 24 hours, in subjects or subject fields taught in the Junior and Senior high school. Certain courses in some departments may not be counted toward majors or minors. (See course descriptions.)

The following areas are acceptable fields for majors and/or minors in Secondary Education:

African Studies; Agriculture; American Studies**; Anthropology; Art (60 hr. program includes Drawing-Design minor); Asian Studies*; Aviation*; Biology; Business Education; Business Education—General Business*; Chemistry; Distributive Education; Earth Science; Economics; English; French; Geology; Geography; German; Health Education*; Health, Physical Education, and Recreation; History; Home Economics; Industrial Education; Latin; Latin-American Studies*; Library Science*; Mathematics; Music*; Public School Music**; Musical Education; Physics; Political Science; Psychology; Russian; Science*;*

Slavic Studies; Social Science; Social Work; Sociology; Spanish; Speech; Special Education** (Blind and Visually Impaired, Crippled and Homebound; Emotionally Disturbed, Mentally Handicapped, Speech Pathology and Audiology); Vocational Technical Education.*
**Minors only **Majors only*

D. The candidate must satisfy the requirements for the A.B. or B.S. degree.

E. The candidate for the State Secondary Provisional Certificate must present a methods course in a major or minor field.

Librarianship Curriculum

A.B. or B.S. Degree

State Elementary or Secondary Provisional Certificate
(For Teacher-Librarians)

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 19 hrs.
   - Modern Language ..... 8 hrs.
   - Children's Literature 282 ..... 4 hrs.
   - English Elective ..... 4 hrs.
   - Speech Elective ..... 3 hrs.
3. Science, Mathematics and Psychology ..... 7 hrs.
   - Psychology I 150 ..... 3 hrs.
   - **Structure of Arithmetic 150 ..... 4 hrs.
4. Social Science ..... 5–6 hrs.
   - Government Elective ..... 3 hrs.
   - *History Elective ..... 3 hrs.
   - **Elementary School Social Studies 507 .... 2 hrs.
5. Library Science ..... 19–20 hrs.
   - Introduction to Librarianship 100 (Strongly recommended for elementary, required for secondary) ..... 2 hrs.
   - Organization of Library Materials 230 .. 2 hrs.
   - Selection of Books and Related Mat. 510.. 3 hrs.
   - Reference Service 512 ..... 3 hrs.
   - Tech. Processes—Inst. Materials Center 531 4 hrs.
   - Field Assignment and Seminar 520 ..... 2 hrs.
   - *Reading Interests of Young Adults 542 .. 3 hrs.
   - **Storytelling 546 ..... 3 hrs.
   - **Elementary School Library Materials 516.. 3 hrs.

*Required only for teacher-librarian candidates in the secondary curriculum.
**Required only for teacher-librarian candidates in the elementary curriculum.

6. Teacher Education ..... 21 hrs.
   Human Development and Learning 250 ... 4 hrs.
   Teaching and Learning 300 (Elem., Jr. H.S., or Sr. H.S.) ..... 3 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410, and 450 14 hrs.
7. Physical Education or Military Science ..... 4 or 8 hrs.

C. Candidates for the secondary provisional certificate must elect a major or group major of 30 or 36 hours in subjects or subject fields taught in the secondary school; candidates for the elementary provisional certificate must elect one minor or group minor of 20 or 24 hours and meet the requirements of the Elementary Curriculum as listed on page 202.

D. A portion of the Directed Teaching period is spent in a selected school library.

E. The candidate must satisfy the requirements of the A.B. or B.S. degree.

Music Education Curriculum

B.M. Degree

State Secondary Provisional Certificate
(For preparation of Teachers of Vocal and Instrumental Music)

A. Minimum hours required for this curriculum ..... 128 hrs.
(The usual number of hours in these curricula vary from 134 to 137. Certain proficiencies in the Secondary Performance media may be met by comprehensive examinations to reduce the usual number of hours.)

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Music Theory ..... 18 hrs.
   Basic Music 160, 161, 260, 261, 360 .....16 hrs.
   Theory Elective ..... 2 hrs.
3. Musical Performance ..... 36–42 hrs.
   Major Performance Medium .....16 hrs.
   Secondary Performance Media, Conducting and Ensemble .....20–26 hrs.
   (These requirements vary for Instrumental, Vocal and Combined curricula. See Music Supplement Catalog for details.)
4. Teacher Education ..... 30 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching and Learning in Secondary School 300 ..... 3 hrs.

Directed Teaching, Seminar in Education and School and Society 470, 410, and 450 ..... 14 hrs.
General Music Methods 240 ..... 3 hrs.
Music Methods Electives ..... 6 hrs.

5. Physical Education or Military Science ..... 4 or 8 hours

C. Candidates may be additionally certified to teach music in Grades Kindergarten — Six, inclusive, if they qualify through methods courses and directed teaching at the elementary level.

D. The candidate must meet the requirements of the B.M. degree. (See Music Supplement Catalog for details.)

Elementary Curriculum — Music Major

B.S. Degree

State Elementary Provisional Certificate
(For preparation of Elementary Music Teachers and/or Classroom Teachers, Grades K-8)

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Music Major ..... 39 hrs.
   - Basic Music 160-161 ..... 6 hrs.
   - Elem. Music Practicum 244-245 ..... 6 hrs.
   - Piano and Voice ..... 10 hrs.
   - Music Appreciation 170 ..... 4 hrs.
   - General Methods 240 ..... 3 hrs.
   - Graderoom Music Literature 374 ..... 3 hrs.
   - Ensemble ..... 5 hrs.
   - Choral Conducting 330 ..... 2 hrs.
3. Elementary Education Minor ..... 21 hrs.
   - Children's Literature 282 ..... 4 hrs.
   - Structure of Arithmetic 150 ..... 4 hrs.
   - Elementary School Social Studies 507 ..... 2 hrs.
   - Approved Elective (Substitution for Music for the Classroom Teacher 140) ..... 4 hrs.
   - Art Education Workshop 150 ..... 3 hrs.
   - Physical Education for Classroom Teacher 340 ..... 1 hr.
   - Practical Arts ..... 3 hrs.
4. Teacher Education ..... 24 hrs.
   - Human Development and Learning 250 ..... 4 hrs.
   - Teaching and Learning in Elementary School 300 ..... 4 hrs.

Teaching of Reading 312 ..... 3 hrs.
Directed Teaching, Seminar in Education, and School and Society 470, 410, and 450 . 14 hrs.

5. Physical Education ..... 4 hrs.
(Includes Physical Education for the Elementary Teacher 340)
6. Electives to make 124 hours

Special Education Curriculum — Blind and Visually Impaired

B.S. Degree

State Elementary Provisional Certificate
(For the preparation of teachers of blind children)

A. Minimum hours required for this curriculum ..... 132 hours

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 7 hrs.
Children's Literature 282 ..... 4 hrs.
General Speech 100 ..... 3 hrs.
3. Science and Mathematics ..... 7 hrs.
Structure of Arithmetic 150 ..... 4 hrs.
Psychology I 150 ..... 3 hrs.
4. Teacher Education ..... 19 hrs.
Human Development and Learning 250 ..... 4 hrs.
Teaching and Learning (Elem.) 300 ..... 3 hrs.
Teaching of Reading 312 ..... 3 hrs.
Seminar in Education 410 ..... 2 hrs.
School and Society 450 ..... 3 hrs.
Directed Teaching 471 ..... 4 hrs.
5. Fine Arts (Art and Music) ..... 7 hrs.
Music for the Classroom Teacher 140 ..... 4 hrs.
Art Education Workshop 150 ..... 3 hrs.
6. Practical Arts ..... 2 hrs.
Arts and Crafts for Teachers 593 ..... 2 hrs.
7. Physical Education ..... 4 hrs.
(Must include Physical Education for the Elementary Teacher 340 **and** Adapted Physical Education 348 for men **or** Personal Physical Education 100 for women)

8. Blind and Visually Impaired—Major ..... 33 hrs.
   - Introduction to Speech Correction 250 ..... 3 hrs.
   - Directed Teaching 474 (Spec. Educ.) ..... 8 hrs.
   - Interdisciplinary Education and Rehab. Techniques 528-29 ..... 4 hrs.
   - Education of Exceptional Children 530 ..... 3 hrs.
   - Physiology and Function of the Eye 590 ..... 2 hrs.
   - Braille and Other Communication Methods 591 ..... 2 hrs.
   - Education of the Blind and Partially Sighted 592 ..... 2 hrs.
   - Methods & Techniques of Teaching Braille and Other Areas of Communications 593 .. 3 hrs.
   - Principles of Orientation and Mobility for the Blind 594 ..... 3 hrs.
   - Development of Services to the Blind 597 .... 3 hrs.

C. The candidates must satisfy the requirements of the B.S. degree.

Special Education Curriculum — Blind and Visually Impaired

B.S. Degree

State Secondary Provisional Certificate

(For the preparation of teachers of blind children and youth)

A. Minimum hours required for this curriculum ..... 132 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.

2. Language, Literature, Speech, Philosophy and Religion ..... 3 hrs.
   - General Speech 100 ..... 3 hrs.

3. Science and Mathematics ..... 7 hrs.
   - Mammalian Anatomy 210 ..... 4 hrs.
   - Psychology I 150 ..... 3 hrs.

4. Teacher Education ..... 13 hrs.
   - Human Development and Learning 250 ..... 4 hrs.
   - Seminar in Education 410 ..... 2 hrs.
   - School and Society 450 ..... 3 hrs.
   - Directed Teaching 471 ..... 4 hrs.

5. Fine Arts (Arts and Music) ..... 4 hrs.
   - Music for the Classroom Teacher 140 ..... 4 hrs.

6. Practical Arts ..... 2 hrs.
   - Arts and Crafts for Teachers 593 ..... 2 hrs.

7. Physical Education ..... 4 or 8 hrs.
   (Must include Adapted Physical Education 348 or Personal Physical Education 100 or Military Science)
8. Blind and Visually Impaired—Major ..... 37 hrs.
   Interdisciplinary Education and Rehabilitation Techniques 528-29 ..... 4 hrs.
   Education of Exceptional Children 530 ..... 3 hrs.
   Physiology and Function of the Eye 590 ..... 2 hrs.
   Braille and Other Communication Methods 591 ..... 2 hrs.
   Education of the Blind and Partially Sighted 592 ..... 2 hrs.
   Principles of Orientation and Mobility for the Blind 594 ..... 3 hrs.
   Orientation and Mobility 595 ..... 2 hrs.
   Advanced Orientation and Mobility 596 ..... 4 hrs.
   Development of Services to the Blind 597 ... 3 hrs.
   Pre-Practicum: Education of Blind and Visually Impaired 476 (2 semesters) ..... 12 hrs.

C. One academic minor in a subject or subject field taught in secondary school.

D. Pre-Practicum 476, will be a paid field assignment under the supervision of the University for two complete semesters. This will extend the undergraduate program to five years.

E. The candidate must satisfy the requirements of the B.S. degree.

Special Education Curriculum — Crippled and Homebound Children

B.S. Degree

State Elementary Provisional Certificate

(For the preparation of teachers of crippled and homebound children)

A. Minimum hours required for this curriculum ..... 132 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 4 hrs.
   Children's Literature 282 ..... 4 hrs.
3. Science and Mathematics ..... 8 hrs.
   Structure of Arithmetic 150 ..... 4 hrs.
   Mammalian Anatomy 210 ..... 4 hrs.
   (Eight hours must be taken in General Studies Science Courses)

4. Teacher Education ..... 21 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching and Learning in the Elem. School 300 ..... 3 hrs.
   Teaching of Reading 312 ..... 3 hrs.
   Elementary School Social Studies 507 ..... 2 hrs.
   Directed Teaching, Seminar in Education and School and Society 471, 410 and 450 ..... 9 hrs.
5. Fine Arts (Art and Music) ..... 7 hrs.
   Music for the Classroom Teacher 140 ..... 4 hrs.
   Art Education Workshop 150 ..... 3 hrs.
6. Practical Arts ..... 2 hrs.
   Arts and Crafts for Teachers 593 ..... 2 hrs.
7. Crippled and Homebound—Major ..... 34 hrs.
   Psychology I 150 ..... 3 hrs.
   Introduction to Speech Correction 250 ..... 3 hrs.
   Psychological Testing in Education 380 ..... 3 hrs.
   Directed Teaching 474 (Special Education) ..... 8 hrs.
   Medical and Orthopedic Conditions (O.T.) 524 ..... 4 hrs.
   Education of Exceptional Children 530 ..... 3 hrs.
   Mental Deficiency 532 ..... 4 hrs.
   Education and Therapeutic Care of Crippled Children 543 ..... 4 hrs.
   Mental Hygiene of Childhood and Adol. 585 ..... 2 hrs.
8. Physical Education or Military Science ..... 4 or 8 hrs.
   (Must include Physical Education for the Elementary Teacher 340)

C. One academic minor in a subject or subject field taught in elementary school.

D. The candidate must satisfy the requirements of the B.S. degree.

Special Education Curriculum — Emotionally Disturbed

B.S. Degree

State Elementary or Secondary Provisional Certificate

(For the preparation of teachers of emotionally disturbed children)

A. Minimum hours required for this curriculum ..... 132 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.

2. Language, Literature, Speech, Philosophy and Religion ..... 4 hrs.
   Children's Literature 282 ..... 4 hrs.
3. Science and Mathematics ..... 8 hrs.
   Structure of Arithmetic 150 ..... 4 hrs.
   Mammalian Anatomy 210 ..... 4 hrs.
   (Eight hours must be taken in General Studies Science courses)
4. Teacher Education ..... 16 hrs.
   Human Development and Learning 250 ..... 4 hrs.
   Teaching of Reading 312 ..... 3 hrs.
   Seminar in Education 410 ..... 2 hrs.
   School and Society 450 ..... 3 hrs.
   Directed Teaching 471 (Regular Class) ..... 4 hrs.
5. Fine Arts (Art and Music) ..... 7 hrs.
   Music for the Classroom Teacher 140 ..... 4 hrs.
   Art Education Workshop 150 ..... 3 hrs.
6. Practical Arts ..... 2 hrs.
   Arts and Crafts for Teachers 593 ..... 2 hrs.
7. Emotionally Disturbed—Major ..... 34 hrs.
   Psychology I 150 ..... 3 hrs.
   Introduction to Speech Correction 250 ..... 3 hrs.
   Psychological Testing 380 ..... 3 hrs.
   Directed Teaching 474 (Special Education) .. 8 hrs.
   Practicum in Special Education 521 ..... 2 hrs.
   Interdisciplinary Education and Rehabilitation techniques 528 and 529 ..... 4 hrs.
   Education of Exceptional Children 530 ..... 3 hrs.
   Mental Hygiene of Childhood and Adol. 585 .. 2 hrs.
   Education of Emotionally Disturbed Children 587 ..... 4 hrs.
   Psychopathology of Childhood 588 ..... 2 hrs.
8. Physical Education or Military Science ..... 4 or 8 hrs.
   (Must include Physical Education for the Elementary Teacher 340)

C. One academic minor in a subject or subject field taught in elementary or secondary school.

D. During the first three years the student must complete a minimum of 150 clock hours of observing and working with normal and maladjusted children.

E. The Candidate must satisfy the requirements of the B.S. degree. Upon graduation from this curriculum he receives temporary approval to teach emotionally disturbed children. Permanent approval for such teaching is granted upon application by the student at the completion of one year of successful teaching in this field.

Special Education Curriculum — Mentally Handicapped

B.S. Degree

State Elementary Provisional Certificate

(For the preparation of teachers of mentally handicapped children)

A. Minimum hours required for this curriculum ..... 132 hrs.

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met.
2. Language, Literature, Speech, Philosophy and Religion ..... 7 hrs.
   - Children's Literature 282 ..... 4 hrs.
   - General Speech 100 ..... 3 hrs.
3. Science and Mathematics ..... 4 hrs.
   - Structure of Arithmetic 150 ..... 4 hrs.
4. Teacher Education ..... 16 hrs.
   - Human Development and Learning 250 ..... 4 hrs.
   - Teaching of Reading 312 ..... 3 hrs.
   - Seminar in Education 410 ..... 2 hrs.
   - School and Society 450 ..... 3 hrs.
   - Directed Teaching 471 (Regular Class) ..... 4 hrs.
5. Fine Arts (Art and Music) ..... 7 hrs.
   - Music for the Classroom Teacher 140 ..... 4 hrs.
   - Art Education Workshop 150 ..... 3 hrs.
6. Practical Arts ..... 2 hrs.
   - Arts and Crafts for Teachers 593 ..... 2 hrs.
7. Mentally Handicapped—Major ..... 33 hrs.
   - Psychology I 150 ..... 3 hrs.
   - Introduction to Speech Correction 250 ..... 3 hrs.
   - Psychology II 160 ..... 3 hrs.
   - Psychological Testing in Education 380 .... 3 hrs.
   - Directed Teaching 474 (Special Education) .. 8 hrs.
   - Education of Exceptional Children 530 ..... 3 hrs.
   - Mental Deficiency 532 ..... 4 hrs.
   - Education of the Mentally Handicapped 534 . 4 hrs.
   - Mental Hygiene of Childhood and Adolescence 585 or Psychopathology of Childhood 588 ..... 2 hrs.
8. Physical Education or Military Science ..... 4 or 8 hrs.
   (Must include Physical Education for the Elementary Teacher 340)

C. One academic minor in a subject or subject field taught in elementary school.

D. The candidate must satisfy the requirements of the B.S. degree.

Special Education Curriculum — Speech Pathology and Audiology

B.S. Degree

State Elementary Provisional Certificate
(Pre-professional Speech Pathology and Audiology)

A. Minimum hours required for this curriculum ..... 130 hrs.

B. Course Requirements

1. General Studies requirements as described on Page 21 of this catalog must be met. Physical Science 108 and Human Communication 400 are strongly recommended.
2. Language, Literature, Philosophy and Religion .... 4 hrs.
   - Children's Literature 282 ..... 4 hrs.
3. Science, Mathematics and Psychology ..... 15 hrs.
   - Acoustics 100 ..... 2 hrs.
   - Psychology 150 ..... 3 hrs.
   - Psychology 160 ..... 3 hrs.
   - Psychology 250 ..... 3 hrs.
   - Structure of Arithmetic 150 ..... 4 hrs.
4. Teacher Education and Special Education ..... 29 hrs.
   - Human Development and Learning 250 .... 4 hrs.
   - Teaching of Reading 312 ..... 3 hrs.
   - Teaching and Learning (Elem.) 300 ..... 3 hrs.
   - Elem. School Social Studies 502 ..... 2 hrs.
   - Practical Arts ..... 3 hrs.
   - Directed Teaching, Seminar in Education and School and Society 470, 410, 450 ..... 14 hrs.
5. Fine Arts ..... 7 hrs.
   - Music for Classroom Teacher 140 ..... 4 hrs.
   - Art Education Workshop 150 ..... 3 hrs.
6. Speech Pathology and Audiology ..... 30 hrs.
   - Intro. to Communication Disorders 200 .... 3 hrs.
   - Orientation to Clinical Practice 201 ..... 1 hr.
   - Anatomy and Physiology of Speech and Hearing 202 ..... 2 hrs.
   - Speech and Language Development 203 .... 2 hrs.
   - Phonemics 204 ..... 2 hrs.
   - Speech and Hearing Science 300 ..... 2 hrs.
   - Phonemic Disorders 351 ..... 2 hrs.
   - Phonatory Disorders 352 ..... 2 hrs.
   - Fluency Disorders 353 ..... 2 hrs.
   - Language Disorders in Children 354 ..... 2 hrs.
   - Hearing Disorders 355 ..... 2 hrs.

Introduction to Audiometry 356	2 hrs.
Practicum I 400	1 hr.
Practium II 401	1 hr.
Electives	4 hrs.

7. Physical Education or Military Science including Physical Education for the Elementary Teacher 340 ..... 4–8 hrs.

C. One academic minor in a subject or subject field taught in Elementary School.

D. During the program the student must satisfactorily complete clinical requirements as specified by the Department of Speech Pathology and Audiology.

E. The candidate must satisfy the requirements for the B.S. degree.

CLINICS

Psycho-Educational Clinic

The primary purpose of the Psycho-Educational Clinic is to provide educational and clinical experiences for mature students enrolled at Western Michigan University who are preparing to do educational and psychological work with children and adults. A secondary function of the clinic is to provide educational and psychological services to parents, teachers and college students. Special activities carried on by the clinic are designed to provide corrective and developmental instruction in reading for children and adults, and to furnish consultative services for teachers and schools in Southwestern Michigan. Furthermore, the clinic provides students in education and psychology an opportunity to see the administration of educational and clinical tests and the procedures employed in interviewing children.

Reading Clinic

University students encountering difficulty in reading or those wishing to improve their reading skills may seek assistance in the Psycho-Educational Clinic located in Room 300 of the Health Service Building on the East Campus. Referrals are made by the Counseling Bureau and by members of the faculty. After causal factors have been identified, treatment is provided.

Reading Improvement for College Students and Adults

Classes are provided each semester in Adult Reading. The emphasis in these classes is upon instructional and developmental procedures for helping adults improve their reading skills as they do their

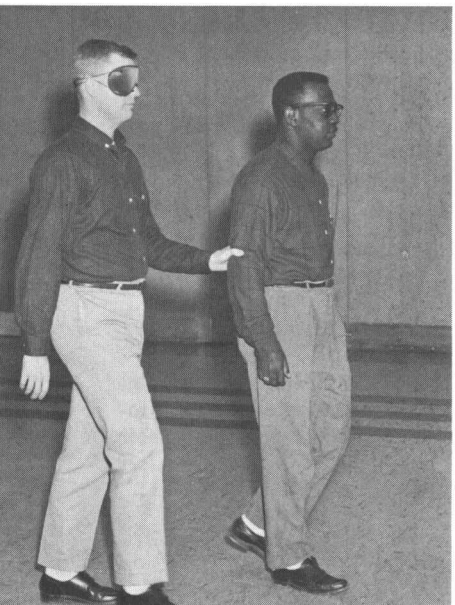
regular academic or office work. Each class consists of lectures, demonstrations and laboratory periods in which the students do both guided and free reading. Reading as a thinking process is stressed. The student is taught how to improve his vocabularies, how to read a chapter effectively, how to read for the purpose of solving problems, how to concentrate upon reading activities, how to find and organize information and how to read critically. Measures of reading are administered at the beginning and the end of the course in order that the student may evaluate objectively his reading performance.

Institute of Blind Rehabilitation

Donald Blasch, Director

The Institute of Blind Rehabilitation offers clinical and educational services to students and other clients who have severe visual impairments, and works cooperatively with the Michigan Division of Services for the Blind. Operating in part on grants from the Vocational Rehabilitation Administration, and the Department of Health, Education, and Welfare, the Institute offers graduate programs in Orientation and Mobility, Home Teachers for the Adult Blind, and undergraduate programs for teachers of visually handicapped children. Part of its function is to conduct workshops for people working in the field, provide consulting services, and to initiate pertinent research in this area.

Faculty members of the Institute are members of the Department of Special Education and are responsible to that department for teaching courses, counseling students and curricular revision.



Teacher Education

Orval L. Ulry, Head

A. L. Sebaly, Director of Student Teaching

James O. Ansel, Director of Rural Life and Education

David W. Adams
Hubert G. Archer
Max Benne
John Bergeson
Gerald Bodine
Earl L. Borr
James Bosco
Frederick Brail
John A. Buelke
George Buletza
Mary A. Cain
Joe R. Chapel
Clara R. Chiara
Carl Childress
Arthur Christensen
Alwin B. Coleman
Myron Coulter
Golda Crisman
Ronald A. Crowell
David Curl
Kenneth Dickie
Edsel Erickson
Roland Frank
Orie I. Frederick
Louis A. Govatos
James H. Griggs
Ivan Gullickson
David Hessler
Arthur Howsen
Robert Hughes
Rachel Inselberg
Helen Jennings
Elizabeth Johnson
William H. Kanzler
Allen Klingenberg
Robert Kotecki
Mary Lafter
Cameron Lambe
Wilda Large
Carl Lindstrom
Bruce Lloyd
Gerald C. Martin
Dorothy McGinnis
Owen Middleton
George Miller
Daniel Moore
Frederic Mortimore
Stephen Nisbet
Gene Paulson
Lawrence Schlack
Neil Schoenhals
Arnold Schten
Carol P. Smith
Dorothy E. Smith
Carl B. Snow
Virginia Sorenson
Sarah J. Stroud
Sara R. Swickard
Robert M. W. Travers
Lois Van Den Berg
Jess Walker
Roy Walters

Courses are designed to meet the professional needs of the student preparing to teach. All students pursuing a curriculum for a secondary provisional certificate and a degree are required to take a minimum of 21 hours of professional courses in teacher education, plus a methods course offered in the major or minor field; students in elementary education are required to complete 26 hours in professional education courses, including Teaching of Reading 312. A "C" average or better must be earned in required professional courses.

Applicants for the secondary provisional certificate are not permitted to major in Teacher Education.

Elective courses are available in the following fields: elementary education, secondary education, rural life and education, special education, methods of teaching, foundations of education, and related areas. Certain special-methods courses are available in other departments of the university.

Students take the block of Integrated Professional Education courses 410, 450, and 470 during either semester of their senior year. Students with irregularities in their professional work or with advanced credit in education should confer with the departmental adviser at the earliest possible date. Those majoring in certain fields requiring continuous study throughout the senior year may, upon application to the Directed Teaching office, be permitted to take 450 during the other semester of that year.

INTEGRATED CREATIVE ARTS MINOR

An inter-departmental minor in the creative arts is now offered for elementary teachers. This minor consists of 24 semester hours distributed as follows:

Teach Ed. 230*—The Nature of Creativity ..... 4 hrs.
Women's Phys. Ed. 341—Creative Dance for Children ..... 4 hrs.
Music 140—Music for the Classroom Teacher ..... 4 hrs.
Art 200—The Creative Process Through Art ..... 4 hrs.
Speech 564—Creative Dramatics for Children ..... 4 hrs.
Teacher Ed. 430—Creativity in the Elem. School ..... 4 hrs.

HEALTH EDUCATION GROUP MINOR

A Group Minor is offered in Health Education. It is open to all students and is especially appropriate for those specializing in Elementary Education, in Special Education, and in Secondary Education with majors in such areas as Biology, Home Economics, Physical Education, Psychology, Sociology, and Speech Pathology and Audiology. The health education group minor consists of 24 hours. Ten to eleven hours are required and the other thirteen to fourteen are elective. Since health is a multidisciplinary program, students should not elect more than two courses in any one department exclusive of required courses.

Adviser: Dr. Margaret S. Large

	Required Courses	**10–11 hrs.**
P.E.W.	342—Elementary School Health and Safety Education OR	
	343—Secondary School Health and Safety Education ..... (elect one)	3 hrs.
Biol.	100—Principles of Biology OR	
	101—Animal Biology OR	
	107—Biological Science ..... (elect one)	3–4 hrs.
	**205—Human Body in Health and Disease	4 hrs.

*May be substituted for Arts and Ideas in the General Studies Program.

**Mammalian Anatomy (210) or Human Physiology (219) may be substituted for Human Body in Health and Disease (205)

	Elective Courses	13–14 hrs.
Biol.	111—Healthful Living	2 hrs.
	210—Mammalian Anatomy	4 hrs.
	219—Human Physiology	4 hrs.
Educ.	555—Alcohol Education	2 hrs.
	585—Mental Hygiene of Childhood and Adolescence	2 hrs.
Home Ec.	212—Foods and Nutrition	4 hrs.
Psych.	150—Psych. I: Introduction to the Science of Behavior	3 hrs.
	160—Psych. II: Personality and Developmental Psych.	3 hrs.
	250—Behavior Mod. I: Abnormal Psych.	3 hrs.
Soc.	200—Principles of Soc.	3 hrs.
	290—Modern Marriage	2 hrs.
	572—Community Agency Resources	2 hrs.
	592—Family Life Education and Counseling	2 hrs.
Sp. Ed.	530—Education of Exceptional Children	3 hrs.
Speech Path. and Aud.	200—Introduction to Communication Disorders	3 hrs.
P.E.W.	150—First Aid	2 hrs.
	275—Community Health	3 hrs.
	514—Health Education Materials and Methods	2 hrs.
	516—Issues in Health Education: a) Mental Health, b) Sex Education, c) Mood Modifiers, d) Environmental Pollution, e) etc. Students may register for 516 more than once but may not repeat the same issue	1–4 hrs.

For course descriptions, see the listings in the various departments.

100 Introduction to Education **2 hrs. Fall, Winter**

Freshman Course open to selected students.

This course is designed to provide an early introduction to the profession of teaching and to the educational services present in communities of the state and nation. Field trips, observations, audio-visual materials, resource persons, tests and personal inventories are used to acquaint students with the purposes and functions of education in American society, and to help students make intelligent choices of areas of specialization within the profession. Course meets three hours a week for two hours credit.

REQUIRED WORK IN EDUCATION

(For Provisional Certificate)

SOPHOMORE OR JUNIOR YEAR

250 Human Development and Learning **4 hrs. Fall, Winter**

Class meets five periods a week for four hours credit. Course deals with physical, social, emotional, and intellectual growth and development of children and adolescents.

JUNIOR YEAR

300 Teaching and Learning (in Elem., Jr. H.S., Sr. H.S.) **3 hrs. Fall, Winter**

This course is desgined to prepare students for the responsibilities of classroom instruction. Emphasis is placed on: purposes of the school; selection and organization of learning experiences; instructional methods and materials; patterns of curriculum organization; classroom management; non-instructional duties of the teacher in school and community. Sections are divided according to school levels: elementary, junior high school and senior high school.

SENIOR YEAR

410, 450, 470 Integrated Professional Education **14 hrs. Fall, Winter**

For all seniors whose programs will permit them to devote one semester entirely to professional education. A unified course for seniors which is based on needs and problems of students while doing their directed teaching. Prerequisite. 250 and 300, or equivalent; and twice as many honor points as hours attempted.

470 Directed Teaching **9 hrs. Fall, Winter**

Students devote a minimum of four and one-half days per week for one semester to Directed Teaching, at which time they have experience in both the curricular and extra-curricular program of the school in which they teach. All students expecting to do Directed Teaching should enroll at the Directed Teaching Office well in advance of the semester in which the Directed Teaching is to be done.

410 Seminar in Education **2 hrs. Fall, Winter**
(Taken in conjunction with Directed Teaching)

Students work individually and in groups on the kinds of problems faced in directed teaching situations in classroom, school and community. Other problems to be faced later as full-time teachers are considered. Suggestions and guidance are afforded by staff members and by resource persons. The seminar is divided into elementary and secondary sections.

450 School and Society **3 hrs. Fall, Winter**

Course content includes such matters as social, political, and economic influences on education; historical and philosophical backgrounds of present-day education; changes and trends in education; and current problems in education.

OPTIONAL COURSES IN DIRECTED TEACHING

471 Directed Teaching **1 to 8 hrs. Fall, Winter**

Only for seniors who have completed most of their professional course work prior to the senior year. Similar to description for 470. Students

should enroll at the Student Teaching Office for Directed Teaching 471, 472 or 474 well in advance of the semester in which the Directed Teaching is to be done. Prerequisite: twice as many honor points as hours of credit acquired.

472 Directed Teaching **4-9 hrs. Fall, Winter**

Only for seniors who have previously fulfilled a part of their requirement in directed teaching. Similar to description for 471.

474 Directed Teaching (Special Education) **4-8 hrs. Fall, Winter**

Only for students specializing in special education. Candidates must be approved by the Head of the Special Education department.

475 Directed Teaching (Rural) **5 hrs. Fall, Winter**

Only for students in the Special Rural Life and Education curriculum.

GENERAL COURSES

102 Techniques of Learning and Adjustment **1 hr. Fall, Winter**

Designed to aid the student in making a more adequate academic and social adjustment. Attention is given to schedule-making, note-taking, study techniques and examination writing. Principles of effective learning are discussed and demonstrated.

104 Adult Reading **2 hrs. Fall, Winter**

Designed to show the student how to make more effective use of text and reference books in academic subjects. Attention is given to chapter reading, vocabulary building, problem solving concentration and critical reading. Group and individual conferences are provided.

502 Curriculum Workshop **2-4 hrs. Fall, Winter**

Opportunity is provided for teachers, supervisors and administrators in selected school systems to develop programs of curriculum improvement. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audio-visual materials and the like.

504 Workshop in Human Relations **2-4 hrs.**

Opportunity is provided for teachers, administrators, and other school personnel to work together in the study and solution of problems in human relations, particularly in the fields of intercultural relations, group processes, communication, and home-school-community relations. Resource persons in Psychology, Sociology, Speech, Business, and Education participation in the workshop.

506 Adult Education **2 hrs. Fall**

This course will include such topics as organizing and financing formal public school adult education programs, promoting informal adult education activities, leadership training, program planning, and adult education group techniques. Students will be permitted to select special areas of interests for research and study.

508 Parent Education **2 hrs. Winter**

Places major emphasis on home problems which have educational implications for the child. Parent-teacher relationships, council programs, and cooperative efforts for improvement of education in home and in school are studied.

ELEMENTARY AND SECONDARY EDUCATION

230 The Nature of Creativity **4 hrs. Fall, Winter**

An interdisciplinary course dealing with creativity as a human function central to man's behavior, institutions and environment. Team-taught by faculty members from the departments of Art, Music, Physical Education (Women), Speech and Teacher Education.

310 Stories for Childhood **2 hrs. Fall**

A study of stories and poems suitable to childhood. Classroom practice in story telling.

311 Reading Workshop **3 hrs.**

The basic purpose of the workship will be to study typical classroom reading problems. Tools useful in identifying problems, materials available, and techniques for the teaching of reading will be examined and experimented within the classroom. Special consideration will be given to a case study of one severe reading problem.

312 The Teaching of Reading (Elementary) **3 hrs. Fall, Winter**

A summary of the results of the scientific studies made in the field of reading. Methods of teaching reading are critically analyzed. Stress is placed on appropriate materials at various levels.

313 Problems in Elementary Education **3 hrs.**

This course is designed to deal with problems of immediate concern to beginning teachers—discipline, group activity, teacher-pupil planning, and other problems dealing with teaching in the elementary school.

322 The Teaching of Reading (Secondary) **3 hrs. Fall**

This course deals with methods and materials for improving reading in the junior and senior high school. Both developmental and remedial procedures are stressed.

416 Later Elementary Education **3 hrs.**

A study of the characteristics and needs of pupils in the later-elementary grades and of the materials and methods of instruction.

430 Creativity in the Elementary School **4 hrs.**

A synthesis of the principles of creativity in application to teaching and learning situations in elementary education. Team-taught by faculty members from the departments of Art, Music, Physical Education (Women), Speech and Teacher Education.

442 Fundamentals of Driver Education **2 hrs.**

Description: Fundamentals, principles, practices, objectives, and subject matter content of high school Driver Education and Traffic Safety. Methods of teaching in the classroom. First of three required courses to certify Driver Education teachers. Prerequisites: Junior level and valid driver's license.

507 Teaching of Social Studies in the Elementary Schools **2 hrs. Fall, Winter**

This course is designed to help teachers understand the role of the social studies in the elementary school, gain insight into important considerations in the selection of content, and discover how to guide and assess the learning of children in this field. Planning social studies experiences and ways of working with children in classroom setting will be emphasized.

510 The Elementary Curriculum **2 hrs. Fall**

A consideration of content and procedures to adapt experiences of pupils in elementary schools to modern conditions and to child needs and interests. Individual or committee reports concerning the improvement of various aspects of the elementary school curriculum will be prepared.

514 Nursery-Kindergarten Education **2 hrs. Winter**

This course will acquaint the students with the history and present-day status of Nursery School and Kindergarten education. Consideration will be given to the organization, equipment, curriculum, and approved teaching procedures.

535 Methods of Teaching the Disadvantaged **3 hrs. Fall, Winter**

Designed for teachers and administrators who are presently working with disadvantaged children and youth. Class meetings are centered around problems arising from practical situations, particularly with respect to affective factors of environment and their relation to teaching and learning. Extensive use is made of consultants from social, governmental and educational agencies working with the disadvantaged.

542 Administration and Methods of Driver Education **2 hrs.**

Description: History, Philosophy, and Psychology of Driver Education. Emphasis on organization and administration of high school Driver Education programs. Laboratory work in dual control cars and driving range programs. Prerequisites: T.Ed. 442, 21 years of age, and valid driver's license.

544 Psychology of Driver Education **2 hrs.**

Description: Psychological and perceptual aspects of the driver and traffic safety. The role of the teacher in influencing driver behavior. Research in traffic safety. Prerequisite: T.Ed. 442.

560 Practicum: Sociological and Psychological Foundations of Teaching the Disadvantaged **2-6 hrs.**

The initial course required of all students in this program. Designed to develop awareness of family situations, community conditions, behavior, value systems, and characteristics of the disadvantaged, as well as to develop positive attitudes toward these children and their problems. Consists of readings, lecture-discussions, and field experiences with the disadvantaged, including home visits, visits to social and governmental agencies, and school experiences including supervised teaching. Generous use is made of consultants from all agencies dealing with the problems of the disadvantaged.

586 Clinical Studies in Reading **2 hrs.**

This course is intended to provide the basic information needed in the examination of persons with reading disorders. Interviewing techniques and examination procedures will be the basic content of the course. Emphasis will be placed on the physical, psychological and sociological factor affecting reading performance.

587 Educational Therapy in Reading **2 hrs. Winter**

A study is made of the psychological, sociological and physiological factors affecting children's reading ability, together with laboratory application of such knowledge in the prevention, diagnosis and treatment of reading problems. Open only to experienced teachers by permission of the instructor.

597 Reading and Related Language Experiences **2 hrs.**

A study of the current research in the many aspects of language which are involved in the process of effective reading.

METHODS OF TEACHING

548 Audio-Visual Education **2 hrs. Fall, Winter**

Acquaints techers and administrators with the principles and practical uses of multi-sensory aids to education, including field trips, machines and creative materials.

549 Production of Instructional Materials **2 hrs. Winter**

This workshop of course provides for many laboratory experiences in making such instructional materials as: bulletin board displays, charts, wet and dry mounting of pictures, film strips and 2″ x 2″ slides, silk screen process, magnetic boards, handmade slides, mimeograph techniques, etc.

555 Alcohol Education **2 hrs. Fall, Winter**

Deals with problems of alcohol education in the school and community, with special emphasis on teaching methods and procedures, relationships with governmental and social agencies, and administration of the program.

RURAL LIFE AND EDUCATION

Dr. James O. Ansel, Director

201 Curriculum Organization in Small Schools **3 hrs. Fall**

A study of the objectives of education as related to rural children and rural needs and teaching practices leading toward these objectives. Students experience through observation and participation the development of materials suitable for use in small schools.

408 Supervision in Rural Area Schools **2 hrs. Fall**

Prerequisite 305. Planned for supervisors, principals, and administrators. Discussion and individual reports center on curriculum problems, orienting new teachers, teaching practices and in-service education. Other supervisory problems for all types of rural schools are included.

411 Problems of Community Schools in Rural Areas **2 hrs. Winter**

Prerequisite 201. An analysis of the community school-reorganization of school districts; functions of the local intermediate and state boards of education; school building planning, supplies, equipment, professional organizations, school law, public relations and other topics.

475 Directed Teaching (Teacher interns) **See p. 200.**
5 hrs. Fall, Winter

RURAL SOCIAL SCIENCE

220 Rural Sociology **4 hrs. Winter**

A study of life in the rural environment—local, regional and world wide, including cultural factors; population trends; impact of industrialization; family, village, community; social institutions, agencies and organizations; educational, recreational, religious, health and government facilities. Magazines, pamphlets, and other sources supplement textbooks.

231 Rural Economics **4 hrs. Fall**

Basic economic principles are considered in terms of rural conditions—local, national, international. Economic interpretations are given topics found in local school's curricula—conservation, taxes, insurance, consumer education, cooperatives, agricultural, extension, services, etc.

525 Rural Life **2 hrs. Winter**

Prerequisite 220. Critical study of recent books in rural social life. Consideration is given individual problems related to social aspects of community life. Special problems are selected for study by each student. Field work is encouraged.

Special Education

Morvin A. Wirtz, Head

Donald Blasch
Ruth V. Burleson
Joseph J. Eisenbach
Francis E. Heger
Kristen D. Juul
Ruth Kaarlela
Robert LaDuke
Elizabeth Lennon
Lidia Stillwell
Stanley Suterko
Isadore R. Turansky
Robert J. Westley
Lloyd C. Widerberg

The Department of Special Education offers undergraduate and graduate programs for the preparation of teachers, administrators and clinical service personnel in the areas of blind rehabilitation, emotionally disturbed, crippled and homebound, and mentally handicapped. Students in these programs are awarded either the elementary or secondary provisional certificate with a major in one of the above fields, which also permits them to teach in their major throughout all grades of the school system.

The curricula in Special Education represent balanced programs of general, specialized and professional education, and are designed to meet state requirements for approval of teachers in the respective fields. Students interested in entering Special Education should consult with their departmental advisers early in their college careers.

SPECIAL EDUCATION

512 Workshop in Special Education **2-4 hrs.**

Designed for teachers, counselors, psychologists, social workers and others interested in studying selected aspects of special education at appropriate locations, such as state hospitals and special schools. A variety of instructional experiences are provided, including conferences.

521 Practicum in Special Education **2 hrs. Fall**

This course consists of supervised tutoring of exceptional children with learning problems, such as the mentally retarded, perceptually handicapped and emotionally disturbed. Educational evaluation, teaching materials and techniques, and management of emotional and social aspects of the learning process are included in the course content. Regular clinical case conferences directed by the instructor and members of the institutional staff are held.

528-29 Interdisciplinary Education & Rehabilitation Techniques **4 hrs. (2 per semester) Fall, Winter**

This course is intended to develop a thorough understanding of the roles of the various disciplines involved in the diagnosis, education, and rehabilitation of exceptional children and youth. Lectures, taped and

filmed interviews, and live demonstrations are utilized. Class meets during the fall and winter terms on Mondays, from 4:15 to 6:00 for four hours credit. The course is applicable to students of speech correction, reading therapy, occupational therapy, psychology and special education as well as to those in general education.

530 Education of Exceptional Children 3 hrs. Fall, Winter

Deals with the problems and methods involved in the adjustment and training of exceptional children in the schools—the mentally retarded, the gifted, the crippled, the deaf, the blind, the emotionally unstable, and the delinquent.

532 Mental Deficiency 4 hrs. Fall, Winter

A course especially intended for teachers of mentally handicapped children. Also recommended for school counselors, psychologists, social workers and other auxiliary personnel. Course objectives include an understanding of the causes, diagnoses, classification and interpretation of mental deficits. Prerequisite: Educ. 530 or equivalent.

534 Education of the Mentally Handicapped 4 hrs. Fall, Winter

The course includes a critical evaluation of methods and materials utilized in teaching the mentally handicapped. Special attention will be given to problems of organizing special classes, developing curriculums and understanding expectations of educational program for mentally handicapped children and youth. Prerequisite: Educ. 532 or equivalent.

543 Education and Therapeutic Care of Crippled Children 4 hrs. Fall

Study of educational, psychological, and therapeutic needs of crippled children and the role of allied disciplines in meeting these needs. Prerequisite: Education of Exceptional Children 530 or consent of instructor.

585 Mental Hygiene of Childhood and Adolescence 2 hrs. Fall, Winter

Deals with the problems of emotional adjustment and maladjustment in childhood and adolescence.

588 Psychopathology of Childhood 2 hrs. Fall, Winter

A comprehensive study of the causes, manifestations, treatment and prognoses of Psychiatric conditions in children suffering from neuroses, psychoses, schizophrenia, behavior disturbances, psychopathic personality disorders, organic malfunctioning, sexual deviations, etc. The learning difficulties and educational problems presented by emotionally disturbed children. Terminology and concepts needed for an understanding of mental illness and for effective communication with members of related psychiatric professions.

589 Education of Emotionally Disturbed Children 4 hrs. Fall, Winter

Taken concurrently with directed teaching in this field, this course provides group and individual guidance regarding problems encountered in teaching the emotionally disturbed. Methods of teaching, evaluation, cooperation with other agencies and professions, staff diagnostic confer-

ences, and inter-disciplinary teamwork are among the areas covered. Resource persons include psychiatrists, psychologists, social workers, etc.

BLIND REHABILITATION

476 Pre-Practicum (Education of Blind and Visually Impaired) 6 hrs.

Designed to give students in specialized areas an opportunity for paid field experience in this area. They will be under the direct supervision of the University and will be assigned to assist an experienced and qualified specialist in the field. Only students completing their third year of study in the professional education block will be eligible. Permission of the student's adviser will be necessary.

590 Physiology and Function of the Eye 2 hrs. Fall, Winter

The anatomy, structure and function of the eye. Various eye diseases and malfunctions are stressed. The student is given an opportunity to observe all types of eye conditions, eye prosthesis and low visual aids.

591 Braille and Other Communication Methods 2 hrs. Fall, Winter

Acquaints the student with the basic rudiments of Braille reading and writing. Familiarization with other means of communication used by the blind.

592 Education of the Blind and Partially Sighted 2 hrs. Fall

An overview of the education of visually handicapped children and adults. An introduction to the literature, history, principles, practices and problems in the field, including curricular and methodological adaptations of various educational programs.

593 Methods and Techniques of Teaching Braille and Other Areas of Communication 3 hrs. Winter

Provides students with the ability to teach areas of communication essential to the blind, such as: social communication, use of Braille, typing, script writing, electronic devices and other media. Opportunity for supervised practical application of methods will be afforded to the student.

594 Principles of Orientation and Mobility for the Blind 3 hrs. Fall, Winter

An examination of the fundamental principles underlying spatial and geographical orientation and mobility for the blind. This will include an analysis of the sensorium in orientation and a study of bodily alignment and movement in mobility. There will also be a study of the specific characteristics of various mechanical typhlostaffs, plus an evaluation of electronic sensory aids for travel.

595 Orientation and Mobility 2 hrs. Fall, Winter

Techniques will be acquired under conditions simulating blindness. Emphasis will be placed on the use of the remaining senses, common

objects, the muscles and the skeleton in activities of daily living. Permission of instructor.

596 Advanced Orientation and Mobility **4 hrs. Fall, Winter**

Orientation and mobility techniques and the proper methods of incorporating them into a person's method of travel. Guided observation and practice with blinded individuals ranging in age from the pre-kindergarten through the aged in various environments, such as the: school, residence, community, and work situations. Permission of instructor.

597 Development of Services to the Blind **3 hrs. Fall**

This introductory course is designed to acquaint the students with the development, scope, and present-day status of various types of services offered to blind people. It includes an investigation of administrative structure and function of state and private agencies serving the blind and surveys specialized needs and recent trends of interest to prospective teachers in the field.

School Services

Harold W. Boles, Head

Robert Betz	L. Dale Faunce	Paul J. Misner
William A. Carlson	Neil Lamper	Maurice F. Seay
William D. Coats	Dorothy McCuskey	Roland S. Strolle
James A. Davenport	Arthur J. Manske	William P. Viall
Kenneth B. Engle	Gilbert E. Mazer	Donald C. Weaver

The Department of School Services offers work in the fields of administration and supervision, curriculum development, guidance and personnel services. Most of these courses are open to graduate students only, but the following courses in guidance are open to qualified undergraduates.

GUIDANCE AND PERSONNEL SERVICES

580 Principles and Philosophy of Guidance **2 hrs. Fall, Winter**

An introductory course for elementary and secondary teachers. A thorough investigation of the democratic philosophical concepts underlying guidance service programs; a survey of the history and principles of guidance; an overview of guidance services.

581 Interpretation and Use of Tests in Guidance **2 hrs. Winter**

Designed to familiarize students with various psychological tests and scales that may be used in school guidance programs. Tests are taken and scored by students, and the results are interpreted and evaluated.

Education 582 The Information Service in Guidance
2 hrs. Fall, Winter

Designed to introduce counselors, teachers and other personnel workers to: 1) basic resources available in the area of occupational, educational and personal social information, 2) theories of vocational development and their application to the processs of guidance and counseling, and 3) the world of work, and especially an analysis of work's impact on American culture.

583 Guidance Workshop **2 hrs.**

Designed for counselors who wish to study particular guidance problems and procedures in relation to their local guidance program.

584 Elementary School Guidance **2 hrs. Fall**

Designed to give teachers, administrators and elementary counselors an understanding of the principles and techniques of guidance programs in elementary schools.

Physical Education for Men

Joseph T. Hoy, Head

Donald E. Boven
Bill M. Chambers
J. Patrick Clysdale
George G. Dales
F. William Doolittle
Edward A. Ferkany
Manley G. Fossen
Edward A. Gabel
John W. Gill
Edward C. Hager
George W. Hobbs
J. Arthur Jevert
Jack D. Jones
Kenneth W. Kopke
Charles H. Maher
Clarence Means
John T. Miller
Fred C. Orlofsky
Richard Raklovits
Harold L. Ray
William Rowekamp
Merle J. Schlosser
Thomas C. Slaughter
Raymond F. Sorensen
Fred L. Stevens
Roy J. Wietz
Robert F. Wyman
Roger M. Zabik

THE GENERAL PHYSICAL EDUCATION REQUIREMENT

All men must participate in general physical education beginning with the first semester or session of residence, until a minimum of four hours is completed. Classes meet three hours weekly for one semester

hour of credit. Four hours only of general physical education credit will be accepted toward the minimum requirement for a baccalaureate degree.

Veterans of military service (minimum of one year continuous active duty) shall be granted, upon request, two hours of the general physical education credit. The remaining two hours must be completed with emphasis on the lifetime sports.

The general physical education requirement is waived for students thirty years of age or older.

Students are classified for physical education activities on the basis of a medical examination required by the University Health Service. No student is excused from fulfilling the requirements because of a physical disability. The needs of all students with physical defects can be cared for in the adapted program on an individual basis.

The purpose of the program is to provide physical fitness and recreational activities which will meet the mental, physical, social and leisure time needs of all students. To that end, a program of instruction and guidance is offered in a wide range of sports skills fundamentals which satisfies basic physical needs and contributes to socially efficient living.

The program is designed to help the student more adequately understand his physical status and to present the basis for his selection of a variety of activities that are best suited to his individual and specific needs of the present as well as those for his adult life.

The program emphasizes the fundamentals of the various team sports in season, individual and dual sports, rhythmic exercises and special conditioning activities. The student is allowed to elect from a wide range of activities each semester.

A member of a varsity team may receive credit for general physical education by participation on an athletic squad provided he officially enrolls in a general physical education class in the 220 group designated by the sport in which he plans to participate and attends all practices regularly during the sport season concerned. Credit will not be granted if he is dropped or withdraws from the athletic squad.

Majors or minors specializing in physical education have two hours of the general physical education requirement waived. The remaining two hours must be completed in courses as specified by the Department of Physical Education and Athletics.

Majors or minors specializing in physical education are not required to complete the general physical education requirement but they may elect general physical education courses.

Each transfer student must complete 4 semester hours credit in general physical education. He must enroll for and participate in general physical education during the first semester or session of residence at Western Michigan University and thereafter each semester or session until the requirement is completed or until graduation, whichever occurs first. This requirement is in effect regardless of whether or not general physical education was required at the previous institution.

Participation in Band may be substituted for physical education credit except that a minimum of one semester hour of credit must be earned by

actual participation in general physical education. Substitution of band participation for physical education credit during the second semester is possible only if the student has participated in the marching band during the first semester.

Each male student shall enroll in general physical education beginning with the first semester of residence, unless he enrolls in military science. A male student must complete four semesters of general physical education or four semesters of military science, except as cited above.

Students enrolled in the terminal and in the two-year pre-professional curricula must participate in general physical education beginning with the first semester of residence, until the requirement is completed.

Students with irregular programs or with physical disabilities should consult the person in charge of general physical education to determine what recommendation may be made for satisfactory completion of the general physical education requirement.

COURSES IN GENERAL PHYSICAL EDUCATION

89 Physical Fitness Program (No credit) (Winter)
100 General Physical Education 1 hour (Fall)
100 Adapted Physical Education 1 hour (Fall)
101 General Physical Education 1 hour (Fall)
101 Adapted Physical Education 1 hour (Fall)
102 General Physical Education 1 hour (Fall)
102 Adapted Physical Education 1 hour (Fall)
103 General Physical Education 1 hour (Fall)
103 Adapted Physical Education 1 hour (Fall)
104 General Physical Education 1 hour (Winter)
104 Adapted Physical Education 1 hour (Winter)
105 General Physical Education 1 hour (Winter)
105 Adapted Physical Education 1 hour (Winter)
106 General Physical Education 1 hour (Winter)
106 Adapted Physical Education 1 hour (Winter)
107 General Physical Education 1 hour (Winter)
107 Adapted Physical Education 1 hour (Winter)
121 Folk and Square Dance (Co-Educational) 1 hour Women's Department
124 Social Dance (Co-Educational) 1 hour Women's Department
215 General Physical Education (Co-Educational Bowling) 1 hour Women's Department
220 General Physical Education (Football) 1 hour (Fall)
221 General Physical Education (Cross Country) 1 hour (Fall)
222 General Physical Education (Basketball) 1 hour (Winter)
223 General Physical Education (Swimming) 1 hour (Winter)

224 General Physical Education (Wrestling) 1 hour (Winter)
225 General Physical Education (Baseball) 1 hour (Spring)
226 General Physical Education (Track) 1 hour (Spring)
227 General Physical Education (Golf) 1 hour (Spring)
228 General Physical Education (Tennis) 1 hour (Spring)
229 General Physical Education (Gymnastics) 1 hour (Winter)

PROGRAMS FOR SPECIALIZING STUDENTS

Pattern I-A — Physical Education Major (30 Hours)

Required courses for the thirty hour major in physical education are 150, 230, 231, 232, 233, 240, 330, 370, 380, 390, 460. Elect six hours from courses 234, 235, 244, 260, 270, 348, 351, 352, 371, 430.

Animal Biology 101, Mammalian Anatomy 210, Human Physiology 219 are required in biological science.

Pattern I-B — Group Major in H.P.E.R. (36 Hours)

Required courses for the group major in health, physical education, and recreation are 150, 240, 330, 380, 390, 460.

Elect six hours from 230, 231, 232, 233, 234, 235. Elect four hours from 370, 371. Elect four hours from Biol. 111, 514, P.E.W. 342 or 343, 516. Elect eight hours from 244, 260, 270, 348, 351, 352, 430, 470 or coaching courses not elected in 230-235 series.

Animal Biology 101, Mammalian Anatomy 210, Human Physiology 219 are required in biological science.

Pattern II-A — Group Minor in H.P.E.R. (24 Hours)

Required courses for the group minor in H.P.E.R. are 150, 240, 330, 380, 390, 460. Elect two hours from 270, 370, 371, 470. Elect two hours from Biol. 111, 514, P.E.W. 342 or 343, 516. Candidates in secondary education elect six hours from 230-235 series. Candidates in elementary education may elect six hours from related departmental offerings.

Animal Biology 101 and Mammalian Anatomy 210 are required in biological science.

PATTERN II-B — Recreation Minor (20 Hours) (Non-Teaching)

REQUIRED CORE

P.E.	270	Outdoor Education	2 hrs.
	**370	Community Recreation	2
	371	Procedures and Materials in Recreation	2
	470	Directed Field Experiences	2
			8 hrs.

ELECTIVES

Group I—Arts and Crafts—(3 hrs.)

I.E.	190	Ind. Arts for Elementary Teachers	3 hrs.
	192	Related Arts and Crafts	3

Group II—Aquatics—(1 hr.)

P.E.	**330	Swimming	1 hr.
	430	Advanced Swimming	1

Group III—Activity Skills—(3 or 4 hrs.)

P.E.	**390	Teaching of Physical Education	3 hrs.
	150	Foundations of Physical Education	4
	100-215	General Physical Education	4

Group IV—Additional Electives—(5 or 11 hrs.)

Biol.	234	Outdoor Science for Teachers	3 hrs.
	232	or 233 (Seasonal)	3
P.E.	244	Sports Officiating	2
	260	Intramural Sports	2
Music	290	Recreational Music	2
O.T.	334	Recreation for Handicapped	2
Geog.	350	Conservation Natural Resources	3
P.E.	380	1st Aid and Athletic Injuries	2
Soc.	368	Welfare Organization	2
Libr.	546	Story Telling	2
Ed.	310	Stories for Childhood	2
			25 hrs.

Students from outside H.P.E.R. normally select a minimum of 5 hours from Group IV. Majors and minors in physical education must elect 11 hours from Group IV—due to duplication in this minor as shown by the courses marked **.

Pattern II-C — Health Education (24 Hours)

See page 220.

DESCRIPTION OF COURSES

150 Foundations of Physical Education **4 hrs. Fall, Winter**

Taught by a teaching team, the course provides an orientation to the profession by integrating theory and practical application. Fundamentals of a variety of sports are presented. Understanding and interpreting principles and objectives of modern, balanced programs stressed. Motor readiness of professional students determined by testing program.

230 Coaching of Football **2 hrs. Fall, Winter**

Fundamentals of football coaching, with special emphasis on blocking, tackling, passing, kicking and line and backfield maneuvers. Building an offense, principles of defensive formations, scouting and rules.

231 Coaching of Basketball **2 hrs. Fall, Winter**

This covers the theory and practice of basketball coaching. Foundation skills are stressed, with a study of offensive and defensive systems. A personal textbook involving all materials is created.

232 Coaching of Baseball **2 hrs. Fall, Winter**

Theory and practice in base running, fielding, batting, and pitching; detailed study of each position; offensive and defensive team play; officiating; scoring; study of rules.

233 Coaching of Track **2 hrs. Fall, Winter**

The accepted forms for starting, sprinting, hurdling, distance running, and for field events. Factors affecting speed, endurance and fatigue. The selection and preparation of contestants. Managing of meets.

234 Coaching of Wrestling **1 hr. Winter**

Theory and practice in fundamentals and techniques for coaching and teaching wrestling. Emphasis on training and conditioning for wrestling. Study of rules.

235 Coaching of Tennis **1 hr. Winter**

For students interested in coaching and teaching tennis. Instruction in the fundamental strokes and court strategy. Study of rules.

240 Gymnastics Techniques **2 hrs. Fall, Winter**

Taught by teaching team, stress is placed on fundamentals and routines of tumbling, side horse, parallel bars, rings, horizontal bar, and trampoline. Emphasis on teaching-spotting techniques, and progression of exercises. Prerequisite: P.E.M. 150

244 Sports Officiating **2 hrs. Fall, Winter**

This course considers rules and officiating techniques with emphasis on football, basketball and track. The student will be required to officiate in organized athletic contests and must qualify for certification as an official under the M.H.S.A.A. regulations.

260 Intramural Sports **2 hrs. Fall**

A study of the philosophy, objectives, rules, policies and other administrative details of a program of intramural sports. Preparation of an intramural handbook for use in high school. Opportunity for practical experience in intramural activities.

270 Outdoor Education **2 hrs. Fall**

Agency and school camping are stressed. The aims and values of

camping, laws governing camp operation and camp counseling receive attention. Opportunity for applying skills in a real camp setting is given.

330 Swimming **1 hr. Fall, Winter**

This course for physical education majors and minors is basic. Instruction is given to beginners with emphasis on the various strokes. Competent swimmers may participate in qualification tests for Senior Life Saving.

348 Adapted Physical Education **2 hrs. Winter**

Adaptation of the physical education program to meet the unusual needs of individuals who are physically handicapped or who require special prescription of activities.

351 Introduction to Coaching **2 hrs. Fall, Winter**

To acquaint the prospective coach with the nature and responsibilities of the profession. Phases considered are: preparation for coaching, planning the season's campaign, presenting material effectively, squad and team selection, handling men, relations with the press.

352 Tests and Measurements in Physical Education **2 hrs. Winter**

The theory of measurement in physical education, the selection and administration of appropriate tests, and the interpretation of their results by fundamental statistical procedures.

370 Community Recreation **2 hrs. Fall, Winter**

Nature and function of play; age periods and adaptations of activities; social environment; needs and objectives; construction, management and supervision. Study of outstanding programs in operation.

371 Procedures and Materials in Recreation **2 hrs. Winter**

The student has an opportunity to participate in and direct recreational activities and to become acquainted with and collect materials. Emphasis will be on activities used on playgrounds, in schools and in community centers.

380 First Aid and Athletic Training **2 hrs. Fall, Winter**

Knowledge and skill in meeting emergencies. The use of massage, strappings, and training room techniques from the coach's point of view. Prerequisites: Animal Biol. 101 and Mammalian Anatomy 210.

390 Teaching of Physical Education **3 hrs. Fall, Winter**

Materials and skills are presented from the prospective teacher's viewpoint. Program planning, analysis of motor learning, rhythmic activities, games and relays suited to both elementary and secondary levels. Leadership and practical experience emphasized. Prerequisites: P.E.M. 150, 240.

430 Advanced Swimming **1 hr. Winter**

This course is designed for students who wish to qualify for the Red Cross Senior Life Saving and Instructor's Certificate. The certificate

will qualify the student for waterfront administration. Prerequisite: Approval by instructor.

460 Administration of Physical Education 2 hrs. Fall, Winter

The planning of physical education programs for city, village and rural schools; the organization of games, tests, meets, tournaments, and seasonal play; principles of supervision; construction and equipment of buildings, grounds, swimming pools, athletic fields, stadia.

470 Directed Field Experiences in Recreation 2 hrs. Fall, Winter

Students work individually and in groups on problems arising from situations in recreational programs in the school and community. Opportunity for this experience is planned on campus and in cooperation with local recreational agencies.

561 Problems in Interscholastic and Intercollegiate Athletics 2 hrs. Winter

Relationship of athletics to education is considered. Problems in the organization of an athletic program including eligibility, finance, liability, transportation, safety, facilities and equipment will be discussed.

598 Readings in Health, Physical Ed., and Recreation 1–3 hrs. Fall, Winter

Advanced students with good academic records may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approval of department head.

Physical Education for Women

Billye Ann Cheatum, Head

Helen Brown
Mary Brown
Harriet Creed
Ruth Davis
Eleanor Douglass
Frances Ebert
Jean Friedel
Clara Gamble
Elisabeth Hetherington
Janet Kanzler
Opal Klammer
Margaret Large
Patricia Lemanski
Ruth Ann Meyer
Margie Jeanne Miner
Wendy Olson
Anna May Robertson
Candace Roell
Norma Stafford
Barbara Stephenson
Mary Lou Stewart
Janet Stillwell

Each student must complete four semester hours of physical education. The maximum amount of general physical education credit to be earned in one semester is one semester hour. Each transfer student must enroll for and participate in general physical education during the first semester or session of residence at Western Michigan University and thereafter each semester or session until the requirement is completed or until graduation, whichever occurs first. No student is excused from fulfilling the requirements because of a physical disability. After consultation with the Department Head, a student with such a disability will be assigned to an adapted program based upon her individual needs.

Veterans of military service (minimum of one year continuous active duty) shall be granted, upon request, two hours of the general physical education credit. The remaining two hours must be completed with emphasis on the lifetime sports.

Persons 30 years of age or older are not bound by the general physical education requirements.

Physical education majors or minors may elect to take four semester hours of credit in the general program. These courses must be in addition to the required physical education professional activity and academic courses.

In order to be assigned an adviser in the Physical Education Department, any transfer student or person currently enrolled at Western Michigan University who desires to major in physical education, should consult with the department head.

PHYSICAL EDUCATION MAJOR

A. Hours required for this curriculum ..... 124 hrs.

1. General Studies Requirements as described on page 21 of this catalog must be met.

2. Biology ..... 11 hrs.
   - Biology 101 ..... 3 hrs.
   - Mammalian Anatomy 210 ..... 4 hrs.
   - Systemic Physiology 219 ..... 4 hrs.

B. Physical Education Required Courses

151	Foundations of Physical Education	2 hrs.
180	Theory and Practice: Folk and Square Dance, Stunts and Tumbling, Field Sports (Soccer, Speedball, Speed-a-way, Softball and Field Hockey)	2 hrs.
181	Theory and Practice: Basic Motor Skills, Dance Fundamentals, Beginning and/or Intermediate Swimming	2 hrs.
276	Community Recreation and Outdoor Education	3 hrs.
280	Theory and Practice: Track and Field, Gymnastics, Officiating (Hockey and Softball), Archery	2 hrs.
281	Theory and Practice: Rhythmic Form and Analysis, Volleyball, Basketball, Social Dance, Advanced Diving and Speed Swimming, Synchronized Swimming	2 hrs.
342	Elementary School Health and Safety Education	3 hrs.
	or	
*343	Secondary School Health and Safety Education	3 hrs.
345	Elementary and Secondary Physical Education	4 hrs.
350	Kinesiology	3 hrs.
351	Physical Education for Physical and Learning Disabilities	3 hrs.
352	Tests and Measurements	2 hrs.
**360	History and Principles of Physical Education	3 hrs.

*Required of all physical education majors, but may be counted toward a minor in Health Education.

**Required only of transfer students who will not take 151.

380 Theory and Practice: Tennis, Golf, Badminton, Dance in the Elementary School, Team Sports Methods and Junior Participation*** ..... 2 hrs.

381 Theory and Practice: Officiating (Volleyball and Basketball), Dance in the Secondary School, Life Saving and Water Safety Instructors (including methods and Junior Participation***) ..... 2 hrs.

480 Theory and Practice ..... 2 hrs.

or

481 Theory and Practice ..... 2 hrs.

Two elective activity courses selected after consultation with departmental adviser.

562 Administration and Organization of Physical Education ..... 2 hrs.

C. Physical Education Elective Courses:

150 First Aid ..... 2 hrs.

270 Camp Leadership ..... 3 hrs.

360 History and Principles of Physical Education ..... 3 hrs.

515 Dance History and Philosophy ..... 2 hrs.

544 Methods in Physical Education ..... 2 hrs.

545 Philosophy of Physical Education ..... 2 hrs.

PHYSICAL EDUCATION MAJOR WITH DANCE EMPHASIS

The Dance Emphasis program offered within the Physical Education Major program for women, is designed to substitute for the *team sports* courses certain dance courses which will prepare the student to teach all forms of dance on the secondary school level. With the exception of these substitutions, the rest of the major program remains identical. The Dance History and Philosophy course is to be an elective course.

Course substitutions for Dance Emphasis students

180 Theory and Practice **2 hrs.**

Folk and Square Dance, Stunts and Tumbling, Modern Jazz, Beginning Contemporary Dance.

280 Theory and Practice **2 hrs.**

Track and Field, Gymnastics, Archery, Dance Workshop I.

281 Theory and Practice **2 hrs.**

Rhythmic Form and Analysis, Social Dance, Advanced Diving and Speed Swimming, Synchronized Swimming and Dance Workshop II.

***Required during only one of the two blocks—380 *or* 381.

380 Theory and Practice **2 hrs.**

Tennis, Golf, Badminton, Dance in the Elementary School, Dance Workshop III and Junior Participation***.

381 Theory and Practice **2 hrs.**

Dance in the Secondary School, Life Saving and Water Safety (including methods), Dance Workshop IV and Junior Participation***.

PHYSICAL EDUCATION MINOR (21 hours)

Required Courses

	Theory and Practice	6 hrs.
	3 courses, including a participation experience	
276	Community Recreation and Outdoor Education	3 hrs.
342	Elementary School Health and Safety Education	
	or	
343	Secondary School Health and Safety Education	3 hrs.
345	Elementary and Secondary School Physical Education	4 hrs.
350	Kinesiology	3 hrs.
	Prerequisite: 210 Mammalian Anatomy	

Elective Courses

151	Foundations of Physical Education	2 hrs.
352	Tests and Measurements in Physical Education	2 hrs.
514	Methods and Materials in Health Education	2 hrs.
515	Dance History and Philosophy	2 hrs.
545	Philosophy of Physical Education	2 hrs.
562	Administration and Organization of Physical Education	2 hrs.
	Theory and Practice courses	2 hrs.
	(with advice of counselor)	

HEALTH EDUCATION MINOR

See page 220.

COURSE DESCRIPTIONS

GENERAL PHYSICAL EDUCATION COURSES:

100 Personal Physical Education **1 hr. Fall, Winter**

A study of personal physical needs: including study of posture and mechanics of movement, experimentation in basic motor skills, physical fitness and practice in relaxation.

101 General Physical Education **1 hr. Fall, Winter**

102 Modern Jazz **1 hr. Fall, Winter**

103 Beginning Fencing **1 hr. Fall, Winter**

***Required only during one of the two blocks—380 *or* 381.

104 Softball — **1 hr. Fall**

105 Lacrosse — **1 hr. Fall**

106 Winter Sports, Skiing, Skating — **1 hr. Winter**

109 Horsemanship (Additional Fee) — **1 hr. Fall, Winter**
Riding times adjusted to student schedules

110 Beginning Stunts, Tumbling and Gymnastics — **1 hr. Fall, Winter**

111 Beginning Swimming — **1 hr. Fall, Winter**
Unable to swim in deep water

112 Intermediate Swimming and Diving — **1 hr. Fall, Winter**
Can swim in deep water

113 Basketball — **1 hr. Winter**

114 Volleyball — **1 hr. Winter**

119 Field Hockey — **1 hr. Fall**

121 Folk and Square Dance — **1 hr Fall, Winter**

123 Beginning Contemporary Dance — **1 hr. Fall, Winter**
Individual and group study of expression through rhythmical movement

124 Social Dance — **1 hr. Fall, Winter**

129 Beginning Golf — **1 hr. Fall**

200 Beginning Tennis — **1 hr. Fall**

201 Intermediate Tennis — **1 hr. Fall**
Prerequisite: 200 Beginning Tennis or with permission of instructor

202 Badminton — **1 hr. Fall, Winter**

203 Intermediate Golf — **1 hr. Fall**
Prerequisite: 129 Beginning Golf or with permission of instructor

204 Creative Rhythms in the Elementary School — **1 hr. Fall, Winter**

205 Archery — **1 hr. Fall**

207 Intermediate Fencing — **1 hr. Fall, Winter**
Prerequisite: 103 Beginning Fencing or with permission of instructor

208 Intermediate Gymnastics — **1 hr. Fall, Winter**
Prerequisite: 110 Beginning Stunts, Tumbling and Gymnastics or with permission of instructor

211 Life Saving — **1 hr. Fall, Winter**

212 Advanced Swimming and Diving **1 hr. Fall, Winter**

213 Water Safety Instructors **1 hr. Fall, Winter**
Must have a current life saving certificate

214 Synchronized Swimming **1 hr. Fall, Winter**

215 Bowling (Additional Fee) **1 hr. Fall, Winter**

223 Intermediate Contemporary Dance **1 hr. Fall, Winter**
Prerequisite: 123 Beginning Contemporary Dance or with permission of instructor

241 Physical Education and Recreation for Teachers
2 hrs. Fall, Winter

This course is open only to teachers. Topics included in the course are: Program planning, making of games and equipment, accident prevention, basic motor skills. Practice in games, stunts, rhythms and recreational activities will be included. Offered by extension only.

340 Physical Education for the Elementary Classroom Teacher
1 hr. Fall, Winter

This course is required of all persons enrolled in Elementary Education curricula.

341 Creative Dance for Children **4 hrs. Fall, Winter**

This course explores and manipulates the principles, materials and techniques of creative dance for elementary school children. A concentrated study is made of how children discover movement and create dances with form and meaning, lectures, observation, and laboratory experiences.

GENERAL PHYSICAL EDUCATION ACADEMIC COURSES

These courses may be used as academic electives but do **not** satisfy any part of the general physical education requirement.

(See course descriptions listed under Physical Education Professional courses)

150	First Aid	2 hrs.
270	Camp Leadership	3 hrs.
275	Community Health	3 hrs.
276	Community Recreation & Outdoor Education	3 hrs.
341	Creative Dance for Children	4 hrs.
342	Elementary School Health & Safety Education	3 hrs.
343	Secondary School Health & Safety Education	3 hrs.
350	Kinesiology	3 hrs.
351	Physical Education for Physical & Learning Disabilities	3 hrs.
352	Tests & Measurements	2 hrs.
360	History & Principles of Physical Education	3 hrs.
514	Methods & Materials of Health Education	2 hrs.

515	Dance History & Philosophy	2 hrs.
544	Methods in Physical Education	2 hrs.
545	Philosophies of Physical Education	2 hrs.
562	Administration & Organization of Physical Education	2 hrs.

COURSE DESCRIPTIONS
PHYSICAL EDUCATION PROFESSIONAL COURSES

150 First Aid **2 hrs. Fall, Winter**

The standard course in first aid techniques leading to Red Cross certification.

151 Foundations of Physical Education **2 hrs. Fall**

The history, principles of and orientation to the fields of health, physical education and recreation.

180 Physical Education Theory and Practice **2 hrs. Fall**

Folk and Square Dance, Field Sports and Methods: Soccer, Speed-a-way, Field Hockey, Softball, Stunts & Tumbling.

181 Physical Education Theory and Practice **2 hrs. Winter**

Basic Motor Skills, Dance Fundamentals, Beginning and Intermediate Swimming.

270 Camp Leadership **3 hrs. Winter, Spring**

An investigation of the responsibilities and duties of the counselor in various types of camps. Aims and values of camping are emphasized. Practical experience in a camp setting.

275 Community Health **3 hrs. Fall**

A lecture course covering the historical development of the principles of organized public health activities along with their application to present day life.

276 Community Recreation and Outdoor Education **3 hrs. Fall, Winter, Alternate Spring**

Educational experience in an outdoor environment which would provide opportunities to live, work and play in a group situation. Students will be encouraged to participate in the week camping experience at Clear Lake Camp and other summer counselor positions.

280 Physical Education Theory and Practice **2 hrs. Fall**

Track and Field, Gymnastics, Officiating (Hockey-Softball), Archery.

Dance Workshop I (Physical Education 280)

A laboratory in analyzing and executing beginning contemporary dance movement.

281 Physical Education Theory and Practice **2 hrs. Winter**

Rhythmic Form and Analysis, Volleyball, Basketball, Social Dance, Advanced and Speed Swimming, Synchronized Swimming.

Dance Workshop II (Physical Education 281)

A laboratory in advanced contemporary dance technique. Choreographic principles will be employed in movement studies.

342 Elementary School Health and Safety Education
3 hrs. Fall, Winter

This course is directed toward prospective elementary school teachers. It is designed to provide knowledge and experiences related to the total school health program.

343 Secondary School Health and Safety Education
3 hrs. Fall, Winter

This course is directed toward prospective secondary school teachers. Through the media of knowledge and experiences the total school health program is brought into focus as an integral part of the secondary school program.

345 Elementary and Secondary School Physical Education
4 hrs. Fall, Winter

Concerned with the play interest, needs and characteristics of children at the elementary and secondary school level. An analysis of activities in terms of these needs.

350 Kinesiology **3 hrs. Fall, Winter**

Study of the laws and principles of mechanics as they apply to the efficient use of the human machine. Investigation and analysis of the neuromuscular basis of human motion in physical education. Prerequisite: 210 Mammalian Anatomy.

351 Physical Education for Physical and Learning Disabilities
3 hrs. Winter

Principles and problems in physical education for those with physical and learning disabilities. Also includes investigation of the kinesiological and physiological rationale for corrective physical education and physical fitness programs. Prerequisite: 219 Systemic Physiology.

352 Tests and Measurements in Physical Education
2 hrs. Fall, Winter

To help the students understand evaluation techniques that can be used in schools including administration, selection and use of tests, interpretation of results through fundamental statistical procedures with emphasis placed on standardized tests in the field.

360 History and Principles of Physical Education **3 hrs**

A brief historical survey of physical education. In addition, a study is made of the principles of physical education and of the types of programs that develop through their application.

380 Physical Education Theory and Practice **2 hrs. Fall**

Tennis, Golf, Badminton, Dance in the Elementary School, Team Sports Methods, Junior Participation.

Dance Workshop III (Physical Education 380)

A laboratory in which costuming, make up, lighting and simple scenery making will be studied and executed.

381 Physical Education Theory and Practice **2 hrs. Winter**

Officiating (Volleyball, Basketball), Dance in the Secondary School, Life Saving, Water Safety Instructors (including methods), Junior participation.

Dance Workshop IV (Physical Education 381)

A laboratory in which the Dance Emphasis student will prepare and present a minor work for an invited audience.

480 Physical Education Theory and Practice **2 hrs. Fall**

Individual study or two electives from Bowling, Fencing, Modern Jazz, Winter Sports, Horsemanship, Dance Workshop II (only on advice of departmental counselor).

481 Physical Education Theory and Practice **2 hrs. Winter**

Individual study or two electives from Bowling, Fencing, Modern Jazz, Horsemanship, Dance Workshop II (only on advice of departmental counselor).

514 Methods and Materials in Health Education **2 hrs. Fall**

Lectures and demonstrations with emphasis on the effective health supervision of school children, the principles and practices of health teaching in the various grades, and the interrelation of this teaching with that of other subjects in the curriculum. (Prerequisites: 353, 354 or consent of instructor.)

515 Dance History and Philosophy **2 hrs. Alternate Winter**

A study of the history and philosophy of dance from primitive man to Modern Man. Emphasis upon contemporary thought and its effect upon man's expression through dance.

516 Issues in Health Education: (a) Sex Education
2 hrs. Fall, Winter

This course will focus on health issues of current concern. The course may be designed to deal with one issue or several.

544 Methods in Physical Education **2 hrs. Winter**

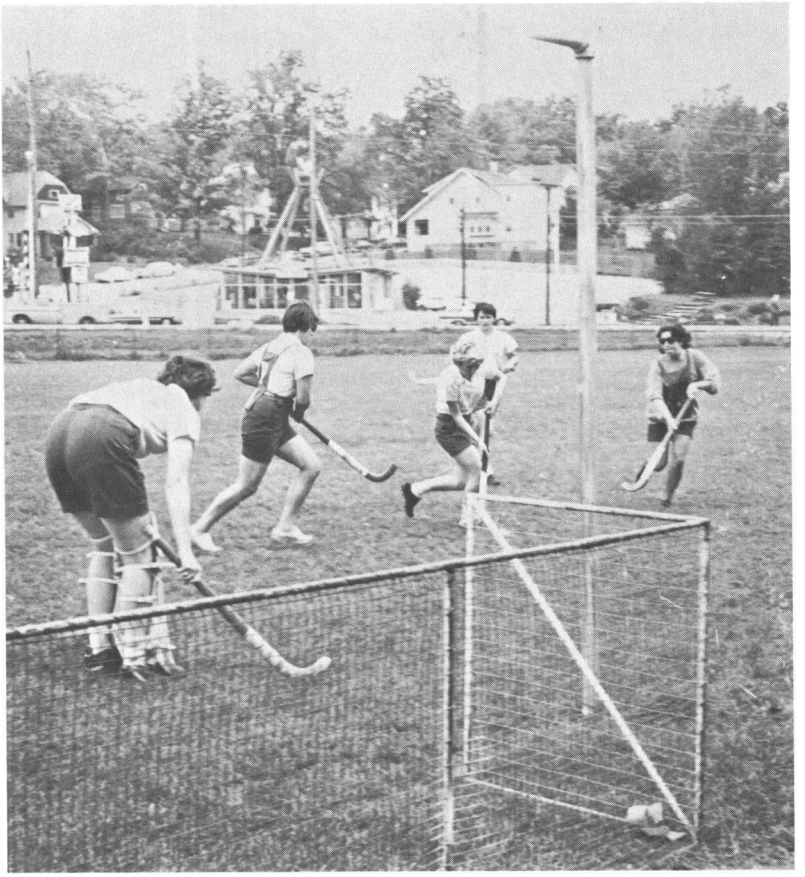
Fundamental principles underlying the selection of subject matter and the technique of teaching elementary and secondary school physical education.

545 Philosophies of Physical Education **2 hrs. Fall, Winter**

A study of the ideas and concepts of various philosophical schools as they apply to physical education.

562 Administration and Organization of Physical Education **2 hrs. Fall, Winter**

Discusses administrative procedures and problems connected with physical education programs, including scheduling, facilities, personnel problems and public relations.



School of General Studies

ROBERT M. LIMPUS,
Dean

Academic Areas:
Humanities
Science
Social Science

Service:
Broadcasting

The School of General Studies is responsible for establishing and maintaining the program of general education at Western Michigan University. This program affects all undergraduate students, regardless of the Schools or curricula in which they are enrolled.

The main purposes of general education and, consequently, of the General Studies program, are to open doors and present ideas, to stimulate healthy self-criticism, to introduce the student to the world in which the educated man and the responsible citizen must live, a world of pressures and changes and of endlessly varied problems, and to give him some of the most important means for coping with them. It attempts to attack rigid and prejudiced habits of thought and at the same time to provide a foundation for tenable values.

The program includes 40 hours of work: 26 hours at the Freshman-Sophomore level, 8 hours at the Junior-Senior level and 6 hours of additional "non-professional liberal arts courses."

DESCRIPTION OF COURSES

Freshman-Sophomore Level:

Each student should take College Writing 116 and Freshman Reading 140 in his freshman year, but both should not be taken the same semester. It is expected that the student's program for the freshman year would also include Western Civilization 100 or 101 as well as the requirement in science. Arts and Ideas 222 and the courses in social science should be taken in the sophomore year.

Humanities Area

Harold O. Bahlke, Chairman

100 Early Western Civilization **4 hrs. Fall, Winter**

This course is designed to give the student an understanding and an appreciation of contemporary institutions and culture through a study of their origins and development. It is essentially a history of culture which shows how the present is a product of the past and how peoples widely separated in space and time have contributed to the present.

101 Modern Western Civilization **4 hrs. Fall, Winter**

A continuation, from the seventeenth century, of 100. This course surveys important developments in all parts of the world. It emphasizes the last half-century.

116 College Writing **4 hrs. Fall, Winter**

Through classroom discussion and conferences with his instructor, the student will be encouraged to think for himself and to experience the satisfaction of working with his own ideas. Through constant practice in writing, he will be expected to achieve a reasonable competence in organizing a paper and writing it with clarity in the language used by literate Americans.

140 Freshman Reading **2 hrs. Fall, Winter**

A course in selected reading of books representing some of the best and most stimulating writing in several areas of thought. In this course the student assumes responsibility for conducting his reading program efficiently, requesting conferences with faculty advisers when it is desirable.

222 Arts and Ideas **4 hrs. Fall, Winter**

This course explores the relation between form and content in the arts of the Twentieth Century in the attempt to help students achieve a more

conscious and appreciative awareness of what it means to be human in the modern Western world.

224 Non-Western Arts and Ideas **4 hrs. Fall, Winter**

An introduction to the thought and art of major non-Western civilizations through a study of their central philosophic and religious texts and an examination of their chief works of art and literature. This course is an approved alternative for Arts and Ideas 222.

Science Area

Ollin J. Drennan, Chairman

105 Physical Geography **4 hrs. Fall, Winter**

The study of several earth sciences which give an understanding of man's environment: the form of the earth, earth-sun relationships, maps, weather and climate, soils, vegetation, the oceans, landforms and earth materials. Where possible, stress is given to the significance of environmental factors in the life of man. Students may present either this course or General Studies 112 toward their science requirements, but not both.

107 Biological Science **4 hrs. Fall, Winter**

A course designed to present basic biological principles and to give the student an understanding of the operation of the world of life.

108 Physical Science **4 hrs. Fall, Winter**

The major objective of the course is to prepare the student for intelligent living in the nuclear age. The course is designed for students who are not planning to specialize in any of the physical sciences. Physical Science 108 is designed to provide a scientific background for understanding our rapidly changing culture.

110 Aims and Achievements of Science **4 hrs. Fall, Winter**

A course designed to present to the student the goals and objectives of science, the methodology of science and some of the major achievements of science through a series of scientific case studies examined historically and philosophically as well as scientifically.

112 Geological Science **4 hrs. Fall, Winter**

In introduction to physical and historical geology for students who do not plan to major or minor in geology or earth science. The importance to man of minerals and rocks, geologic processes, and the history of the earth including the evolution of past life are emphasized. Three lectures and a two-hour laboratory period. Students may present either this course or General Studies 105 toward their science requirements, but not both.

Social Science Area

David S. DeShon, Chairman

202 Man and Society **4 hrs. Fall, Winter**

An introduction to social science, including scientific interpretation of human nature and culture and some issues of contemporary society. Not open to students who have taken the old Basic Studies 102 or 103.

203 The Social Bases of Human Behavior **4 hrs. Fall, Winter**

An analysis of the behavioral sciences and their contributions to the understanding of man's origin and human personality, the interaction between persons in groups, the understanding of social institutions and the function of culture. Not open to students who have taken the old Basic Studies 102 or 103.

204 Comparative Social Institutions **4 hrs. Fall, Winter**

A course showing the interaction and influence of social forces in determining the nature and function of institutions through which a society attempts to achieve its goals. Because all societies have many basic problems in common, a study is made to ascertain how different people, under differing circumstances solve these problems. Not open to students who have taken the former Basic Studies 102 or 103.

Junior-Senior Level

At the Junior-Senior level the student must take Introduction to the Non-Western World 304 or approved alternatives. He must also take at least one course from the list of General Studies upper-class electives listed below:

304 Introduction to the Non-Western World **4 hrs. Fall, Winter**

A survey of the traditional cultures of certain major societies which have developed essentially apart from the stream of Western civilization. This is followed by an analysis of the Western impact on these societies and their reactions thereto, and by a study of contemporary social, economic, and political problems of non-Western countries.

UPPER-CLASS ELECTIVES:

400 Human Communication **4 hrs. Fall, Winter**

A cooperative investigation of the processes by which man uses the dynamics of symbol systems, centrally concerned with both personal and cultural communication behavior.

401 Science and Intellectual History **4 hrs. Fall, Winter**

A study of the impact of scientific growth on the history of ideas.

402 American Culture **4 hrs. Fall, Winter**

An interdisciplinary study of some of the most significant issues of American life, past and present, as seen from the perspectives of literature, the arts, the social sciences, and philosophy.

405 Molders of Thought **4 hrs. Fall, Winter**

A course in which the ideas and achievements and lives of two or three leading thinkers in various areas are studied comparatively. Different selections of topics and men will be made from time to time.

408 Social and Cultural Change **4 hrs. Fall, Winter**

An interdisciplinary study of the universal human problem of social change. Single and multifactor theories will be used to assess the question of change as "drift" and change as socially directed. Additionally, an examination of various economic, technological, political, military, ideological, ethical and religious efforts to explain change will be examined.

497 Seminar in Contemporary Issues **4 hrs. Fall, Winter**

A course in which large scale social movements and trends are examined in interdisciplinary terms for their general impact on societies. Differing selections of issues will be made from time to time.

503 Criticism of Mass Media **4 hrs. Fall, Winter**

A study of the nature of the mass media and a development of standards for criticizing them.

504 Business and Society **4 hrs. Fall, Winter**

A systematic analysis of evaluation of the concepts and institutions, both internal and extrinsic, which shape the role of business in our society. Illlustrative topics: Authority and Power, Pluralism, Competition, Freedom of Association, Innovation, Social Responsibility.

School of Liberal Arts and Sciences

CORNELIUS LOEW,
Dean

JAMES H. POWELL,
Associate Dean

PHILIP S. DENENFELD,
Associate Dean

Departments:

Anthropology
Art
Biology
Chemistry
Economics
English
Geography
Geology
History
Languages, Modern and Classical
Linguistics
Mathematics
Music
Philosophy
Physics
Political Science
Psychology
Religion
Sociology
Speech
Speech Pathology and Audiology

School of Liberal Arts and Sciences

The School of Liberal Arts and Sciences offers a variety of subjects that combine to develop a student who will be at home in the world of ideas, and whose experience of living will be deepened by an understanding of his cultural heritage. It aims to offer him training in thinking objectively, critically, and creatively. Its offerings serve not only the special student of the sciences and humanities but also provide a background of liberal education for students in the other schools of the university and for those in the pre-profesional courses.

Degree Curricula

I. LIBERAL ARTS CURRICULUM

B.A. Degree

A. Sixty hours work in the School of Liberal Arts and Sciences of which sixteen hours should be distributed as follows: four hours in each of the two divisions of Science and Mathematics, and of Social Sciences. Also, four hours from the area of literature, speech, philosophy and religion, and four hours from the area of fine arts.

B. The regular General Studies requirements.

C. Thirty hours of work in 300, 400 and 500 courses exclusive of General Studies.

D. Four hours of intermediate work in a foreign language, or successful completion of a qualifying examination.

E. Four hours of college mathematics (or two years of high school preparation from the following: algebra, geometry, and/or trigonometry).

F. Physical education, four hours, or Military Science, eight hours.

G. Completion of a major and minor in the School of Liberal Arts and Sciences and electives to make a total of 124 hours.

II. THE GENERAL CURRICULUM

B.A. or B.S. Degree

In this curriculum a student may satisfy the requirements for pre-professional curriculum. If 124 hours are completed in this program the student will be eligible for a degree of Bachelor of Arts or Bachelor of Science.

A. General Studies Requirements
(See page 21 of this Catalog.) ..... 40 hours

B. Physical Education or Military Science ..... 4–8 hours

C. A Liberal Arts major

D. University courses to complete a minor

E. University electives to make a total of 124 hours

FOUR YEAR CURRICULA

Certain curricula are somewhat specialized and are listed below in more detail.

Medical Technology

A Bachelor of Science degree is awarded in the field of Medical Technology on completion of the following series of courses and a one-year internship in Medical Technology at a hospital affiliated with Western Michigan University. The curriculum fulfills the minimum requirements of the American Society of Clinical Pathologists as well as their recommendations for a strong program. A major is allowed in Medical Technology with 30 hours credit for the year of internship. This credit is only allowed if the internship is preceded by the required work in Chemistry and Biology, and is taken at an affiliated hospital. A minor is taken in both Biology and Chemistry.

The hospitals with which Western Michigan University is affiliated are: Borgess Hospital and Bronson Hospital, Kalamazoo; Blodgett Memorial Hospital, Butterworth Hospital, and St. Mary's Hospital, Grand Rapids; McLaren Hospital, Flint; Wayne County General Hospital, Eloise; St. Lawrence Hospital, Lansing; Hackley Memorial Hospital, Muskegon, and Burns Clinic-Little Traverse Hospital, Petoskey.

Tuition must be paid during the year of internship and grades for the work completed during that year are recorded on the student's record.

At the completion of the course, the Registry examination must be passed to become a Registered Medical Technologist.

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements, as described on page 21 of this catalog must be met.
2. Science and Mathematics ..... 42 to 48 hrs.

Mathematics 100 (if not elected in high school)	4
Biology 100 and 101	6
Mammalian Anatomy 210	4
Human Physiology 219 or General Physiology 317	4 or 3
Microbiology 412	4
Advanced Microbiology 513	3
General Chemistry 100, 101 or 102	6 or 4
Freshman Qual. 120	4
Organic 265	4
Quant. Analysis 222	4
Biochemistry 553	5
Physics 106	4

3. Medical Technology 435 ..... 30 hrs.
4. Physical Education or Military Science ... 4–8 hrs.

C. Degree requirements must be met.

Social Work

A.B. or B.S. Degree

This curriculum is designed to prepare students for the lower levels of social work positions, and for the civil service examinations required for employment in many public agencies. It also provides basic preprofessional education for graduate training in social work. Graduates who continue in social work as a profession should plan to take, as early in their career as possible, professional social work education at the graduate level.

Certain students in the social work curriculum may spend one semester at the Merrill-Palmer Institute of Human Development and Family Life, in Detroit, receiving credit toward graduation at Western. Students interested in this should consult with the social work advisor early in their college career.

Satisfactory completion of the courses in this curriculum is required for the Certificate in Social Work. In addition the student must take whatever courses are needed to satisfy the group and general education requirements for the A.B. or B.S. degree.

A. Minimum hours required for this curriculum ..... 124 hours

B. Course Requirements

1. General Studies requirements as described on page 21 of the catalog must be met. 34 hours

2. Sociology or Social Science or Sociology-Anthropology Major ..... 24–30 hours

200	Principles of Sociology	3
210	Modern Social Problems	3
220	Social Psychology	3
	Sociology, Social Science and Anthropology electives (Must be at the 300 level or above)	15–21

3. Social Work Minor ..... 15–20 hours

260	Fields of Social Work	3
364	Public Welfare OR	3
368	Community Welfare Organization	2
582	Introduction to Social Research OR	3
580	Introduction to Social Statistics	3
560	Principles of Social Work	3
362	Family and Child Welfare	3
Optional:		
462*	Orientation to Field Work	2
463*	Supervised Field Work	3

*May be taken by students with 2.5 or better in their major and minor

4. Other Curriculum Requirements ..... 12–13 hours

150	Psychology I	3
160	Psychology II OR	3
250	Human Development and Learning	4
*200	Economic Issues	3
200	American National Government OR	3
302	State Government OR	3
304	Local Government	3

5. Physical Education or Military Science ..... 4–8 hours

6. Electives ..... 17–33 hours

*Required of all students graduating after August, 1969

C. The candidate must satisfy the requirements for the A.B. or B.S. degree.

The required courses in this curriculum provide for a major in Sociology of 24 hours or a combined major in Sociology and Anthropology of 30 hours and a minor in social work of 15 or 20 hours. Major and minor slips not needed. Additional courses (15 hours) are required in Psychology, Economics and Political Science. Thirty-four to thirty-six hours of elective courses are allowed. These electives are to be used to strengthen the general education of the student. The curriculum advisor, in consultation with the student, will make suggestions to meet the needs of certain students for special skills or interests.

Speech Pathology and Audiology

A.B. or B.S. Degree

A professional career in speech pathology or audiology now requires a master's degree in the field as the minimum academic achievement. The curriculum presented here is designed to provide the appropriate basic undergraduate preparation. It reflects the current standards of the American Speech and Hearing Association and prepares the student for the necessary graduate work. The student who wants to prepare specifically for a career in the profession in the public school setting should consult the program described on page 216. General information about the profession and more detailed information about the undergraduate and graduate programs at Western Michigan University may be obtained from the Department of Speech Pathology and Audiology.

A.	Minimum hours required for this curriculum		124 hrs.
B.	Course Requirements		
	1. General studies requirements as described on page 21 of this catalog must be met. Physical Science 108 and Human Communication 400 are strongly recommended.		
	2. Science, Mathematics and Psychology		11 hrs.
	Acoustics 100	2 hrs.	
	Psychology I 150	3 hrs.	
	Psychology II 160	3 hrs.	
	Behavior Modification I 250	3 hrs.	
	3. Teacher Education and Special Education		9 hrs.
	Human Development and Learning 250	4 hrs.	
	Education of Exceptional Children 530	3 hrs.	
	Mental Hygiene of Childhood and Adolescence 585	2 hrs.	
	4. Speech Pathology and Audiology		30 hrs.
	Introduction to Communication Disorders 200	3 hrs.	
	Orientation to Clinical Practice 201	1 hr.	
	Anatomy and Physiology of Speech and Hearing 202	2 hrs.	
	Speech and Language Development 203	2 hrs.	

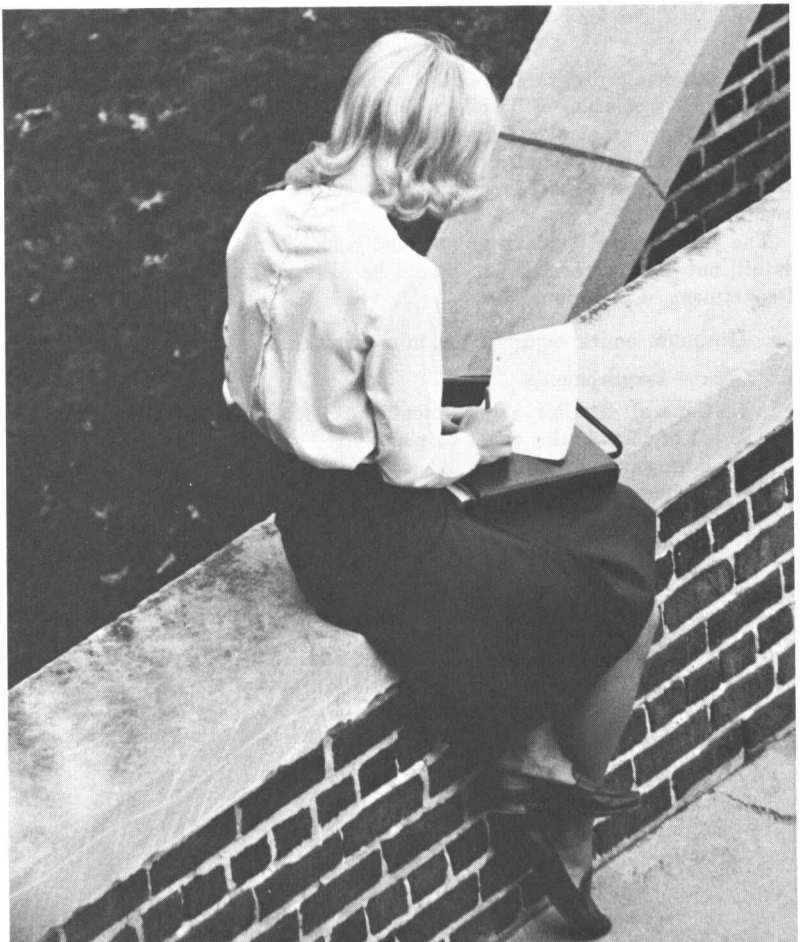
Phonemics 204	2 hrs.
Speech and Hearing Science 300	2 hrs.
Phonemic Disorders 351	2 hrs.
Phonatory Disorders 352	2 hrs.
Fluency Disorders 353	2 hrs.
Language Disorders in Children 354	2 hrs.
Hearing Disorders 355	2 hrs.
Introduction to Audiometry 357	2 hrs.
Practicum I 400	1 hr.
Practicum II 401	1 hr.
Electives	4 hrs.

5. Physical Education or Military Science 4–8 hrs.

C. One academic minor

D. During the program the student must satisfactorily complete clinical requirements as specified by the Department of Speech Pathology and Audiology.

E. The candidate must satisfy the requirements for either the A.B. or B.S. degree.



III. PREPROFESSIONAL CURRICULA

Every professional school has prescribed the nature and amount of the academic work to be completed as a prerequisite to the professional training for a particular vocation. Four years of higher education are generally required by most professional schools for entrance. Western Michigan University is able to offer its students courses of study that meet the requirements for this preprofessional training. It should be noted, however, that the courses outlined are only suggested plans to illustrate in general the kinds of programs that preprofessional students should follow. IN EVERY CASE THE STUDENT SHOULD PLAN HIS COURSE ACCORDING TO THE REQUIREMENTS OF THE SCHOOL TO WHICH HE PLANS TO TRANSFER FOR HIS PROFESSIONAL TRAINING. It cannot be emphasized too strongly that the student should exercise care to make certain that the specific requirements of a particular school will have been met.

Christian Ministry

The following program includes every basic recommendation of the American Association of Theological Schools. Most seminaries urge that undergraduates major in a humanistic field such as Philosophy, History, or Literature. Many seminaries, especially those which have the highest reputation for excellence, recommend a major in Religion at the undergraduate level.

The program at Western as outlined below is not mandatory in every detail, but departures from it should be discussed with the Head of the Department of Religion.

A. Minimum hours required for this curriculum ..... 124 hrs.

B. Course Requirements

1. General Studies requirements, as described on page 21 of this catalog must be met.
2. Foreign Language ..... 16 hrs.
   4 semesters of German, French, Latin, or Greek
3. Religion ..... 16 hrs.
   A minor in religion
4. Philosophy ..... 12 hrs.
   Philosophy 200, 300, 301
5. Political Science 200 ..... 3 hrs.
6. Physical Education or Military Science ..... 4–8 hrs.
7. Remaining hours ..... 33 hrs.
   Electives

C. Degree Requirements must be met

Dentistry

Although the Dental Aptitude Test is required of all applicants to any dental school, the amount and kind of academic work needed for admission varies. Therefore, a student planning to do his predental work at Western Michigan University should have a catalog from the dental school of his choice and plan his work at Western to meet the requirements of that particular school.

The following program will in most instances satisfy dental school requirements:

First Year	S.H.
Freshman Reading 140	2
College Writing 116	4
Biology, 100, 101, 102	9
Chemistry 100 or 101 or 102, 120	8 or 10
Man and Society 202	4
Introd. to the Non-Western World, 304	4
Phys. Ed. or Military Science	2–4
Alg. and Trig. 100	4

Second Year	S.H.
Physics 110, 111	8
Organic Chem. 360, 361	10
Phys. Ed. or Military Science	2–4
Language or Arts and Ideas 222	6–8
Electives	2

Recommended Third Year	S.H.
Comparative Chordate Anatomy 342	4
Vertebrate Embryology 343	4
Genetics 306	3
Psychology	6
Electives (complete minors)	13

Engineering

Students who wish an Engineering Program other than that offered in the School of Applied Arts and Sciences may take the following work and then transfer to the desired Engineering School. This program was prepared in consultation with the University of Michigan Engineering Dean.

Students interested in Michigan State University, Michigan Technological University, Wayne State University, or the University of Detroit should consult a pre-professional counselor.

For All Engineering Curricula

First Year	S.H.		S.H.
Freshman Reading 140	2	Gen. Chem. 100, 101 or 102,	
College Writing 116	4	120 or 109	8 or 9
Mathematics I 122	4	Engineering Drwg. 230	3
Mathematics II 123	4	Descriptive Geometry 231	3
		Phys. Ed.	1
		Electives	0–3

Chemical and Metallurgical

Second Year	S.H.		S.H.
Physics 210, 211, 212	12	Mathematics IV 223	4
Quant. Anal. 222	4	Phys. Ed.	1
Mathematics III 222	4	Electives	7

Aeronautical, Civil, Electrical, Marine, and Mechanical

Second Year	S.H.		S.H.
Physics 210, 211, 212	12	General Speech 100	3
Mathematics III 222	4	Phys. Ed.	1
Mathematics IV 223	4	Electives	7

Forestry

Dr. Lee Baker, Adviser

The following is a two-year program approved by Michigan State University:

First Year	S.H.	Second Year	S.H.
Freshman Reading 140	2	Chemistry 100 or 101 or	
College Writing 116	4	102, 109	8 or 10
General Biology 100, 101, 102	9	Botany of Seed Plants 220	4
Math.	6, 8 or 10	Plant Kingdom 221	4
Agronomy 220, 221	6	Social Science (Elect.)	8
Phys. Ed. or Military Science	2 or 4	Soils 320	3
		Phys. Ed. or Military Science	2 or 4

Students planning to transfer to the University of Michigan for work in forestry at the end of the second year must plan on attending the University's summer camp before beginning work on the Ann Arbor campus.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Gen. Chem. 100 or 102, 109	8 or 10
Western Civil. 100, 101 or Man & Soc. 202 or Introd. to Non-West. World 304	8
General Biology 100, 101, 102	9
Alg. and Trig. 100	4

Second Year	S.H.
Geology 230	4
Physics 210	4
Agronomy 220	3
Economics 200	5
Botany of Seed Plants 220	4
Plant Pathology 529	4
Electives	4

Journalism

This program is a two-year preprofessional curriculum for students intending to transfer at the junior level to other institutions offering the bachelor's degree in journalism. The student pursuing this curriculum should plan his course of study to meet the requirements of the institution to which he plans to transfer.

A. Minimum hours required for this curriculum ..... 64 hrs.

B. Course Requirements:

1. Freshman-Sophomore General Studies requirements as described on page 253 of the catalog must be met.
2. Language and Literature, Speech, and Philosophy and Religion:
   a. English 264, Journalism 4
   b. Speech 342, Radio and TV Journalism 4
   c. Additional hours may be taken from the following list:
      Speech 100, Introduction to Speech 3
      English 210, Literary Interpretation 4
      English 362, Advanced Writing 4
      Foreign Language—Any one ..... 8 hrs.

   8–24 hrs.
3. Social Sciences:
   a. Political Science 200, American National Government 3
   b. History 211, U.S. History Since 1877 3
   c. Additional hours may be taken from the following list:
      History 210, U.S. History to 1877 3
      Pol. Sci. 302, State and Local Govt. 4
      Economics 201, Principles of Economics 3
      Sociology 200, Principles of Sociology 4

   6–20 hrs.
4. Physical Education or Military Science ..... 4–8 hrs.

Law

No special college program is required or recommended by most law schools. In general, law schools do urge a solid, four-year program leading to the Bachelor of Arts Degree, or its equivalent. Even those schools which consider applications for admission at the end of the third year of undergraduate study highly recommend that the four-year program be completed. Although it is relatively unimportant what the prospective law student uses for his major, it is most important that a high level of academic achievement be maintained. It is also important that the prospective lawyer's education be as broad as possible.

Although a student might choose to be in any of the University's curricula for his prelegal education, if he specifies prelaw his four-year program will be based upon either the general curriculum or the liberal arts curriculum as offered in the School of Liberal Arts and Sciences. If a student interested in law desires another curriculum, he should confer with his regularly assigned curriculum counselor.

Students interested in prelaw education should review the degree requirements as outlined under the general curriculum or liberal arts curriculum which may be found on the first few pages of the section in the University catalog devoted to the School of Liberal Arts and Sciences.

Librarianship

A preprofessional curriculum in librarianship is outlined in this bulletin under the Graduate School on page 443.

Medicine

Many medical schools accept students with three years of college work. Others require that the student finish four years before entering. The Medical College Admission Test is required of all applicants to medical schools.

A student planning to do his premedical work at Western Michigan University should obtain catalogs from three medical schools of his choice and should plan his college work to meet their requirements. A special counselor for those enrolled in premedical work will assist the student in planning his course of study. Students should get in touch with the chairman of Western Michigan University's Premedical Advisory Committee by the end of their freshman year.

The following program will in most instances satisfy medical school requirements:

First Year	S.H.
Freshman Reading 140	2
College Writing 116	4
Biology 100, 101, 102	9
Chemistry 100 or 102, 120	8 or 10
Language	8
Phys. Ed. 104, 105 or Military Science	2–4
Trig. and Alg. 100	4

Second Year	S.H.
Quantitative Analysis 222	4
Physics 110, 111	8
Man and Society 202, Introd. to Non-Western World 304 (4 hours)	8
Phys. Ed. 204, 205 or Military Science	2–4

Third Year	S.H.
Comparative Anatomy 342	4
Organic Chemistry 360, 361	8
Electives in Social Science	4
Embryology 343	4

Fourth Year

If four-year premed is taken then complete major or minor requirements. Take electives in art, music, literature, speech and social sciences. The following courses are recommended as electives in science:

Genetics 306
Histology 545
Parasites and Parasitism 551
Animal Physiology 317
Invertebrate Zoology 541

Mortuary Science

The first two years of a three-year program in Mortuary Science are called the preprofessional part of the program. To complete the requirements for this, a student must earn 60 hours of credit. It is strongly recommended that this course work include the following: English (6 hours), General Chemistry (8 hours), Organic Chemistry (4 hours), Social Sciences including geography, history, government, economics, sociology and philosophy (8 hours), Zoology or Biology (4 hours), Psychology (2 or 3 hours), Mathematics or Accounting (4 hours).

The Michigan Board of Examiners of Mortuary Science requires completion of certain group requirements which the student should check thoroughly.

Suggested First Year	S.H.
Freshman Reading 140	2
College Writing 116	4
Chem. 100 or 101 or 102, 109	8 or 10
Man and Society 202 or Western Civil. 100, 101 or Non-West. World	8
Biology 100	3
Small Bus. Mgmt.	3
Phys. Ed.	2

Nursing

Preprofessional preparation for transfer to a college of nursing may be taken at Western Michigan University for one academic year. Most universities offering a correlated program leading to a B.S. degree and R.N. accept transfer students from an accredited institution upon the completion of specified requirements.

Students should plan with care, in cooperation with the prenursing counselor, to meet the admission requirements of the school they wish to attend.

A typical one-year preprofessional required program:

	S.H.		S.H.
College Writing 116	4	Psychology 150	3
Freshman Reading 140	2	Social Science	8
Chemistry 100 or 101 or 102, 109	8 or 10	Sociology 200	4
Biology 100, 101	6	Phys. Education	Each sem.

Bronson Methodist Hospital School of Nursing students receive preclinical instruction at Western in special courses arranged for their particular needs. These courses are given University credit but their applicability to curricula or graduation requirements here is determined by departmental evaluation.

Pharmacy

A student transferring to a college of pharmacy is required to be in residence at that school for a minimum of six semesters regardless of how much previous college training he may have had. Therefore, the prepharmacy course of study at Western Michigan consists of one year's work.

First Year	S.H.		S.H.
Freshman Reading 140	2	Trig. and Alg. 100	4
College Writing 116	4	Electives (Speech 100 is recommended)	2 or 4
Chemistry 100 or 101 or 102, 120	8 or 10	Phys. Ed. or Military Science	2 or 4
Biology 100, 101, 102	9		

DESCRIPTION OF COURSES

Foreign Studies Seminars

Students may receive up to six hours credit in any combination of departments as described provided the seminar is planned with that combination in mind. No student will receive credit under any of the course plans indicated here for work done in seminars planned and conducted by other institutions or for work done independent of seminars planned by the School of Liberal Arts.

Liberal Arts 503 Foreign Studies Seminar **1–6 hrs.**

Foreign studies seminars in the sciences organized and conducted by the School of Liberal Arts and Sciences for exceptionally talented undergraduate or graduate students: Students completing such a seminar may receive credit in the departments of Psychology, Geography, Geology, Biology, Physics or Chemistry if approved by the Head of the Department prior to registration for the seminar.

Liberal Arts 504 Foreign Studies Seminar **1–6 hrs.**

Seminars in the Social Sciences: Students who complete such a seminar may receive credit in the departments of Anthropology, Economics, Geography, History, Political Science or Sociology if the credit is approved by the Head of the Department prior to registering for the seminar.

504 Social Studies Seminar: England **6 hrs. Summer 1969**

A foreign study seminar especially designed for teachers and advanced college students in the social studies. It consists of regularly scheduled lectures and discussions on British life, institutions, social problems, and international relations. Following twelve days of travel in the British Isles, the seminar is in formal session at Oxford University for a period of about four weeks. After this, the party spends approximately a month touring several countries on the Continent. Graduate or undergraduate credit for this course, scheduled as Liberal Arts 504, may be earned. A maximum of 3 hours credit in each of two departments in the Division, under such conditions and stipulations as the individual departments may determine, may be allowed, but arrangements for this must be made in advance with the heads of the departments in which the student wishes to earn credit.

Liberal Arts 505 Foreign Studies Seminar **1–6 hrs.**

Seminars in the Humanities: Students completing such a seminar may receive credit in the departments of Philosophy, Religion, Languages, English, Art, Music or Speech if the credit is approved by the Head of the Department prior to registering for the seminar.

American Studies Program

This is an interdepartmental program bringing to bear insights of literature and the social sciences on the problems of American life. It provides an excellent background for students planning careers in journalism, politics, public relations, teaching, the foreign service, mass communications, or library work.

Students majoring in American Studies are expected to complete:

1. At least 36 hours in approved courses (list available at American Studies Office, 1422 Sangren Hall).
2. At least 18 hours in courses numbered 300 or above.
3. At least 12 hours in one participating Department.
4. At least 4 hours in each of the Departments in the Social Science Division, plus 4 hours or more in American Literature, and 3 hours in Philosophy and Religion.
5. An interdisciplinary course dealing with basic issues in American Culture.

500 Studies in American Culture **3 hrs.**

An interdisciplinary study of perennial issues in American life. The materials for this course are drawn from literature, the arts, the social sciences, and philosophy.

The School of Liberal Arts and Sciences has two areas organized to function as divisions in relation to Education curricula:

I. DIVISION OF SCIENCE AND MATHEMATICS

James H. Powell, Associate Dean

The division includes the Departments of Biology, Chemistry, Geography, Geology, Mathematics, Physics, and Psychology. Major and minor requirements are listed under the individual departments. Students must consult department advisers concerning departmental majors and minors in Science and Mathematics.

GROUP SCIENCE MAJORS AND MINORS

Divisional or group majors and minors are intended for students in Elementary Education, including Special Education, or Dietetics curricula. They will not ordinarly be approved for students in other curricula, except in rare cases with special permission of the Chairman of the Science Division.

The Group Science minor for Elementary Education:

Biology 100, 101 or 107	3–4 hrs.
Biology 210 or 234 or 403	4 hrs.

Geog. 105 or Geol. 112 or 230	4 hrs.
Geog. 225 or 226 or Geol. 230 or 231	4 hrs.
Physical Science 108	4 hrs.
Astronomy 104 or Physical Science 109	4 hrs.
	24 hrs.

(Do not elect both Geology 112 and 230.)

The Group Science major for Elementary Education supplements the minor with 12 hours of advanced work from Science Division courses. Regional Geography and Psychology will not ordinarily be accepted unless they are strongly oriented toward the natural sciences. Geography 225, Meteorology and Climatology, and Physiological Psychology 512 may be included.

The Junior High Science major for teachers in Junior High School will include 12–13 hours of Biological Science, 11–12 hours of Earth Science and 12 hours of Physical Science. It is also recommended that students with a Junior High Science major elect in their General Studies advanced course, Science in Intellectual History 401, 4 hours. The following courses are recommended:

12–13 hours Biological Science

Biology 100, 101, and 102	9 hrs.
One of the following:	3 or 4 hrs.
Biology 210 — Mammalian Anatomy	
Biology 221 — The Plant Kingdom	
Biology 234 — Outdoor Science	
Biology 301 — Ecology	
Biology 306 — Genetics	
Biology 541 — Invertebrate Zoology	

11–12 hours Earth Science

Geog. 225 (no prereq.) and Geol. 230	8 hrs.
From the following:	3 or 4 hrs.
Astronomy 104	4 hrs.
Geol. 231 — Historical Geology	4 hrs.
Geol. 310 — Life of the Geologic Past	3 hrs.
Geol. 301 — Minerals and Rocks	3 hrs.
Geol. 538 — Oceanography	3 hrs.
Geog. 226 — Advanced Physical Geography	4 hrs.
Geog. 350 — Principles of Conservation and Resource Mgmt.	3 hrs.

12 hours Physical Science

Chemistry 100 and Physics 110 or Physical Science 108 and 109	8 hrs.

One of the following:	4 hrs.
Chemistry 109 — General Chemistry	4 hrs.
Physics 111 — General Physics	4 hrs.
Astronomy 104	4 hrs.

DIVISIONAL COURSE OFFERINGS

The following Divisional freshman courses are offered: Biological Science; Physical Geography; Physical Science; Introduction to Geology. Descriptions of these courses are found under the School of General Studies. In addition to these, the following Divisional courses are offered.

203 Teaching of Elementary Science **3 hrs.**

This course covers important subject matter of the physical and biological sciences with methods for its effective presentation in the classroom. Extension only.

308 Teaching of Physical Science **2 hrs.**

Study of problems of teaching high school chemistry, physics and physical science. The main emphasis is on effective methods of instruction. Practical methods of apparatus ordering, maintenance and planning of laboratories are also considered. Prerequisite: One year of college chemistry and one year of college physics.

501 Higgins Lake Field Course **1 hr.**

A one-week course offered in cooperation with Eastern Michigan University, Central Michigan University and the Michigan Department of Conservation. The student may concentrate in any one of four areas of study—Conservation, Game Bird Ornithology, Botany of Flowering Plants, and the Natural History of Michigan Mammals. The one-week course in Conservation is acceptable towards majors or minors in Geography, Biology, and Group Science. The course may be repeated provided there is no repetition in the area of specialization.

530 Conservation Education **2 hrs.**

Survey of the whole field of conservation through lecture, laboratory, library, and field experience. Consideration will be given to ways of including conservation in the elementary and secondary curricula. Students will have contact with personnel of local, state, and federal conservation agencies. Designed primarily for teachers in service. Prerequisite: Consent of instructor.

II. DIVISION OF SOCIAL SCIENCES

Milton Greenberg, Chairman

William Fox
Wilda Large

The Division includes the Departments of Anthropology, Economics, History, Political Science, and Sociology.

In addition to majors and minors in the individual departments within the Division, a major and a minor in Social Science are offered. Requirements for the departmental majors may be found under the departmental listings. Students desiring to major or minor in Social Science in preparation for a career in social work should consult with the Social Work Adviser, Mrs. Nellie Reid. Others planning to major or minor in Social Science should consult with William Fox (3411 Sangren Hall).

Major and minor programs should be arranged in conference with the Division Adviser indicated above by the fourth semester of the student's college career.

REQUIREMENTS FOR THE MAJOR IN SOCIAL SCIENCE

1. At least 36 hours credit in the Division. Courses listed under "General Studies" may not be counted toward the major in Social Science.
2. The following basic courses must be completed. They may be applied towards either the Social Science major or a minor in one of the departments:*

   Anthropology 230 or 231
   Economics 200
   History 210 and 211
   Political Science 200 and 302 or 304
   Sociology 200
3. A total of 9 hours credit in 300 or 500 level courses.
4. No more than 16 hours credit in any one Department of the Division may be used to apply to the required total of 36 hours.
5. Majors in Secondary and Elementary Education Curricula may include up to 2 courses in Geography in their major program, provided such courses are not specified for "science credit".
6. In addition to the above, majors in the Secondary Education Curriculum should elect Social Science 300 (Teaching the social studies in the secondary schools).

REQUIREMENTS FOR THE MINOR IN SOCIAL SCIENCE

1. The Social Science minor in the Secondary Education Curriculum is open only to students who are majoring in English, Geography, or one of the departments of the Division.
2. At least 24 hours credit in the Division. This may not include any courses listed under "General Studies". It may include one course in Geography, provided such course is not specified for "science credit".
3. At least 6 hours credit in 300 or 500 level courses.
4. In the event that the major is in one of the departments of the Division, the minor in Social Science must include courses in all the other departments of the Division.

*Elementary Education majors may satisfy this requirement by completing the specified courses in four of the five departments listed.

COMMUNITY SERVICE COURSES

The following courses may be offered in the community for law enforcement officers, upon request to the Division of Field Services. They do not apply to majors or minors in Social Sciences.

104 Introduction to Law Enforcement and Public Safety **3 hrs.**

Philosophical and historical backgrounds; agencies and processes; administrative and technical problems; career orientation.

206 Police Administration **3 hrs.**

Functions and activities of police agencies. Police department organizations; responsibilities of police chief in the administration of line, auxiliary, staff units. Current administrative experimentation in law enforcement agencies.

210 Criminal Investigation **3 hrs.**

Introduction to criminal investigation procedures including theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; fingerprints, ballistics, documents, serology, photography, and related forensic sciences.

212 Interrogation and Case Preparation **3 hrs.**

Interview and interrogation of complainants, witnesses, victims, suspects, and informants; statements, mechanical means for detection of deception; preparation and presentation of evidence, report writing, and court procedure.

DIVISIONAL COURSES

300 Teaching of Social Studies in Secondary Schools
3 hrs. Fall, Winter

Definition of objectives; selection, organization, and use of materials; procedures and problems of effective teaching in this area.

504 Social Studies Seminar: East Africa **6 hrs. Summer 1968**

A lecture and field-study program of approximately six weeks in Kenya and Uganda, especially designed for students and teachers in the social sciences with a special interest in Africa. A lecture series, focusing on the general theme "Education and Planning for Development" and combined with discussion forums is presented at the University College, Nairobi. University authorities and prominent leaders in African affairs deliver the lectures. Field study trips follow the lecture series. Three additional weeks are devoted to global travel. A maximum of three hours undergraduate or graduate credit may be earned in each of two Departments of the Division, under such conditions and stipulations as the individual Departments may determine but arrangements for this must be made in advance with the heads of the Departments in which the student wishes to earn credit.

504 Social Studies Seminar: Yugoslavia **6 hrs. Summer 1968**

A lecture and study program in Yugoslavia, with lectures, followed by discussion forums by leading scholars in Yugoslavia and travel in the country. Designed for exceptionally talented undergraduate students and graduate students, the seminar introduces participants to the social and political system, philosophical and religious beliefs, art and literature, peoples, customs, and traditions of Yugoslavia. A maximum of three hours undergraduate or graduate credit may be earned in each of two departments of the Division, under such conditions and stipulations as the individual departments may make. Arrangements must be made in advance with the heads of the departments in which the student wishes to earn credit.

506 Studies in the Non-Western World **2 hrs. Fall**

The workshop approach is used to introduce the student to such problems in Asia and Africa as industrialism, nationalism, self-government, social integration, population growth, and relations with the Western world. The aim of the course is to provide teachers with selected resource materials and awareness of dynamic forces at work in the non-Western world.

Anthropology

Robert F. Maher, Chairman

Elizabeth E. Baldwin
William Garland
Reinhold Loffler
William R. Maples
Robert Jack Smith
Richard Tubesing

Courses are designed (1) to give students a better understanding of the nature of man; (2) to broaden familiarity with the diverse ways of human life, both past and present; (3) to meet the needs of students preparing to teach in the social science field; and (4) to prepare students to do graduate work in Anthropology.

A major in Anthropology consists of a minimum of 24 hours, 6 of which may be taken in Sociology. Courses 230 and 231 are required.

A combined major in Sociology and Anthropology consists of a minimum of 30 hours. Courses Anthropology 230 and 231 and Sociology 200, 504 and 582 are required with at least 12 hours in each of the two fields, Sociology and Anthropology.

A minor in Anthropology consists of a minimum of 18 hours, 6 of which may be in Sociology. Courses 230 and 231 are required.

Students in Education Curricula must take 20 hours for a minor in Anthropology.

230 Introduction to Anthropology: Physical Anthropology and Archeology **3 hrs. Fall, Winter**

A consideration of the biological evolution of man and of the archeological remains which document his cultural past.

231 Introduction to Anthropology: Cultural Anthropology **3 hrs. Fall, Winter**

A study of the nature of culture through an investigation of the ways of life of both "primitive" and "civilized" peoples. The structure and functions of culture are considered along with its relationships to the environment, society, and the individual.

331 Art and Culture **3 hrs. Fall**

A study of artistic activity in cultures of Africa, Oceania and the Americas, with attention to prehistoric as well as recent products. Relations between the visual arts and other aspects of culture. Prerequisite: 231 or consent of instructor.

332 Language and Culture **3 hrs. Winter**

A survey of classifications of the world's languages; relations of language to thought, social structure, cultural variation, and nationalism; linguistic models, especially as applied to non-linguistic aspects of culture; development of writing systems. Prerequisite: 231.

334 Peoples and Cultures of North Africa and the Middle East **3 hrs. Fall**

A study of the cultures of nomadic and sedentary groups from Morocco to Afghanistan, including consideration of religious, colonial, and nationalistic influences. Prerequisite: 230 or 231.

335 Peoples and Cultures of Sub-Saharan Africa **3 hrs. Fall**

A survey of the cultures, ecology and prehistory of the peoples of sub-Saharan Africa. Prerequisite: 230 or 231.

336 Peoples and Cultures of Asia **3 hrs. Winter**

A study of the social and cultural characteristics of the various peoples of Asia with concern for both the great civilizations and the lesser known tribal cultures. Prerequisite: 230 or 231.

337 Indian Cultures of Mexico, Central and South America **3 hrs. Winter**

A study of the Indian cultures of Mexico, Central and South America with attention to both their aboriginal traditions and their role in contemporary life in Latin America. Prerequisite: 230 or 231.

339 Native Cultures of North America **3 hrs. Winter**

Study of the aboriginal cultures of America from the Arctic to the Rio Grande, with emphasis on contrasting patterns of regional cultures. Prerequisite: 230 or 231 or consent of the instructor.

340 Cultural Evolution **3 hrs.**

A study of the development of culture from its beginnings in early human societies to complex civilizations. Emphasis is upon an analysis of the innovating events or "revolutions" which have produced the fundamental evolutionary changes in culture. Prerequisite: 230 or 231.

341 The Archeology of North America **3 hrs. Fall**

The prehistoric development of man and culture in the New World north of Mexico. Prerequisite: 230 or consent of instructor.

347 Human Evolution **3 hrs. Fall**

Study of both the indirect evidence and the fossil evidence concerning human evolution, including comparisons with other primates, living and extinct, and a consideration of the present-day races of man. Prerequisite: 230 or consent of instructor.

531 Cultural Attributes of Personal Character **3 hrs. Fall**

The course involves a study of the following: Concepts of personality development that determine rearing and learning process; range of permissiveness; cultural incongruencies; adult behavior subsequent to prescribed forms of rearing; personality and forms of association. Some attention will be given to potentials for research. The course is intended for students who have not had extensive training in social science. Not counted in an anthropology or sociology major or minor. Prerequisite: one course in anthropology, sociology or psychology.

532 Culture and Personality **3 hrs. Winter**

An investigation of the interaction of culture and personality with particular attention to the role of culture as a force in the development of the individual. Prerequisite: 15 hours from anthropology, sociology or psychology or consent.

534 Peasant Societies in Cross-Cultural Perspective **3 hrs. Winter**

A cross-cultural study of the development of peasant groups as a cultural type. Theoretical and substantive emphasis is on the cultural antecedents of peasant societies, the conditions promoting change from folk to peasant status, and the relationships between peasant groups and urban, national societies. Prerequisite: 231 and one of 334, 335, 336, 337 or consent of instructor.

535 The Anthropology of Religion **3 hrs. Fall**

An examination of anthropological theories and findings relating to the origin, nature and function of religion as a universal category of culture. A scientific cross-cultural consideration of religious beliefs and practices and their relation to concepts of the nature of the universe. The role of religion in revitalistic reactions to culture contact. Prerequisite: 231 or consent of instructor.

536 The Dynamics of Culture Change **3 hrs. Fall**

An inquiry into the dynamics of culture through a study of the principal theories of culture change and their application to concrete situations such as the rise of complex civilizations and the reactions of non-Western societies to contact with the West. Prerequisite: 230 and 231 or consent.

537 Politics in Primitive Societies **3 hrs. Fall**

Theoretical and descriptive analysis of the political aspect of primitive societies; the relation of politics to technological development, habitat, and social organization. Prerequisite: 231 or consent of instructor.

538 Law in Primitive Societies **3 hrs. Winter**

A study of law in primitive societies through the theory and method of comparative legal dynamics. The relation of law to the whole of culture; the function and evolution of law as revealed in the study of primitive societies ranging from simple to complex. Prerequisite: 231 or consent of instructor.

539 Economic Anthropology **3 hrs. Fall**

A thorough examination of the relationship between economic and anthropological theory, with a strong emphasis on its applicability and usefulness for explaining the nature of specific economic relationships existing in selected primitive societies. Prerequisite: Anth. 231, Econ. 200 and/or consent of instructor.

540 Cultural Ecology **3 hrs. Winter**

A cross-cultural, comparative inquiry into the general and specific ways in which the interaction of society and environment determines the forms societies take, especially in respect to demography, territoriality, and the organization of kinship, politics, law, religion and economics. Prerequisite: 230 or 231 or consent of instructor.

541 Field Methods in Archeology I **3 hrs.**

Instruction in the archeology of the upper Great Lakes area, with particular attention to prehistoric cultural developments and ecological relationships as these appear in the process of excavation. (Summer offering only.) Prerequisites: 230, 341 or consent of instructor.

542 Field Methods in Archeology II **3 hrs.**

Practical application of the basic skills used in the excavation of archeological sites, including surveying techniques, methods of excavation, compilation of field data sheets, and classification of artifacts. To be taken concurrently with 541. Prerequisite: 230, 341 or consent of instructor.

544 The Rise of Civilization **3 hrs. Winter**

The archeological sequence in one or more of the nuclear centers of prehistoric civilization will be considered in some detail. The course may

focus intensively upon one area (e.g. the Near East, or Meso-America), or it may give equal emphasis to two or more areas in a comparative framework. The specific area of areas to be studied will be announced each semester. (May be repeated for credit.) Prerequisite: 230.

545 Special Area Studies **3 hrs. Fall**

An intensive study of the cultures of various world areas such as Japan, Philippines, Caribbean, East Africa or others of similar significance. Area specialization will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. The subject for any particular semester will be indicated in the schedule of classes. Prerequisite: Soc. 231 or consent of instructor.

547 The Primates **3 hrs. Winter**

A study of the Order Primates with emphasis on the similarities and differences in the physical features of man, the apes, the monkeys and the Lower Primates. Field studies of the behavior and social organization of monkeys and apes will be reviewed to gain insight into the early behavior and social organization of man. Prerequisite: 230 or consent of instructor.

548 Studies in Languages of the World **4 hrs.**

Intensive study of a group of languages (varying from semester to semester) that are either genetically related (e.g. Slavic languages), typologically similar (e.g. "tone" languages), or geographically proximate (e.g. African languages). Prerequisite: Linguistics 200 or equivalent for undergraduates; no prerequisite for graduate students. May be repeated for credit.

549 Anthropology of Education **3 hrs.**

A study of education as the process which transmits the culture of one generation of a society to the next. Particular attention is given to education in primitive and peasant societies generally lacking formal institutions of education. Prerequisite: Soc. 200 or 600 or Anth. 231.

580 Linguistic Field Techniques **4 hrs.**

Interview techniques for the elicitation of oral language data, and methods of analysis of the data into significant linguistic units for their eventual arrangement in the form of a grammar and dictionary. Prerequisite: Linguistics 200 or equivalent for undergraduates; no prerequisite for graduate students.

598 Readings in Anthropology **1–4 hrs. Fall, Winter**

Independent study arranged in consultation with an instructor. Intended for advanced students with good academic records. 1 to 2 hours credit per semester, cumulative to 4 hours. Prerequisite: consent of instructor.

Art

Charles E. Meyer, Head

Triantafilos D. Argyropoulos
John M. Carney
Joseph V. De Luca
Gerald C. Dumlao
Robert H. Engstrom
Joseph A. Frattallone
Gordon J. Grinwis
Marc F. Hansen
Carole Harrison
Harry S. Hefner
Jon M. Henderson
Robert P. Johnston
John G. Kemper
Donald E. King
Dwayne M. Lowder
Paul S. Mergen
John M. Metheany
Helmi Moulton
Hiroshi Murata
Curtis A. Rhodes
Louis B. M. Rizzolo
Barbara Rensenhouse
Paul A. Robbert
M. Elizabeth Smutz
Stephen B. Woodburn

The Department of Art offers several programs designed to meet the needs of students who wish to major or minor in art. For the General Curriculum student who plans a career as a professional artist a Major in Art (60 credit hours) is available which offers a great selection of courses dependent upon his area of specialization within the art field. This program provides a background in design, drawing, and art history and an opportunity for depth in study of design, painting, sculpture, ceramics, printmaking, or one of the craft areas. Or a student may select a Major in Secondary Art Education (60 credit hours) which will provide a similar art background, qualify him for teaching and/or coordinating art in the public school from Kindergarten through grade 12, and also offer a limited amount of study in depth to develop proficiency in an art medium. For the student who wishes to work at the elementary level a Major in Elementary Art Education (40 credit hours) is available. This will qualify him for teaching art from Kindergarten through grade 8, and will also allow opportunity to obtain a certificate which will permit him to become a classroom teacher in any of the elementary grades, thus adding depth to his preparation and understanding.

If one wishes to major in areas other than art, Minors (24 credit hours) are possible for General Curriculum students or those in education. There are also a number of courses which may be selected by students who merely wish to broaden their study but do not wish to major or minor in art.

ART DEPARTMENT COURSES

Group I: Courses required of all majors and minors in art as prerequisites to other advanced courses.

	S.H.		S.H.		S.H.
110 Drawing	2	114 Design	2	120 Art Survey	2
111 Drawing	2	115 Design	2	121 Art Survey	2

Group II: Courses required of all Secondary Art Education Majors.

		S.H.			S.H.
210	Life Drawing	2	240	Painting I	2
220	Art History	3	241	Printmaking	2
221	Art History	3	242	Watercolor	2
230	Ceramics	2	245	Graphic Design	2
231	Sculpture	2	352	Art Ed. Elem. (Majors)	2
232	Handcrafts	2	353	Art Ed. Sec. (Majors)	2
234	Textile Design	2	550	Prep. for Art Tchg. (Elem.)	2
238	Jewelry	2	551	Prep. for Art Tchg. (Sec.)	2

Group III: Electives and Advanced courses from which a student may select courses to complete a major or minor in art.

		S.H.			S.H.
150	Art Education Workshop	3	434	Textiles	3
224	Comparative Arts (4)	2	438	Jewelry	3
300	Independent Study	1–4	440	Painting III	3
310	Life Drawing	3	441	Printmaking	3
315	Design	3	442	Watercolor	3
320	Seminar in Art	1	445	Graphic Design	3
330	Ceramics	3	510	Life Drawing	3
331	Sculpture	3	525	Seminar in Art	1
332	Handcrafts	3	530	Ceramics	3
334	Textiles		531	Sculpture	3
338	Jewelry and Metal	3	534	Textiles	3
340	Painting II	3	538	Jewelry	3
341	Printmaking	3	540	Painting IV	3
342	Watercolor Painting	3	541	Printmaking	3
345	Graphic Design	3	542	Watercolor Painting	3
400	Independent Study	1–4	545	Graphic Design	3
410	Drawing	3	581	History of Ancient Art	3
420	History of 19th Cent'y Art	3	585	History of Renaissance Art	3
421	History of 20th Cent'y Art	3	586	History of Baroque Art	3
430	Ceramics	3	590	History of Prints	3
431	Sculpture	3	593	History of American Art	3

COURSE REQUIREMENTS FOR THE ART MAJORS:

The General Curriculum Major in Fine Art, with 60 credit hours in art, consists of all courses in Group I (above); the following courses from Groups II and III: 320, 220, 221, 525; and electives from Groups II and III to complete the 60 credit hours in art. The electives should be chosen upon consulting the departmental adviser. In addition the student should plan for an exhibit of his work during the senior year.

The Major in Secondary Art Education (60 credit hours) leading to a Secondary Certificate consists of: all courses in Group I; all courses in Group II; and electives from Group III. The electives should be selected

upon consultation with the departmental adviser. In addition the student should plan for an exhibit of his work during the senior year.

The Major in Elementary Art Education (40 credit hours) and accompanied by an Elementary Certificate, consists of: Group I (above); the following courses in Group II: 210, 220, 221, 230, 231, 232, 234, 237, 238, 241, 252, and 550. In addition the student should plan for an exhibition of his work during the senior year.

ALL ART MAJORS MUST SET UP PROGRAMS WITH ART ADVISERS.

COURSE REQUIREMENTS FOR THE ART MINORS:

The General Curriculum Minor in Fine Arts consists of all courses in Group I, 320, 525, and electives from Groups II and III to total 24 credit hours. The electives should be chosen with the assistance of the departmental adviser, or the counseling center.

The Minor in Art Education (Secondary or Elementary) consists of the following: All courses in Group I, 150, and electives from Group II and III to complete 24 credit hours in art. The electives should be selected upon consultation with the departmental adviser, or the counseling center.

For students who do not plan to select a Major or Minor in art the following courses are offered as electives and require no prerequisites: Art 110, 114, 120, 130, 140, 150, 220, 221, 224, 420, 421, 581, 585, 586, 590 and 593.

CURRICULUM REQUIREMENTS FOR A MINOR IN ART EDUCATION

Group I		S.H.	Plus	S.H.
110	Drawing	2	150 Art Education Workshop	3
111	Drawing	2	Electives from Group II or III	11
114	Design	2		—
115	Design	2	Total Credits	24
120	Art Survey	2		
		—		
		10		

CURRICULUM REQUIREMENTS FOR A MINOR IN FINE ART

Group I		S.H.	Group II	S.H.
110	Drawing	2	320 Seminar in Art	1
111	Drawing	2	525 Seminar in Art	1
114	Design	2		—
115	Design	2		2
120	Art Survey	2	Electives from Groups II and	
121	Art Survey	2	III	12
		—		—
		10	Total Credits	24

ART DEPARTMENT

110 Drawing **2 hrs. Fall, Winter**

Visual perception: reading form in space, composition, organization of visual matter. Technique: effective means of defining form. To include drawing and perspective by inspection. Prerequisite: None.

111 Drawing **2 hrs. Fall, Winter**

Continuation of Drawing 110 with emphasis on composition in dark and light. The exploitation of the expressive possibilities of the various drawing media oriented towards future needs of art students. Prerequisite: Art 110.

114 Design **2 hrs. Fall, Winter**

The study of the elements of visual design and the principles of their organization. The mechanics of visual perception and communication. Emphasis on black and white in two dimensions with introduction of color theory. Prerequisite: None.

115 Design **2 hrs. Fall, Winter**

Continuation of Design 114 with emphasis on color theory and the mechanics of color organization. Introduction of three dimensional work. Prerequisite: Art 114.

120 Art Survey **2 hrs. Fall, Winter**

An introduction to language of art, art theory, aspects of art, and form analysis from a topical point of view. Prerequisite: None.

121 Art Survey **2 hrs. Fall, Winter**

An introduction to the philosophy of art with understanding of the aesthetic values that are reflected from key movements of art in painting, sculpture, and architecture, in comparison to contemporary art. Prerequisite: Art 120.

130 Studio Experience — (3-D) **2 hrs. Fall, Winter**

A course designed for the non-art student as an enriching experience in three dimensional media; to include clay, wood, metal and other sculptural materials. This course may not be elected by majors or minors in art or art education and does not fulfill the certification requirement for education students. It is designed primarily for the General Degree student who wishes to have some art experience. Prerequisite: None.

140 Studio Experience — (2-D) **2 hrs. Fall, Winter**

A course designed for the non-art student as an enriching experience in two dimensional media; to include painting and drawing and other graphic media. This course may not be elected by majors or minors in art or art education and does not fulfill certification requirements for teaching. Prerequisite: None.

150 Art Education Workshop **3 hrs. Fall, Winter**

A studio course structured to provide the classroom teacher with the opportunity to explore, experiment and develop concepts related to art, creativity and perception. Such concepts are explored and developed through the use of a variety of art materials and techniques. Prerequisite: None.

200 The Creative Process through Art **4 hrs. Fall, Winter**

Individual involvement in the creative process related to human growth and development by means of exploration with many art media. Prerequisite: 230, The Nature of Creativity (Ed. 230).

210 Life Drawing **2 hrs. Fall, Winter**

The study of the essential aspects of life drawing (such as gesture, contour, proportions, anatomy, structure and articulation) and their synthesis into a coherent drawing attitude. Prerequisite: Basic Group I.

220 History of Art **3 hrs. Fall, Winter**

An historical survey of art from pre-historic ages to the Renaissance. Prerequisite: None.

221 History of Art **3 hrs. Fall, Winter**

An historical survey of art from the Renaissance through the contemporary period. Prerequisite: None.

224 Comparative Arts **2 (4) hrs. Fall, Winter**

A correlation of music and the visual arts. Topics include form, color, realism, etc., as applied to both fields. Also a study of stage design, cinema, lumia as art forms. Taught by two instructors, one each from the departments of art and music. Prerequisite: None.

230 Ceramics **2 hrs. Fall, Winter**

A course devoted to a survey of pottery processes including handbuilding, technical information and a limited experience with the potters wheel. Prerequisite: Group I.

231 Sculpture **2 hrs. Fall, Winter**

Introduction to sculptural concepts and techniques in clay, plaster and wood. Prerequisite: Group I, 210 or 210 concurrently.

232 Handcrafts **2 hrs. Fall, Winter**

A course devoted to handcrafts which include enameling, wood, metal, glass, plaster and the use of pertinent equipment and tools. Prerequisite: Group I.

234 Textile Design **2 hrs. Fall, Winter**

An introduction survey in textiles to include weaving, stitchery, block printing, stencilling, tie and dye, and batik. Prerequisite: Group I.

237 Studio Equipment **2 hrs. Fall, Winter**

An introduction to the proper use and care of shop equipment to include hand and power tools for woods and metals. Application by means of small projects. Prerequisite: Group I.

238 Jewelry **2 hrs. Fall, Winter**

A survey of jewelry processes to include cutting, soldering, casting, stonecutting, and the use of appropriate equipment. Prerequisite: Group I.

240 Painting I **2 hrs. Fall, Winter**

An introduction to the techniques and expressive possibilities of painting with oil media. Prerequisite: Group I, 210 or 210 concurrently.

241 Printmaking **3 hrs. Fall, Winter**

An introduction to the basic printing techniques as fine arts media. Includes silk screen, etching, lithography and wood-cut. Prerequisites: Basic Group I, and Art 210 or 210 concurrently.

242 Watercolor Painting **2 hrs. Fall, Winter**

A survey of the application, techniques, and limitations of the water color painting medium. Prerequisite: Group I.

245 Graphic Design **2 hrs. Fall, Winter**

Survey and practical application of traditional and contemporary letter forms. Prerequisites: Basic Group I, and Art 210 or 210 concurrently.

300 Independent Study **1–4 hrs. Fall, Winter**

A course designed to give qualified students an opportunity to select an area for advanced study in depth for a special area of interest in art.

310 Life Drawing **3 hrs. Fall, Winter**

Advanced work in the exploitation of life drawing as a form of art capable of expressing humanistic values. Prerequisite: Art 210.

315 Design **3 hrs. Fall, Winter**

An advanced course in design fundamentals with specific emphasis on application to three dimensional functional and non-functional objects, and exploration of materials in designing projects. Prerequisite: Basic Group I.

320 Seminar in Art **1 hr. Fall, Winter**

A seminar to explain content and nature of all courses offered, the sequences, the requirements, texts, etc. An opportunity for discussion and interaction of students and faculty on contemporary and historical topics in the arts to be supplemented with resources and resource people. A student may enroll in this course a second time and receive credit. Prerequisites: None (Art majors only).

330 Ceramics **3 hrs. Fall, Winter**

Continuation of 230 with opportunity for concentration in the medium. Some experiment in glazing. Prerequisite: Art 230.

331 Sculpture **3 hrs. Fall, Winter**

Figure modelling, development of sculptural form through clay, casting techniques. Prerequisite: Art 231, 210.

332 Handcrafts **3 hrs. Fall, Winter**

An advanced class in handcraft which allows for individuals to concentrate in a material beyond the introductory survey. Prerequisite: Art 232.

334 Textiles **3 hrs. Fall, Winter**

Advanced work in textile design allowing for specialization with a material or technique surveyed in 234. Prerequisite: Art 234.

338 Jewelry and Metalwork **3 hrs. Fall, Winter**

Advanced work in the jewelry processes. Prerequisite: Art 238.

340 Painting II **3 hrs. Fall, Winter**

Continuation of Art 240. Prerequisites: Art 210, 240.

341 Printmaking **3 hrs. Fall, Winter**

A continuation of printmaking (241) exploring the possibilities of one of the printing media in a more thorough manner. Prerequisites: Art 241, 310.

342 Watercolor **3 hrs. Fall, Winter**

Advanced problems in watercolor techniques to include composition. Prerequisite: Art 242.

345 Graphic Design **3 hrs. Fall, Winter**

Two dimensional visual communication. Commercial art techniques and graphic processes. Prerequisite: Art 245.

352 Art Education (Majors) **2 hrs. Fall, Winter**

A studio course specifically designed to familiarize the elementary art teacher with teaching philosophies and creative teaching procedures using varied media and materials. Emphasis is placed on qualitative art programming in the elementary school. Prerequisites: Basic Group I and open only to art majors.

353 Art Education (Majors) **2 hrs. Fall, Winter**

A studio course specifically designed to familiarize the secondary art teacher with teaching philosophies and creative teaching procedures using varied media and materials. Emphasis is placed on qualitative art programming in the secondary school. Prerequisites: Basic Group I and open only to art majors.

400 Independent Study **1–4 hrs. Fall, Winter**

An opportunity for qualified upperclassmen to elect an area of special interest in which to study an art medium or area in depth.

410 Drawing **3 hrs. Fall, Winter**

Advanced problems in drawing. Experimentation with a wide variety of media is encouraged. Prerequisite: Art 310.

420 History of 19th Century Art **3 hrs. Fall, Winter**

Major developments, such as Neo-Classicism, Romanticism, Realism, Post-Impressionism, and Expressionism are discussed. Key figures whose works lie at the roots of modern art are considered in relationship to their times. Prerequisites: Art 220 and 221 for art majors and minors, none for non-art majors and minors.

421 History of 20th Century Art **3 hrs. Fall, Winter**

Major developments including Fauvism, Cubism, Non-Objective art, Expressionism, Surrealism, Abstract Expressionism and Op and Pop art are discussed. Emphasis is placed upon the roots of contemporary trends and the contributions of individuals to new modes of presentation. Prerequisites: Art 220 and 221 for art majors and minors, none for non-art majors and minors.

430 Ceramics **3 hrs. Fall, Winter**

Continuation of 330 with some experience in stacking and firing procedures. Prerequisite: Art 330.

431 Sculpture **3 hrs. Fall, Winter**

Continuation of 331. Emphasis on welding and sheet metal techniques. Some work in related media. Prerequisite: Art 331.

434 Textiles **3 hrs. Fall, Winter**

Continuation of 334. Prerequisite: Art 334.

438 Jewelry **3 hrs. Fall, Winter**

Advanced work in the jewelry processes. Prerequisite: Art 338.

440 Painting III **3 hrs. Fall, Winter**

An intermediate course introducing a variety of contemporary techniques and media. This course emphasizes the matching of technique and medium to the characteristics of the desired image. Prerequisites: Art 210, 340.

441 Printmaking **3 hrs. Fall, Winter**

Continuation of printmaking 341. Prerequisites: Art 310, 341.

442 Watercolor **3 hrs. Fall, Winter**

Watercolor problems with the introduction of mixed media. Prerequisite: Art 342.

445 Graphic Design **3 hrs. Fall, Winter**

A studio course designed to familiarize the graphic design student with the fundamentals and uses of photography and illustration. The aesthetic, technical and communicative aspects of the two areas are explored through practical projects. Emphasis is placed upon the development of figurative imagery for visual communications. Prerequisite: Art 345.

510 Life Drawing **3 hrs. Fall, Winter**

Continuation of Art 310 with emphasis on the final drawing as a complete and coherent artistic statement. Prerequisites: Art 210, 310.

525 Seminar in Art **1 hr. Fall, Winter**

(Art Majors only)

A seminar primarily in Art Philosophy and History with opportunity for research and debate.

530 Advanced Ceramics **3 hrs. Fall, Winter**

Advanced work in Ceramics including glaze calculations and experimentation. Prerequisite: Art 330.

531 Sculpture **3 hrs. Fall, Winter**

Continuation of Sculpture 331. Emphasis on bronze and aluminum casting and related techniques. Prerequisite: Art 331.

534 Textiles **3 hrs. Fall, Winter**

Continuation of 434 with advanced work in textile design. Prerequisite: Art 434.

538 Jewelry **3 hrs. Fall, Winter**

Continuation of 438; advanced work in jewelry processes. Prerequisite: Art 438.

540 Painting IV **3 hrs. Fall, Winter**

Continuation of Painting III. Prerequisite: Art 440.

541 Printmaking **3 hrs. Fall, Winter**

A continuation of printmaking, 441. Prerequisites: Art 510, 441.

542 Watercolor **3 hrs. Fall, Winter**

Continuation of advanced watercolor techniques with emhasis on experimentation. Prerequisite: Art 342.

545 Graphic Design **3 hrs. Fall, Winter**

A survey of visual communication from two dimensional to three dimensional forms. (e.g., editorial design, packaging, point of sale, exhibition design.) Prerequisite: Art 345.

550 Preparation For Art Teaching (Elementary) **2 hrs. Fall, Winter**

Designed to prepare elementary art education majors to realistically meet such responsibilities as working with elementary classroom teach-

ers, selecting, organizing and teaching art activities at each stage of development. Must precede student teaching.

551 Preparation For Art Teaching (Secondary) 2 hrs. Fall, Winter

Designed to prepare art education majors to understand the problems of the secondary art program and the responsibilities of an art consultant or supervisor. Organizing activities, teaching, budgeting, and other problems of secondary art education programs. Must precede student teaching.

581 History of Ancient Art 3 hrs. Fall, Winter

Major developments in art and architecture in ancient Egypt, the ancient Near East, the Aegean proto-Greek, Classical and Hellenistic Greece, Etruria and Rome to the Early Christian period. Prerequisite: Art 220 for Art majors and minors, none for other students.

585 History of Renaissance Art 3 hrs. Fall, Winter

The development of art through the early Renaissance to the Late Renaissance and Mannerism. Some of the major artists discussed are: Giotto, Donatello, Leonardo, Michelangelo, Titian, Van Eyck, Breughel and Dürer. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

586 History of Baroque Art 3 hrs. Fall, Winter

Art of the late 16th, 17th and early 18th centuries. Major artists and architects discussed are: Caravaggio, the Carracci, Rembrandt, Rubens, Poussin, Velasquez, Bernini, Borromini and Neumann. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

590 History of Prints 3 hrs. Fall, Winter

Major developments in printmaking, including origins of woodcut and engraving. Renaissance and Baroque master etchers and engravers. (Dürer, Rembrandt, etc.) Lithography in the 19th century. (Delacroix, Daumier, Toulouse-Lautrec) 20th century printmaking. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

593 History of American Art 3 hrs. Fall, Winter

Art and architecture in the United States from the Colonial Period to the present. Topics discussed are: Colonial portraiture and Copley; the evolution of 19th and 20th century painting, sculpture and architecture with emphasis on the work of Stuart, Cole, Bingham, Homer, Eakins, Ryder, Sullivan, Wright, Marin, Pollock and Smith. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

School of Liberal Arts and Sciences

Biology

Clarence J. Goodnight, Head

Harriette V. Bartoo
Richard D. Brewer
Raymond C. Deur
Robert C. Eisenberg
Joseph G. Engemann
Gyula Ficsor
Dona J. Fowler
Stephen B. Friedman
Frank J. Hinds
Imy V. Holt
Edgar Inselberg
Jean M. Lawrence
Richard W. Pippen
Myrtle M. Powers
Phoebe Rutherford
Beth Schultz
Donna N. Schumann
Marjorie A. Spradling
Edwin B. Steen
Gian C. Sud
Leo C. VanderBeek
William C. VanDeventer
Jack S. Wood

A major in biology consists of a minimum of 30 credit hours in courses in biology including the basic core curriculum; a minor in biology consists of a minimum of 15 credit hours (in Secondary Education, 20 hours). All major and minor programs are taken under the direction of and with the approval of a departmental adviser. The following courses are not counted towards a major or minor: Biol. 111, 205.

Students majoring in biology are required to take a minimum of three semesters of college chemistry, including a course in organic, two semesters of college mathematics, and two semesters of physics. Students in secondary and elementary education who are majoring in biology may substitute one semester of geology for the second semester of physics. For those planning to undertake graduate work in biology, two semesters of organic chemistry, quantitative chemistry, and calculus are strongly recommended.

All students minoring in biology are required to take two semesters of college chemistry and one semester of college mathematics.

The basic core curriculum for biology majors consists of Biology 100, 101, 102, 301, 306, and 317. Modifications in curriculum are made to meet various pre-professional requirements. Only courses in which a grade of "C" or better is obtained may be counted towards a major or minor.

An Honors Program in Biology is available for students who demonstrate superior abilities during their first two years of college work.

Associated with the Biology Department is the Charles C. Adams Center for Ecological Studies established in 1956 following the gift to Western Michigan University of the personal library, letters, notes, and manuscripts of the pioneer American ecologist for whom the Center is named.

The department maintains The Clarence R. Hanes Herbarium which houses the Hanes' collection of vascular plants from Kalamazoo County. The herbarium also contains an additional teaching collection of several thousand specimens and facilities for research. Collections of Dr. Leroy H. Harvey and Dr. Leslie A. Kenoyer are housed in the department.

The department has a radiation laboratory equipped for teaching and research in the areas of instrumentation, isotopes, ultraviolet and X-ray techniques.

DESCRIPTION OF COURSES

100 Principles of Biology **3 hrs. Fall, Winter**

An introduction to the fundamental principles common to plants, animals and microorganisms. The structure of the living cell is related to its function. The chemical compounds that make up living systems are presented and followed through the more important processes that take place in cells and organisms, such as respiration and photosynthesis. The student is introduced to genetics, as well as to the relationships of organisms to their environment and to one another.

101 Animal Biology **3 hrs. Fall, Winter**

An animal survey emphasizing structure, function and behavior of different groups. The current frontiers of research with the animal groups will be used as the unifying theme. This course may be taken along with Biology 100 or 102.

102 Plant Biology **3 hrs. Fall, Winter**

A survey of plants stressing the interactions of structure and function with the environmental stimuli. The current frontiers of research with the plant groups will be used as the unifying theme. This course may be taken along with Biology 100 or 101.

107 Biological Science **4 hrs. Fall, Winter**

Designed to present basic biological principles, and to give the student an understanding of the operation of the world of life. This course fulfills the general education requirement for biological science.

111 Healthful Living **2 hrs. Fall, Winter**

A study of the principles involving sound health practices. Factors in the causation, prevention, and control of all departures from normalcy in health are considered.

205 The Human Body in Health and Disease **4 hrs. Fall**

A study of the organs and organ systems and their functioning in health and disease. The nature of disease and disease processes, theories of disease causation and methods employed in healing are considered. Principles and practices of effective living are emphasized. Prerequisite: Biology 100 or 101 or Biological Science 107.

210 Mammalian Anatomy **4 hrs. Fall, Winter**

A study of the gross and microscopic structure of the mammalian body with special reference to man. Prerequisite: Biology 101 or equivalent.

212 Community Hygiene **3 hrs. Fall**

A lecture course covering the historical development of the principles of organized public health activities along with their application to present day life.

215 Bacteriology for Nurses **3 hrs. Winter**

A specialized course dealing with microorganisms, adapted to the needs of students in the Bronson Methodist Hospital School of Nursing. For Bronson students only.

219 Human Physiology **4 hrs. Fall, Winter**

The functions of the organ systems of the human body, their regulation and control. Prerequisite: Biology 210 or equivalent.

220 Botany of Seed Plants **4 hrs. Fall, Winter**

The study of the gross and microscopic structure, physiology, development, classification and ecology of seed plants. The greenhouse is used in experiments with living plants and their methods of propagation. Prerequisite: Biology 100 and 102 or consent of instructor.

221 The Plant Kingdom **4 hrs. Fall, Winter**

A systematic study of representative plant groups with emphasis on classification, structure, reproduction and ecology. Field studies will occupy a major portion of the laboratory time. Prerequisites: Biology 100 and 102 or consent of instructor.

224 Trees and Shrubs **2 hrs. Fall**

A field course in the identification of trees and shrubs. Structural characteristics, habit of growth, geographical distribution and economic importance are included.

225 Local Flora **2 hrs.**

A field course designed for those who desire an acquaintance with the common plants occurring in the region.

234 Outdoor Science **4 hrs. Fall, Winter**

The aspects of the living world with emphasis on the relationship of living things to their environment.

301 Ecology **3 hrs. Fall**

An introduction to the relationships of organisms to their environment and to one another. Inter-relationships of individuals and the physical environment, dynamics of populations, and structure and function in the community and ecosystem are considered. Prerequisites: Biology 100 and 101 or 102 or consent of instructor.

306 Genetics **3 hrs. Fall, Winter**

A study of the principles of variation and heredity and the mechanisms of inheritance in organisms. Prerequisites: Biology 100, 101 or 102 or consent of instructor.

317 General Physiology **3 hrs. Fall, Winter**

A study of the fundamental principles which underlie the functional activities of organisms. Prerequisites: Biology 100, 101 or 102, a year of chemistry or consent of instructor.

323 Plant Pathology **3 hrs. Fall**

The common diseases of higher plants, caused by fungi, viruses and physiological factors, as well as those connected with the presence of animals such as nematodes and insect larvae. Prerequisite: Biology 220 or equivalent.

342 Comparative Chordate Anatomy **4 hrs. Fall, Winter**

A brief study of the classification, morphology, and physiology of the prechordates followed by a detailed study of representative vertebrates, including an elasmobranch, urodele, and a choice of mammals. Dissected monkeys available for study. Class project required. Prerequisites: Biology 100, 101 and an additional laboratory course in biology.

343 Vertebrate Embryology **4 hrs. Fall**

A study of the development of an individual from the origin of the germ cells to maturity, with special reference to man. Prerequisites: Biology 100, 101, 102.

403 Elementary School Science **4 hrs. Fall, Winter**

A laboratory course focusing on ideas and subject matter commonly included in elementary school science curricula. Prerequisite: Completion of General Studies Science requirements.

404 Problems in the Teaching of Biology **3 hrs. Fall, Winter**

Class discussions, laboratory experiences and field work concerned with the teaching of biology in high school. Required of all students who are following a secondary education curriculum and list biology as a major or minor. This course assumes a working knowledge of plants, animals, and body chemistry, and of ecology, physiology and genetics.

412 Microbiology **4 hrs. Fall**

An introduction to the fundamental relationships among microbes with an emphasis on unifying principles. Laboratory work deals with techniques basic to bacteriology. Prerequisites: 2 semesters of biology or consent of instructor and a course in organic chemistry (may be taken concurrently).

500 Selected Experiences in Biology **3 hrs. Winter**

Problems to be studied are selected under the guidance of the instructor. Laboratory work consists of independent studies of living plants, animals and environmental problems. This is done outside of class time, utilizing procedures outlined by the instructor. Primarily for teachers. Prerequisite: Consent of instructor.

502 Human Ecology **3 hrs. Fall**

A study of the man-dominated biotic community of civilization and its inter-relationships. Lectures, assigned reading, group and individual field work. Prerequisite: At least a minor in biology.

505 Advanced Genetics **3 hrs. Winter**

Special problems in genetics, including a study of the genetic systems of populations and the formation of species. Lectures include material on the nature and function of the gene, and its relation to evolution. Prerequisite: Biology 306.

506 Microbial Genetics **3 hrs. Winter**

A molecular approach to microbial genetics dealing primarily with bacterial and viral systems. Prerequisites: Biology 412 and a knowledge of organic chemistry or biochemistry.

508 Recent Advances in Biology **3 hrs. Fall, Winter**

Recent research findings at the frontiers of biology as reported in periodicals, symposia and biological meetings. Prerequisite: at least 12 hours in biology.

509 Evolution **3 hrs. Fall**

A consideration of the evidence for and the principles involved in the evolution of plants and animals, including man. Prerequisite: Biology 306 or consent of instructor.

510 Virology **3 hrs.**

A study of the structure and physiology of viruses. Relationship to host is stressed. Prerequisites: Biology 412 and a knowledge of organic chemistry or biochemistry.

511 Physiology of Reproduction **3 hrs. Winter**

A comparative study of the reproductive physiology of domestic animals, laboratory animals and man. Prerequisites: Biology 317 and a working knowledge of biochemistry or consent of instructor.

512 Health Problems **2 hrs.**

A course for students with special interest in the medical and public health areas. The pathology, treatment and control of the major causes of mortality and ill health are presented; broad background in biology and chemistry desirable.

513 Advanced Microbiology **3 hrs. Winter**

This course deals with pathogenic microorganisms, infectious diseases, diagnostic tests and principles of immunology. Prerequisite: Biology 412 or equivalent.

514 Bacterial Physiology **3 hrs. Winter**

Lectures on bacterial cytology, metabolism, physiology and genetics with emphasis on biochemical aspects. Prerequisites: Biology 412 and biochemistry (may be taken concurrently).

515 Alcohol Problems **2 hrs.**

An objective study of a major social problem, examined critically with regard to its physiological, psychological, legal, cultural, and sociological

aspects. Prerequisite: at least a minor in biology or sociology, or consent of instructor.

516 Experimental Microbial Physiology **3 hrs. Fall**

An experimental approach to metabolism, physiology and genetics with emphasis on biochemical techniques. Prerequisite: Biology 514.

517 Cellular Physiology **3 hrs. Winter**

Concerned with the details of structure and functioning of cells, both animal and plant. The current status of major problems in the field is considered. Prerequisite: Biology 317 or consent of instructor.

518 Endocrinology **3 hrs. Fall**

A study of the glands of internal secretion, the active principles produced by each, and their role in bodily activities. Prerequisite: Biology 219 or 317 or consent of instructor.

519 Comparative Animal Physiology **3 hrs. Fall**

A study of the basic physiological processes as they occur in various groups of animals. Prerequisite: Biology 317 or equivalent.

520 Systematic Botany **3 hrs. Winter**

The classification and relationships of vascular plants by field and laboratory studies. Attention is given to family characteristics, evolutionary trends and geographical distribution. Prerequisite: Biology 301 or consent of instructor.

521 Phycology **3 hrs.**

Studies in the classification, structure, physiology, ecology and economic importance of the fresh-water algae. Prerequisite: Biology 301.

522 Phytogeography **3 hrs. Winter**

A study of the geographical distribution of plants based on physical and ecological factors. Prerequisite: A course in systematic botany or equivalent.

523 Paleobotany **3 hrs. Winter**

A study of the characteristics, historical and evolutionary relationships of plants based upon the fossil record. At least two extended field trips are taken. Prerequisite: 221 or equivalent.

524 Economic Botany **3 hrs. Fall**

A study of plants useful to man for food, flavoring, drugs, clothing and building. Field trips required.

525 Biological Constituents **3 hrs. Fall, Winter**

The chemical elements in plants and animals, as well as the synthesis, characterization, and degradation products of the more important compounds. Prerequisites: 12 hours of biology, one year of chemistry.

526 Mycology **3 hrs.**

Studies in the classification, structure, physiology, development and economic importance of fungi. Prerequisites: Biology 301 and 306 or consent of instructor.

527 Plant Physiology **3 hrs. Fall, Winter**

Advanced investigations into plant functions. Basic principles are examined more intensively. Advantage is taken of the discoveries and unifying principles of modern biochemistry. Prerequisite: Biology 317 or consent of instructor.

528 Biology of Non-Vascular Plants **3 hrs. Fall**

The study of classification, ecology and reproductive cycles of algae, fungi and bryophytes. Culture methods of growing these plants for research occupies a part of laboratory work. Prerequisite: Biology 301 or consent of instructor.

529 Biology of Vascular Plants **3 hrs. Winter**

A detailed study of the morphology, life cycles, and evolution of vascular plants. Individual research required. Prerequisite: Biology 301 or consent of instructor.

538 Field Natural History **3 hrs. Fall**

A study of biological communities with particular emphasis on those accessible for use by public schools, e.g., school grounds, vacant lots, roadsides, parks and undeveloped areas. Primarily for teachers. Prerequisites: Biology 100 and 101 or 102 or consent of instructor.

541 Invertebrate Zoology **3 hrs. Fall, Winter**

A study of the anatomy, physiology, embryology, and life history of representatives of the major groups of invertebrate animals. Prerequisite: Biology 301 or consent of instructor.

542 Entomology **3 hrs.**

A general study of insects, their structure, classification, life histories, ecological relationships and economic importance. Collection and identification of local species is required. Prerequisite: 12 hours of biology.

543 Protozoology **3 hrs. Winter**

Field and laboratory studies of both free-living and parasitic protozoans, including taxonomy, morphology, life histories, ecology, heredity, evolutionary development. Prerequisite: Biology 301 or consent of instructor.

544 Developmental Biology **3 hrs.**

Theories and phenomena of differentiation, cytodifferentiation and morphogenesis; concepts of inducers, organizers, etc.; experimental studies of embryos of various animals or study of some specific organs during development, including tissue culture techniques. Prerequisite: Biology 343 or consent of instructor.

545 Histology **3 hrs. Winter**

A study of the microscopic structure of tissues and organs. Prerequisite: Biology 210 or equivalent.

547 Ornithology **3 hrs. Winter**

Populations, life histories, anatomy, social behavior and environmental relationships of the birds of Southwestern Michigan. Shore and marsh birds are given special attention. Individual studies, bird banding, and the preparation of bird skins. Early morning field trips are scheduled. Prerequisite: Consent of instructor.

551 Parasitology **3 hrs. Winter**

A study of parasites and host-parasite relationship illustrated by typical representatives of the principal animal groups. Special attention is given to the parasites of man. Prerequisite: At least 12 semester hours of biology.

552 Plant Ecology **3 hrs. Winter**

A consideration of the organization of vegetation and causal relationships between vegetation and environment. Prerequisites: Biology 301 and a course in systematic botany or equivalent.

553 Limnology **3 hrs.**

Biological, chemical, and physical aspects of lakes and streams. Emphasis is on the ecological relationships of invertebrate animals and lower plants. Prerequisite: Biology 301 or equivalent.

554 Animal Physiology **3 hrs. Winter**

A study of cell, tissue and organ functions in the living animal with special emphasis on vertebrates. Prerequisites: Biology 317 and organic chemistry or consent of instructor.

555 Physiological Ecology **3 hrs. Fall**

A study of the physiological and behavioral adaptation and responses or organisms to external environmental factors. Prerequisites: Biology 301 and 317 and a year of chemistry or consent of instructor.

559 Radiation Biology **3 hrs.**

A study of the fundamentals of radiobiology including isotope technology, radiation measurements, radioactive decay, radiation and interaction in living matter, and health and safety regulations in the laboratory. Prerequisites: A minor in chemistry and consent of instructor.

561 Biology of Lower Vertebrates **3 hrs. Fall**

The biology of lower vertebrates with special reference to adaptation, evolution, behavior and ecology of major groups. Classification, museum

and field methods will be stressed in laboratory. Field trips required. Prerequisite: Biology 301 or equivalent.

562 Biology of Higher Vertebrates **3 hrs. Winter**

Continuation of Biology 561.

598 Readings in Biology **1–3 hrs. Fall, Winter**

599 Independent Studies in Biology **1–4 hrs. Fall, Winter**

For students who wish to carry on advanced work in special fields. Prerequisite: Consent of instructor.

Chemistry

Don C. Iffland, Chairman

Robert H. Anderson
Shirley R. Bach
Donald C. Berndt
Donald J. Brown
Dean W. Cooke
J. Lindsley Foote
Robert E. Harmon
Paul E. Holkeboer
Thomas Houser
James A. Howell
Adli S. Kana'an
Joseph M. Kanamueller
Robert C. Nagler
Gerald Osborn
Jochanan Stenesh
H. Dale Warren

Students majoring in chemistry may prepare for a career in high school teaching, industrial laboratory work, or graduate work in departments of chemistry or medical colleges. The course offerings for the undergraduate attempt to give a broad but thorough grounding in the elements of chemistry. They should be fortified by a minor in physics, mathematics or biology with at least Physics 210 and 211 and Mathematics 122, 123 and 222 included. Most students who intend to do advanced work in chemistry should plan to obtain a reading knowledge of a European language. At the present time German is preferred but French or Russian might well be taken.

The Chemistry Department is accredited by the American Chemical Society. Students who follow the American Chemical Society certification course sequence below are certified by the Department Chairman on graduation and considered professional chemists by the American Chemical Society. These students are eligible for membership senior grade in the American Chemical Society after two years experience in the field of chemistry rather than five years experience.

Chemistry content of the curriculum:

	American Chemical Society Certification	General Curriculum	Secondary Education and others
General Chemistry 100 or 101 or 102	4	4	4 hrs.
Qualitative Analysis	4	4	4 hrs.
Organic Chemistry	10	8	8 hrs.
Quantitative Analysis	4	4	4 hrs.
Physical Chemistry	8	8	4 hrs.
Biochemistry	3	—	—
Inorganic Chemistry	3	—	—
Advanced Analytical Chemistry	3	—	—
Elective	—	6	6 hrs.
Special Problems in Chemistry or Qualitative Organic Analysis	2 —	— —	— —
	41	34	30 hrs.

In addition the following are required for A.C.S. certification: reading knowledge of German or Russian; Calculus; at least one year of Physics; one advanced course in Mathematics or Physics which has a calculus prerequisite.

A minimum chemistry minor will contain at least eighteen hours. Chemistry minors in Secondary Education are required to take twenty hours of chemistry and to complete one year of physics before student teaching.

100 General Chemistry **6 hrs. Fall, Winter**

A course with emphasis on the fundamental principles, theories and problems of chemistry. This course consists of four lecture hours, four laboratory hours and two quiz hours per week. Enrollment in this course is restricted to those who have had no high school chemistry. Prerequisite: One year of algebra.

101 General Chemistry **4 hrs. Fall, Winter**

Content and structure of this course is the same as Chemistry 100. Enrollment in this course is restricted to those who have had high school chemistry and who do not pass the A.C.S. High School Chemistry examination.

102 General Chemistry **4 hrs. Fall, Winter**

The theory and fundamental principles of chemistry are emphasized in this foundation course. Prerequisite: One unit of high school chemistry and one unit of algebra, pass A.C.S. High School Chemistry examination. Students well prepared may earn credit by taking final examination.

105 General Chemistry **4 hrs.**

Some applications to home economics of inorganic chemistry, elementary organic chemistry, introduction to the chemistry of foods and the body, and to textiles and dyeing. Open only to students in Home Economics. Prerequisite: 100 or 101 or 102.

106 Chemistry for Nurses **3 hrs. Fall**

The fundamentals of chemistry are studied with a view to applying them to the field of nursing. Credit does not apply towards a major or minor in chemistry. Open only to Bronson Hospital Nursing students.

107 Applied Chemistry **3 hrs.**

A course for students in the curriculum in Petroleum Distribution. Fundamental principles of chemistry and an introduction to petroleum chemistry are studied.

108 Honors General Chemistry **5 hrs.**

A one semester course designed for superior students. This course includes a rigorous treatment of such topics as: atomic structure, nature of the chemical bond, acid-base theory, equilibrium and electrochemistry. Students desiring to enroll in this course are required to take a qualifying examination. Prerequisites: High School chemistry and algebra. Not offered 1968-69.

109 General Chemistry **4 hrs. Winter**

This terminal course is not acceptable as prerequisite for advanced chemistry, but is designed to meet the needs of those who require one year of chemistry. Descriptive chemistry of metallic and non-metallic elements with emphasis on industrial and practical applications, chemical equilibrium and simple organic chemistry are studied. Prerequisite: 100 or 101 or 102.

120 Qualitative Analysis **4 hrs. Fall, Winter**

The properties of a number of the more representative elements and the compounds which they form are studied. The descriptive chemistry of some common cations and anions is studied using the hydrogen sulfide scheme of analysis. The chemical relationships in the periodic table, electrochemistry, and the equilibrium principle are also treated. Prerequisite: 100 or 102.

222 Quantitative Analysis **4 hrs. Fall, Winter**

This course includes the theory, techniques and calculations of quantitative analysis. Instrumental techniques are used to supplement classical analytical procedures. Prerequisite: 120.

265 Introduction to Organic Chemistry **4 hrs. Fall**

A one semester course which surveys the chemistry of aliphatic and aromatic carbon compounds, designed for those needing a working knowledge of organic chemistry without the theoretical detail of a full

year course. Credit may not be received for both 265 and 360. This course will not serve as prerequisite for 361 and 363. Prerequisite: 120.

308 Teaching of Physical Science **2 hrs. Winter**

Problems of teaching high school chemistry, physics and physical science. The main emphasis is on effective methods of instruction. Practical methods of apparatus ordering, maintenance, and construction are also considered.

360 Organic Chemistry **4 hrs. Fall, Winter**

The preparation and chemical properties of aliphatic and aromatic compounds are studied. Emphasis is placed upon the nature of covalent bonds and molecules and the general reactions of functional groups. The course includes lecture, laboratory and quiz. Prerequisite: 120.

361 Organic Chemistry **4 hrs. Fall**

A continuation of course 360. Prerequisite: 360.

362 Organic Chemistry **5 hrs. Fall**

This course is similar to Chemistry 360. Additional laboratory instruction is provided including identification of organic compounds and more advanced organic synthesis. This course is required for Chemistry Majors completing American Chemical Society certification. Prerequisite: 120.

363 Organic Chemistry **5 hrs. Winter**

A continuation of course 362. Prerequisite: 362.

505 Chemical Literature **2 hrs. Fall**

An introduction to the use of the various types of chemical literature such as journals, handbooks, abstracts, monographs, government and institutional publications, and patents. Problems in the course require literature searches in analytical, inorganic, biological, organic and physical chemistry fields. Prerequisite: 24 hrs. of chemistry.

510 Inorganic Chemistry **3 hrs. Winter**

The course includes descriptive and theoretical inorganic chemistry as well as preparation of different types of inorganic compounds. Prerequisite: 24 hrs. of chemistry.

520 Advanced Analytical Chemistry **3 hrs. Fall**

An introduction to the theory and application of modern chemical instrumentation is presented. General topics covered are elementary electronics, electrochemistry, spectroscopy, and other instrumental techniques. Four hours of laboratory per week. Prerequisite: 531.

530 Physical Chemistry **4 hrs. Fall**

Lectures and laboratory work in kinetic theories of gases, liquids, solids, thermodynamics, phase rule, equilibrium, solutions, etc. Prerequisites: 120, Physics 210 and 211, Math. 222; corequisite: Chem. 222.

531 Physical Chemistry **4 hrs. Winter**

Lecture and laboratory studies of kinetics, electrochemistry, quantum theory, spectroscopy, surface chemistry, macromolecules and crystal chemistry, etc. Prerequisite: 530.

536 Special Topics in Physical Chemistry **4 hrs.**

The fundamentals of thermochemistry, thermodynamics, chemical kinetics and quantum mechanics (if time permits) are studied. Mathematics are reviewed as necessary.

540 Food Chemistry **2 hrs.**

A lecture and laboratory course on the chemistry of foods including such important components as carbohydrates, proteins, fats, minerals, vitamins and food pigments. Prerequisite: 361 or 363, 222.

551 General Biochemistry **3 hrs. Winter**

A basic course in the chemistry, properties, and metabolism of carbohydrates, lipids, proteins, and nucleic acids. Prerequisite: 360 or 265.

553 General Biochemistry **5 hrs. Winter**

The course consists of 551 plus a laboratory which includes basic experiments with the main groups of biochemical compounds. Prerequisites: 360 or 265, 222.

554 General Biochemistry **3 hrs.**

Enzymes, vitamins, and hormones; electron transport; respiration and electrolyte balance; photosynthesis; selected applications of physical chemistry, etc. Prerequisites: 551 or 553 and 530.

560 Qualitative Organic Analysis **3 hrs.**

A course in the methods of identification of organic compounds in the pure state and in mixtures, which has as secondary goals the familiarization with many organic reactions and the development of deductive reasoning in the field of organic chemistry. Prerequisites: 361 or 363 and 24 hrs. of chemistry.

562 Advanced Organic Chemistry **3 hrs.**

Covers the topics: organometallic compounds, heterocyclic compounds, dyes, introduction to photochemistry, organo-silicon compounds, etc. Prerequisite: 361.

564 Organic Preparations **2 hrs.**

A course in the application of principles and techniques of handling aliphatic and aromatic compounds on a preparative scale. Typical standard procedures are assigned. Emphasis is placed on good yields as well as quality of product. Eight hours of laboratory each week. Prerequisite: 361. Not offered 1968-69.

580 History of Chemical Theory **2 hrs.**

This course is taught from the point of view of the history of chemical theory in which the evidence for the theories is critically presented. Prerequisite: 16 hrs. of chemistry including at least one semester organic.

590 Special Problems in Chemistry **2 hrs. Fall**

Advanced students who have completed basic work in chemistry may select a special problem in the fields of analytical, organic, biochemistry, inorganic or physical chemistry. Prerequisite: 24 hrs. of chemistry and approval of Head of Department.

591 Special Problems in Chemistry **2 hrs. Winter**

A continuation of special problem work started under 590. Given on request.

Economics

Robert S. Bowers, Head

Karl Asmus	David DeShon	R. Gerald Saylor
Myrtle Beinhauer	Wayland Gardner	Werner Sichel
Hugh Bradley	Alfred Ho	Durane Strouse
Theodore L. Carlson	Louis Junker	Jared S. Wend
Phillip Caruso	Gangaram K. Kripalani	Raymond Zelder
John A. Copps	Myron Ross	David Zinn

Courses are designed (1) to contribute to general education by providing basic understanding in the economy; (2) to fulfill the requirements for the training of teachers in certain professional groups, such as social sciences, business studies, and business administration; (3) to furnish courses and explore areas of economic thought which are prerequisite to graduate study in economics; and (4) to provide areas of study as pre-professional training for business administration, engineering, foreign service, journalism, law and social work.

A minor in Economics consists of a minimum of 15 hours in the Department.

A major in Economics consists of a minimum of 30 hours of work in the Department. The following are required courses for majors: Principles of Economics (201, 202), Income Analysis and Policy (406), Price Theory (503), and a course in statistics. In addition a major should choose the remainder of his courses in consultation with his adviser, with careful attention paid to achieving a proper spread.

A major in Economics who intends to do graduate work in Economics is advised to take Mathematics 122 and 123 at least, and Econometrics 509.

The Head of the Department will assist students in selecting courses suited to their needs in fulfilling the minor and major requirements.

The Honors Program of the Department of Economics is designed for the student who possesses special talents and abilities and who is particularly interested in exploiting them to the fullest extent. Students wishing to participate in this program should consult a member of the Economics Honors Committee.

PRINCIPLES AND GENERAL THEORY

201 Principles of Economics **3 hrs. Fall, Winter**

A study of the fundamental principles of economics and their application to our more persistent economic problems including economic growth, unemployment, monopoly, economic stability, income distribution, and economic development. Prerequisite: Sophomore standing.

202 Principles of Economics **3 hrs. Fall, Winter**

A continuation of Economics 201. Prerequisite: Economics 201.

203 Economic Issues **3 hrs. Fall, Winter**

A nontechnical study of the importance and application of economics to current social issues. Credit is not applicable to a major or a minor in economics.

400 Managerial Economics **3 hrs.**

An introductory examination of the application of tools of economic analysis to management problems and decision making. The basic concepts include marginalism and cost analysis, demand pricing, capital budgeting, and selected optimality models. Prerequisites: Econ. 201 and 202.

404 The Structure and Performance of Industry **4 hrs. Fall**

This course deals with the ways in which the organization of sellers affects the performance of industrial markets and thus the nation's economic welfare. Particular American industries are examined and from time to time comparisons are made to industries in foreign countries. The role of government in the industrial sector is also dealt with. Prerequisites: Econ 201 and 202.

406 Income Analysis and Policy **4 hrs. Fall**

An examination of macroeconomic theory with particular emphasis on business cycles, economic growth, and price level instability. The interplay between theory and policy is analyzed. Prerequisites: Econ. 201 and 202.

501 Studies in Economic Theory **3 hrs. Winter**

Study and research on various major economic theories, schools of thought, and theorists. Different topics will be considered from semester to semester and will be announced in advance. Students may repeat the course for additional credit.

502 Studies in Quantitative Economics **3 hrs. Fall, Winter**

The course deals with statistical and mathematical techniques and concepts useful in economic analysis and their application to various areas in economics. Subject matter of the course will vary from semester to semester and may be chosen from such diverse topics as: linear programing, game theory, input-output analysis, statistics, welfare economics, utility theory and business cycles. Prerequisite: Math. 122 or consent of instructor.

503 Price Theory **4 hrs. Fall**

A basic course in economic theory, with emphasis on the theory of consumer behavior (the derivation of the demand curve), the theory of the firm and factor pricing. Prerequisites: Econ. 201 and 202.

505 History of Economic Thought **4 hrs. Fall**

A survey of the origin and development of economic thought from early times to the present. After a brief consideration of early mercantilism and the evolution of the philosophy of natural liberties special emphasis will be placed on the contributions of significant economic thinkers and the influence of various schools of economic thought on national policy and economic development. Prerequisite: Econ. 201 and 202.

506 Economic Methodology **4 hrs.**

A study of the methodological underpinning of extant economic theory. Special emphasis will be paid to the ways in which such concepts as causality, probability, deduction, induction, prediction, and proof enter into the logic discovery and the logic of confirmation. Prerequisites: 201 and 202 or consent of instructor.

508 Institutional Economics **4 hrs. Winter**

An intensive examination of heterodox economic theory, conceived in terms of the basic social concepts of institutions and technology, and utilizing developments in modern social science for the resolution of persistent economic problems. Prerequisites: Econ. 201 and 202.

509 Econometrics **3 hrs. Winter**

An introductory course in analytical and quantitative methods in economics. Applied economic problems like linear programing, input-output analysis will be considered. Simple regression models and their uses in economics are also included. Prerequisites: Econ. 201 and 202, Math. 122, or consent of instructor.

539 Economic Anthropology

A thorough examination of the relationship between economic and anthropological theory, with a strong emphasis on its applicability and usefulness for explaining the nature of specific economic relationships existing in selected primitive societies. Prerequisites: Anth. 231, Econ. 201 and 202 and/or consent of instructor.

LABOR ECONOMICS

510 Labor Problems **3 hrs. Fall, Winter**

An analysis of the nature and underlying causes of the problems facing the worker in modern economic society. Includes an examination of unions, collective bargaining, labor legislation, wages, unemployment and economic insecurity. Prerequisite: Econ. 201 and 202.

512 Collective Bargaining **3 hrs. Winter**

An analysis of the major problems in present-day collective bargaining including the negotiation of collective agreements, the practical aspects and the economic implications. Prerequisite: Econ. 510 or the consent of the instructor.

513 Economic Security **3 hrs. Fall**

An analysis of the problems of the individual workers and the efforts of the government to aid in the solution of these problems. It deals with unemployment, old age, benefits and medical care.

514 Labor and Government **3 hrs. Winter**

The course deals with the government's role in the problems arising from labor-management relations and from labor's search for security. It covers the court's attitude toward labor organization from the rule of conspiracy through Taft-Hartley. It also includes protective legislation and the development of security legislation.

MONEY, CREDIT AND FINANCE

320 Money and Credit **4 hrs. Fall, Winter**

In this course an examination is made of the evolution and functions of money, credit, banking and of the financial institutions. Some attention is given to the history of currency in the United States, experiments with paper money, and price-level control, together with considerable factual material relative to credit and credit instruments. Prerequisites: Econ. 201 and 202.

507 Monetary Theory and Policy **3 hrs. Winter**

This course concentrates on the main elements of monetary theory and policy having to do with such problems as promoting economic growth, maintaining full employment and price stability, influencing the

flow of capital into the various economic sectors with different possible social goals in mind, and stabilizing international trade and financial relationships. Prerequisite: Econ. 320.

524 Federal Government Finance **3 hrs. Fall**

Practices, effects, and policy issues in federal government budgeting, spending, taxation, borrowing and debt, with particular attention to individual and corporate income taxation. Prerequisites: Econ. 201 and 202.

525 State and Local Government Finance **3 hrs. Winter**

Practices, effects and issues in state and local expenditure, taxation, and borrowing, with particular attention to property and sales taxation, to the financing of education and highways, and to intergovernmental fiscal relations. Prerequisites: Econ. 201 and 202.

CONSUMPTION ECONOMICS

230 Economics of Consumption **4 hrs. Fall**

A study of the problems faced by the individual and the family in trying to satisfy their wants with the money income and other resources at their disposal.

536 Advanced Consumer Economics **3 hrs. Winter**

A study of the place of the consumer in the economic system. The relationships of personal income to price levels, and of consumer liquid assets and availability of consumer credit to total consumer demand will be analyzed. Special consideration will be given to the role of the consumer in determining the amount of national income and the stability of the economic system. Prerequisites: Econ. 201 and 202 or 230.

INDUSTRIAL ORGANIZATION AND PUBLIC CONTROL

445 Economic Organization **4 hrs. Fall**

A study of the organization of economic enterprise, particularly large corporations. The history, financing, and control of these enterprises will be studied in an effort to determine how the public interest is affected and how public control has protected and can protect the public interest. Prerequisites: Econ. 201 and 202.

447 Economics of Transportation and Public Utilities **5 hrs. Winter**

An examination of the economics and regulation of the public utility industries with particular emphasis on transportation. Prerequisites: Econ. 201 and 202.

542 Business and Government **4 hrs. Fall**

A study of the regulatory policies of government and their impact on private enterprise. The course seeks to explain the needs for regulation, and to provide an analysis and evaluation of the various laws from the

viewpoint of encouragement, subsidization, and control. Special attention will be directed to certain aspects of concentration of economic power, public ownership, and nationalization programs. Prerequisites: Econ. 201 and 202. Work in Political Science may be substituted in special cases by permission of the instructor.

INTERNATIONAL ECONOMICS

380 International Economics **4 hrs. Fall**

A study of the fundamentals of international trade and related problems, with special reference to the implications of the international economic policies of the United States both for the economy and for the firm. Prerequisites: Econ. 201 and 202.

580 International Trade: Theory and Policy **3 hrs. Winter**

This course is designed to study the pure theory of international trade and trade policy. The topics included will be: theory of international pricing and allocation, foreign trade multiplier and international monetary equilibrium; international trade and economic development. Prerequisites: Econ. 201, 202 and 380.

583 Studies in Economic Planning **3 hrs. Winter**

An examination of the general methodological and theoretical foundations of planning including the planning of production, investment, labor, consumption, monetary flows, prices and macroeconomic balances. Different topics and systems of planning will be considered from semester to semester and will be announced in advance. Students may repeat the course for additional credit.

584 Comparative Economic Systems **4 hrs. Fall**

The economic institutions and conditions of capitalism, socialism, communism, fascism, and the cooperative movement are critically examined as to ideology and actual operation. Prerequisites: Econ. 201, 202 or consent of instructor.

585 The Economics of Sub-Saharan Africa **3 hrs. Winter**

A survey of the indigenous economic systems of Sub-Saharan Africa and how these systems have been modified over time by the intrusion of various foreign populations. The economic progress will be examined and a detailed investigation of economic, social, and political obstacles to further progress will be made. Not open to students who previously received credit in 585 Economics of North Africa and the Near East. Prerequisites: Econ. 201 and 202 or consent of instructor.

586 Economics of the Soviet Union and Eastern Europe **3 hrs. Fall**

A study of Soviet and East European planning practices including an examination of the development in commerce, agriculture, and industry in these areas. Trade among the several East bloc nations will also be covered. Prerequisites: Econ. 201 and 202.

587 Studies in Asian Economics **3 hrs. Winter**

The course concentrates on the study of the Japanese, Chinese and Indian economic systems. These models are then applied as a basis of comparison to the other Asian economies.

588 Economic Development **4 hrs. Winter**

An analysis of the economic factors such as population, resources, innovation and capital formation which affect economic growth. Selected underdeveloped areas will be studied to understand the cultural patterns and economic reasons for lack of development and the steps necessary to promote economic progress. Special attention will be paid to evaluating the effectiveness of the United States foreign aid program and examining the issues arising as a result of the conflict with the U.S.S.R. Prerequisites: Econ. 201 and 202.

590 Contemporary Communism—A Survey **2 hrs.**

Designed to give the student an insight for the range of problems that resulted from the spread of Communism in the wake of World War II. The philosophy, economic doctrines, and government of Communism will be covered.

SPECIAL STUDIES

490, 491, 492 Economics Honors Seminar **2 hrs. Fall, Winter**

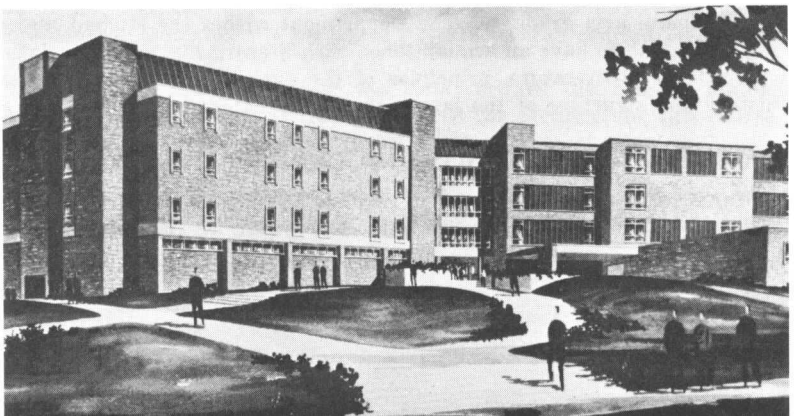
Designed for honors students, the Seminar deals with issues of current importance in economic theory and policy. Permission to register must be obtained from the Departmental Honors Committee.

495 Independent Study for Honors Students **2 hrs. Fall, Winter**

A program of independent study, tailored to fit the needs and interests of economics honors students, under the direction of one of the members of the Department. Permission to register must be obtained from the Departmental Honors Committee.

598 Readings in Economics **1–3 hrs. Fall, Winter**

An independent program of study for qualified advanced students to be arranged in consultation with the instructor. Prerequisite: Consent of Head of Department.



English

David F. Sadler, Chairman

Phillip Adams
Elaine Albert
Harold Bahlke
Roseann Cacciola
Edward T. Callan
Bernadine Carlson
Norman Carlson
Janet Carroll
Joan Cattonar
James Combs
Sybil Combs
William Combs
Joseph Condic
Cecelia Conway
Clifford Davidson
Robert S. Davis
Philip Denenfeld
Kathleen Drzick
Ruth Falk
Philip F. Faustman
John Fritscher
Eugene Gabehart
Edward L. Galligan
Karen Gernant
C. J. Gianakaris
Clare Goldfarb
Russell Goldfarb
Carolyn Hadley
Maryellen Hains
Joe Hairston
John Halberstadt
Gordon L. Harper
Daniel Hendriksen
Clayton Holaday
Frank Householder
Theone Hughes
Wallace H. Johnson
William A. Johnston
G. Wayne Kilpatrick
Robert G. Lambert
Robert LaRue
Robert M. Limpus
Ken Macrorie
Janet MacKenzie
Jean Malmstrom
Ralph N. Miller
Elizabeth Moore
Gary R. Morgan
Jack Moyer
John Murphy
Arnold Nelson
John Orr
Robert Palmatier
Maisie Pearson
Lelane Perdue
John R. Phillips
David G. Pugh
Frederick J. Rogers
William Rosegrant
Albert Sampson
Mary Saunders
Helen Sellers
Pamela Sellers
Robert L. Shafer
Helen Sheridan
Thomas Small
Charles Smith
Kathleen Smith
William F. Smith, Jr.
Robert Stallman
Suzanne Stephens
Terry Stokes
John Stroupe
Anne Szalkowski
Maureen Taylor
John Turngren
Patricia VanderVoord
Norma VanRheenen
Constance Weaver
David Wikoff
John Woods

The study of English has a time-honored place in the university as a force to increase a student's sensitivity to art, to people, and to language. It is recognized also for its importance as a preparation for certain vocations.

The Department offers the student an opportunity to prepare himself for teaching, for graduate study, for the professions, and for the increasing number of positions which utilize the special skills and information of the liberal arts graduate. The Department wishes the student majoring in English to have an acquaintance with literary history, the relation of culture and literature, principles of the evaluation of literature, the history and structure of the language, and techniques of composition.

REQUIREMENTS FOR ENGLISH MAJORS AND MINORS

Major and minor slips are not required. However, all *majors* must, as soon as they decide to become majors, register in the English office.

Anyone wishing special information or advice should consult the appropriate Associate Chairman, either undergraduate or graduate.

English *majors* are required to have, as a minimum, one college year of a foreign language or its equivalent (at least two years of a language in high school). The department *recommends* as much beyond the minimum as a student can manage. Students planning to do graduate work beyond the M.A. ought to study at least two languages. French and German are most frequently required in graduate school.

Thirty hours is the *minimum* requirement for an English major. However, students are urged to take as many additional hours as they can. This recommendation pertains especially to students planning to attend graduate school.

Electives outside the English Department recommended to majors include courses in ancient, medieval, English, American, and intellectual history; various philosophy and religion courses including 344 Religious Quest in Modern Literature; Language 568 Mythology and 575 Greek Drama in Translation; speech and theatre courses.

All students proposing to take courses in English should be aware that written work must meet the Department's standard of competent writing.

ENGLISH MAJORS 30 hours required

General Curriculum and Liberal Arts

Required: Literary Interpretation (110), English Language (270), and Senior Seminar (499), plus electives to make 30 hours. 16 hours, including Senior Seminar, must be in 300, 400, or 500 level courses. One of the 300, 400, or 500 level courses must be chosen from among those courses indicated (*) on pages 317-318. These courses emphasize literature before 1900.

In addition to the specific required courses, the following courses are recommended, especially to students who might attend graduate school: a genre, comparative literature, or modern literature course; an American Literature course; Shakespeare (252); Age of Chaucer (531); and two additional period courses.

Secondary Education

Required: Literary Interpretation (110), English Language (270), an American Literature course (preferably Major American Writers, 322), and Senior Seminar (499), plus electives to make 30 hours. 16 hours, including Senior Seminar, must be in 300, 400, or 500 level courses. One of the 300, 400, or 500 level courses must be chosen from among those courses indicated (*) on pages 317-318. These courses emphasize literature before 1900.

Teaching of English 380 *does not count* toward the English major. However, since a methods course is required for certification, this course should be taken by all wishing to be certified to teach English in the secondary schools.

In addition to the required courses, the following courses are recommended, especially to students who might sometime attend graduate

school: a genre, comparative literature, or modern literature course; Shakespeare (252); two period courses, including Age of Chaucer (531); and Development of Modern English (372).

Two Speech courses, 210 Oral Interpretation and 220 Introduction to the Theatre, might be particularly useful to secondary school teachers and are recommended as general electives.

Elementary Education

Required: Literary Interpretation (110), English Language (270), Children's Literature (282), and Senior Seminar (499), plus electives to make 30 hours. 12 hours, including Senior Seminar, must be in 300, 400, or 500 level courses. One of these 300, 400, or 500 level courses must be chosen from among those courses indicated (*) on pages 317-318. These courses emphasize literature before 1900.

In addition to the required courses, the following courses are recommended as electives: American Literature and Culture (222); Development of the Drama (242) or Shakespeare (252); two period or major writer courses.

Elementary Education majors should not take Teaching of English 380.

Two Speech courses, 210 Oral Interpretation and 220 Introduction to the Theatre, might be particularly useful to elementary teachers and are recommended as general electives.

ENGLISH MINORS 20 hours required

General Curriculum and Liberal Arts

Required: Literary Interpretation (110), English Language (270), plus electives to make 20 hours.

Recommended as electives: Shakespeare (252); an American Literature course; a genre or period course.

Secondary Education

Required: Literary Interpretation (110), English Language (270), an American Literature course (preferably Major American Writers, 322), plus electives to make 20 hours.

Recommended as electives: Shakespeare (252); a genre or period course.

Teaching of English 380 *does not count* toward the English minor. However, students planning to teach English in the secondary schools would profit from the course.

Elementary Education

Required: Literary Interpretation (110), English Language (270), and Children's Literature (282), plus electives to make 20 hours.

Recommended as electives: American Literature and Culture (222); Development of the Drama (242) or Shakespeare (252).

Elementary Education students should not take teaching of English 380.

COMPARATIVE AND GENERAL LITERATURE

110 Literary Interpretation **4 hrs.**

An introduction to the study of literature, aimed at developing sensitivity and skill in the critical interpretation of poetry, drama, and prose fiction.

212 European Literature in Translation **4 hrs.**

Readings in European Literature, in translation, from the Greek period to the present, with emphasis on the comparative study of selected periods and authors. Prerequisite: 110.

410 Topics in English Literary History **4 hrs.**

A study in historical perspective of selected literary works. Prerequisite: 110.

519 Non-Western Literature in Translation **4 hrs.**

Studies of significant forms in Chinese, Indian, and other non-western literatures and of their relation to the values and patterns of a particular society.

NATIONAL LITERATURE

222 American Literature and Culture **4 hrs.**

A study of some of the recurrent themes in American life as seen in American literature. Prerequisite: 110.

322 Major American Writers **4 hrs.**

Intensive reading of representative works of major American writers. Prerequisite: 110.

***522 Movements in American Literature** **4 hrs.**

Study of a movement or movements in American Literature such as romanticism, realism, naturalism. Prerequisite: 110.

LITERARY PERIODS

238 20th Century Literature **4 hrs.**

Study of the most important American and British literature of the period between 1900 and the present. Prerequisite: 110.

***332 English Renaissance Literature** **4 hrs.**

Representative selections from the major writers of the period 1500-1660, by such writers as More, Spenser, Bacon, Donne, and Milton. Prerequisite: 110.

***530 Medieval Literature** **4 hrs.**

Readings in medieval drama, lyric, and narrative poetry, romances, and an introduction to Dante's *Divine Comedy*. All in translation. Prerequisite: 110.

***531 The Age of Chaucer** **4 hrs.**

Readings in the major works of Chaucer and other representative medieval authors. Prerequisite: 110.

***532 16th Century Literature** **4 hrs.**

Selections from the major works in both prose and verse, by such writers as Wyatt, More, Sidney, and Spenser. Prerequisite: 110.

***533 17th Century Literature** **4 hrs.**

Selections from the major works in both prose and verse from 1600 to the Restoration, by such writers as Bacon, Browne, the metaphysical poets, and Milton. Prerequisite: 110.

***534 Neo-Classical Literature** **4 hrs.**

English literature from the Restoration Period through Pope and Swift. Prerequisite: 110.

***535 18th Century Literature** **4 hrs.**

Readings in Johnson, Boswell, Goldsmith, Gray, Fielding, Sterne, and Smollett. Prerequisite: 110.

***536 Romantic Literature** **4 hrs.**

Readings in poetry and criticism, with emphasis on Blake, Burns, Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats. Prerequisite: 110.

***537 Victorian Literature** **4 hrs.**

Readings emphasizing Carlyle, Mill, Dickens, Thackery, Tennyson, Browning, and Arnold. Prerequisite: 110.

538 Modern Literature **4 hrs.**

Studies in the major authors of the 20th Century, with some attention to their precursors. Prerequisite: 110.

LITERARY TYPES

242 Development of the Drama **4 hrs.**

Studies in the development of the drama from the Classical Period to the present with emphasis on selected periods. Prerequisite: 110.

244 Development of the Novel **4 hrs.**

A study of the development and diversity of the novel as a literary form. Prerequisite: 110.

***340 Development of English Verse** **4 hrs.**

Studies in the development of poetic techniques, including major verse forms, and their relation to theories of poetry. Prerequisite: 110.

***543 Elizabethan and Jacobean Drama** **4 hrs.**

Studies in the non-Shakesperian drama in England during the Eliza-

bethan and Jacobean periods, by such dramatists as Kyd, Marlowe, Jonson, Webster, Tourneur, and Ford. Prerequisite: 110.

AUTHORS

252 Studies in Shakespeare **4 hrs.**

A study of Shakespeare's art through the application of several critical methods to selected tragedies, histories, and comedies. Prerequisite: 110.

555 Studies in the Art and Thought of Major Writers **4 hrs.**

Study of the works of individual writers of genius selected from either the classical writers, European writers, British writers, or American writers; taught by members of the Philosophy and English Departments. Prerequisite: 110.

WRITING

264 Journalism **4 hrs.**

Theory and practice of news gathering and news writing, copy editing, headline writing, news evaluation, page layout, and editorial writing.

265 Journalism Laboratory **1 hr.**

Regular practice in newspaper editorial department work on the staff of a university newspaper at Western Michigan University. May be repeated for credit. Prerequisite: 264 Journalism; or 264 may be taken concurrently.

Journalism Laboratory *does not count* toward an English major or minor.

362 Advanced Writing **4 hrs.**

Practice in writing articles, essays, biographical, and critical prose with emphasis on development of the student's individual style and elimination of obstacles to clear and vital expression.

366 Creative Writing **4 hrs.**

A beginning course in the writing of poetry, fiction, and drama.

566 Creative Writing Roundtable **4 hrs.**

An advanced course in the writing of poetry, fiction, and drama, with class criticism of each student's writing. The course may be taken again for credit, but only four hours may count towards an English major or minor.

LANGUAGE STUDY

270 English Language **4 hrs.**

Introduction to the principles which govern language study, with particular reference to their use in understanding English.

372 Development of Modern English **4 hrs.**

A course in the history of the language treating the historic and linguistic forces which have affected pronunciation, grammar, and vocabulary. Prerequisite: 270.

574 Linguistics for Teachers **4 hrs.**

An application of the concepts and procedures of structural and transformational linguistics to the teaching of language, literature, and composition in the English curriculum. Prerequisite: 270 or an introduction to linguistics course.

TEACHING

282 Children's Literature **4 hrs.**

A survey and analysis of the best that has been written for children or appropriated by them.

380 Teaching of English **4 hrs**

Materials, procedures, and problems of the junior and senior high school English teacher, including some initial experience in teaching a class. *Does not count* toward an English major or minor.

SPECIAL STUDIES

396 English Honors **4 hrs.**

Intensive study of selected literary topics. Open only to students in the English Honors Program.

397 English Honors **4 hrs.**

Continuation of 396.

496 English Honors **4 hrs.**

The writing of an Honors Essay on a topic selected by the student in consultation with the instructor.

499 Senior Seminar in English **4 hrs.**

Special studies in language and literature for senior English majors. The course may be taken a second time with full credit. Students should get permission in the English office well in advance of registration.

598 Readings in English **1–4 hrs.**

Individual reading project, available to advanced students by special permission from the appropriate departmental adviser (undergraduate or graduate) and the staff member who will supervise the study.

Geography

Albert H. Jackman, Head

David G. Dickason
Val L. Eichenlaub
Rainer R. Erhart
Harman G. Hart
Charles F. Heller
Oscar H. Horst
Eugene C. Kirchherr
David S. Mellander
F. Stanley Moore
Henry A. Raup
Anthony Redente
Eldor C. Quandt

CURRICULA FOR MAJORS AND MINORS

Students who plan to major or minor in geography should consult the departmental chairman as early as possible in their college careers.

A special Honors Program in Geography is open to students with excellent academic records. Information on this program is available in the departmental office in Wood Hall.

NON-TEACHING MAJOR

30 HOURS

225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	3 hrs.
380	Geography of Anglo-America	3 hrs.
560	Principles of Cartography	4 hrs.
566	Field Geography	4 hrs.
	Electives in geography chosen with consent of Counselor	12 hrs.
	Supporting required course: Geology 230	

NON-TEACHING MINOR

20 HOURS

225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	3 hrs.
380	Geography of Anglo-America	3 hrs.
	Electives in geography chosen with consent of Counselor	10 hrs.

ELEMENTARY EDUCATION MAJOR

30 HOURS

105	Physical Geography	4 hrs.
205	Introduction to Human Geography	3 hrs.

350	Principles of Conservation and Resource Management	3 hrs.
380	Geography of Anglo-America	3 hrs.
460	Instructional Methods in Geography	3 hrs.

(May be waived and another geography course substituted if 507, Teaching of Social Studies in the Elementary Schools ..... 2 hrs., is required in another sequence.)

Electives in geography chosen with the consent of the counselor will complete the total of 30 hours for the major.

One regional course from Group A and one from Group B will be included. (see page 325)

Supporting required course: Geology 112.

ELEMENTARY EDUCATION MINOR
22 HOURS

105	Physical Geography	4 hrs.
205	Introduction to Human Geography	3 hrs.
350	Principles of Conservation and Resource Management	3 hrs.
380	Geography of Anglo-America	3 hrs.
460	Instructional Methods in Geography	3 hrs.

(May be waived and another geography course substituted if 507, Teaching of Social Studies in the Elementary Schools ..... 2 hrs., is required in another sequence.)

One regional course will be elected from Group A and one from Group B. (see page 325)

SECONDARY EDUCATION MAJOR
32 HOURS

105	Physical Geography	4 hrs.
225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	3 hrs.
380	Geography of Anglo-America	3 hrs.
	or	
350	Principles of Conservation and Resource Management	3 hrs.
460	Instructional Methods in Geography	3 hrs.

(May be waived and another geography course substituted if 300, Teaching of Social Studies in the Secondary Schools ..... 3 hrs., is required in another sequence.)

Electives in geography chosen with consent of the counselor will complete the total of 32 hours for the Major.

Supporting required course: Geology 112.

SECONDARY EDUCATION MINOR
20 HOURS

105	Physical Geography	4 hrs.
225	Introduction to Meteorology and Climatology	4 hrs.

244 Economic Geography ..... 3 hrs.
380 Geography of Anglo-America ..... 3 hrs.
or
350 Principles of Conservation and Resource Management .... 3 hrs.
460 Instructional Methods in Geography ..... 3 hrs.
(May be waived and another geography course substituted if 300, Teaching of Social Studies in the Secondary Schools ..... 3 hrs., is required in another sequence.)

Science Credit

The Geography courses 105, 225, 226, 350, 560, 567, 568, 580, and 582 are acceptable for science credit in appropriate science sequences.

COURSES IN SYSTEMATIC GEOGRAPHY

105 Physical Geography **4 hrs. Fall, Winter**

(Sci. Credit) The study of several earth sciences which give an understanding of man's environment: the form of the earth, earth-sun relationships, maps, weather and climate, soils, vegetation, the oceans, landforms and earth materials. The significance of environmental factors in the life of man is stressed.

205 Introduction to Human Geography **3 hrs. Fall, Winter**

An introduction to those aspects of geography concerned with man and his efforts to cope with his environment. Included are population and settlement forms, the utilization of resources, the impact of technology on human occupance of the Earth, and the origin and dispersal of cultural elements among the various world realms.

215 Introduction to Geography **4 hrs.**

An introduction to systems and structures in the organization of earth-space. Man in his increasingly significant role as an agent in environmental systems is considered.

225 Introduction to Meteorology and Climatology **4 hrs. Fall, Winter**

(Sci. Credit) A non-mathematical analysis of systematic and regional atmospheric behavior. First part of course deals with fundamental physical laws affecting the elements of weather—temperature, moisture and humidity, pressure, and winds. Second part of course examines the distribution of various types of climates over the earth's surface, with particular emphasis on the interaction of geographic factors with the major atmospheric climatic controls, and upon the effects of various climates on the economic activities of man. Prerequisite: Geography 105 or consent.

226 Advanced Physical Geography **4 hrs. Fall**

(Sci. Credit) Intensive study of selected topics including the solar system and earth-sun relationships, time, ocean currents and tides, the measurement of the earth's surface, the distribution and relationship

of soils and vegetation, and current approaches to the interpretation of terrain features. Lecture and laboratory work will be supplemented by field investigation in the study of inter-relationships of elements of the physical environment. Three one-hour lectures and one two-hour laboratory. Prerequisites: Geography 105 or 225.

244 Economic Geography **3 hrs. Fall, Winter**

A survey of locational economic patterns and their interrelationships, including the study of spatial variation in economic development, primary production, energy generation, manufacturing, transportation, service occupations, and trade.

350 Principles of Conservation and Resource Management
3 hrs. Fall, Winter

(Sci. Credit) Critical evaluation of the major natural resources of the United States, particularly soils, water, forests, wildlife, and minerals; examination of the utilization of these resources so as to yield the maximum benefit to man. Emphasis is placed on principles, policies and issues in the management of natural resources.

540 Political Geography **3 hrs. Fall**

This course introduces the principles and concepts of political geography as they interact in the evolution of the modern political state. Geopolitical concepts such as boundaries and frontiers, the "organic" State, Geopolitik, and theories of global relationships are treated in some detail.

541 Geographic Foundations of National Power **3 hrs.**

In contrast to the principles and concepts treated in Geography 540, this course applies political geography to world power relationships; analyzes the components of national power in their physical and cultural relationships; concepts of autarky, national determinism, possibilism, and supranationalism will be studied.

543 Cultural Geography **3 hrs. Fall**

Techniques of spatial analysis applicable to the study of man and his adjustment to different environments. The place of origin, diffusion, and present distribution of selected cultural patterns will be traced with emphasis given to cultural traits which strongly influence human occupance of the earth's surface.

544 Agricultural Geography **3 hrs. Winter**

A course designed to acquaint the student with world patterns of farming activity. The first part of the course is concerned with the description and analysis of: (a) the distribution of major world crops and domestic animals, and (b) the most common combinations of crops and livestock on farm units. The second part of the course deals with the spatial organization of agriculture in certain selected areas.

546 Manufacturing and Transportation Geography **3 hrs. Winter**

The study of the world's dominant manufacturing types, individually and as they occur in association with one another and of the transportation systems that link material sources, manufacturers, and markets. Geography 244 or a course in Economics is recommended as preparation for this course.

556 Land Use Planning **3 hrs. Fall**

An examination of the philosophy and role of land-use planning at the national, regional, and local levels; study of those decisions involved in the establishment and design of long-range plans for land utilization, and methods of implementation.

570 Urban Geography **4 hrs. Winter**

The study of urban settlements as distinctive geographical units. Among the topics considered are (1) the historical geography of urbanization, (2) characteristics of urban forms in selected world regions, (3) approaches to the functional classification of cities, and (4) the analysis of land use patterns and transportation in the modern city and metropolitan region. Special assignments are designed to acquaint the student with source materials and field techniques utilized in urban research. Geography 244 or a background in geography or the social sciences is recommended as preparation for this course.

COURSES IN REGIONAL GEOGRAPHY

Group A Courses: 381, 382, 383, 384, 385

Group B Courses: 386, 387, 388, 389, 390

206 World Regional Geography **5 hrs. Fall, Winter**

A survey of world geography utilizing the tools of regional analysis in the study of major geographic realms

311 Geography of Michigan **3 hrs. Winter**

This course is primarily designed to provide teachers in geography with a full understanding of the distribution of population, resources, forms of economic activity, and recreational land use in the home state.

380 Geography of Anglo-America **3 hrs. Fall, Winter**

An introduction to the physical and cultural patterns of the United States and Canada.

381 Geography of South America **3 hrs. Fall**

Regional study of the nations of South America with attention to the interrelationships of the physical and cultural environments. Historical background necessary for the interpretation of the present political, social and economic conditions is included.

382 Geography of Middle America **3 hrs. Winter**

Systematic consideration of the physical environment of Mexico, Central America and the West Indies. A problems approach is utilized to reckon with the economic, social and political trends of the region.

383 Geography of Western and Southern Europe **3 hrs. Fall**

Intensive regional study of those Western European nations situated west of the Iron Curtain. The physical elements (climate, landforms, resources, etc.) are examined and the derivative cultural elements are identified. Emphasis is placed upon the social and economic activities of contemporary Western Europe.

384 Geography of U.S.S.R. and Eastern Europe **3 hrs. Winter**

Introduction to the physical, cultural and economic geography of the U.S.S.R. and Eastern Europe. The primary focus is the Soviet Union with an emphasis on the characteristic spatial patterns and relationships found within the country.

385 Geography of The Pacific Realm **3 hrs. Fall**

The human and physical geography of the South and Central Pacific with concentration on Australia, New Zealand, Fiji, and Polynesia.

386 Geography of Middle and South Africa **3 hrs. Fall, Winter**

General survey of the broad physical realms and the background of contemporary political geography in Africa south of the Sahara, followed by interpretive studies of the major regions and states based on an examination of population distribution, the characteristics of subsistence and commercial agriculture, the availability of power and mineral resources, patterns of transportation, and current programs for regional development.

387 Geography of Middle East and North Africa
3 hrs. Fall, Winter

Study of the diversity and uniformity—both physical and cultural—of the Middle East and Africa north of (and including) the Sahara. Special attention is given to aridity problem, economic development, petroleum, Arab re-unification movements, and the impact of the Muslim World on the current political scene.

388 Geography of East Asia **3 hrs. Fall**

Study of selected physical and cultural environments of the Far East (China, Korea, Mongolia, and Japan). Characteristics and inter-relationships of population growth, the development of the agrarian base and the utilization of industrial resources are examined in view of evolving political and cultural patterns.

389 Geography of Southeast Asia **3 hrs. Winter**

Study of selected physical and cultural environments of mainland and island Southeast Asia. Characteristics and inter-relationships of popu-

lation growth, the development of the agrarian base and the utilization of industrial resources are examined in view of evolving political and cultural patterns.

390 Geography of South Asia **3 hrs. Winter**

Study of selected physical and cultural environments of mainland South Asia (India, Pakistan, Ceylon and the Himalayan countries). Characteristics and inter-relationships of population growth, the development of agrarian base and the utilization of industrial resources are examined in view of evolving political and cultural patterns.

542 Historical Geography of North America **3 hrs. Fall, Winter**

A study of environmental, economic, and cultural factors as they combined to influence routes of exploration and trade, settlement patterns, regional economies, and sectional identities in North America.

COURSES IN GEOGRAPHIC METHODOLOGY AND RESEARCH

460 Instructional Methods in Geography **3 hrs. Fall, Winter**

Study of objectives, tools, organization and presentation of material, methods of evaluation, and scrutiny of textual material in the field of geography. Prerequisite: 10 semester hours in geography.

560 Principles of Cartography **4 hrs. Fall, Winter**

(Sci. Credit) Introduction to map construction with primary emphasis on the conceptual planning and designing of maps as a medium for communication and research. Lectures are supplemented by laboratory assignments to familiarize student with drafting techniques, lettering and symbolization, the concept of scale and scale transformations, map layout and design, processes of map reproduction, the employment and construction of projections, and the compilation procedures and execution of choropleth and dot maps. Two one-hour lectures and two two-hour laboratory periods.

566 Field Geography **4 hrs. Fall**

The theory and application of geographic techniques in field investigations; collection and analysis of field data; preparation and presentation of materials. The course is based primarily upon field observations. Prerequisite: Geography 560 or consent.

567 Field Mapping and Mensuration Techniques **3 hrs.**

An introduction to the practical methods by which accurate, large-scale maps are constructed. Students are taught to determine the location of points in terms of distance and direction from other points by use of: the pace-and-compass method, chaining and plane tabling with open-sight and telescopic alidades. Additional environmental information is added to the map, at points, by determining altitude, slope of the land surface and hydrographic characteristics. Methods of sampling other continuous phenomena such as soils and vegetation are introduced.

568 Quantitative Methodology in Geography **3 hrs. Fall**

(Sci. Credit) The application of quantitative concepts and methods to the solution of geographic problems. Critical review of research in quantitative geography ranging from the use of common statistical techniques to method of model formulation in the analysis of spatial interaction. A course in statistics is a desirable preparation for this course.

580 Advanced Cartography **3 hrs. Winter**

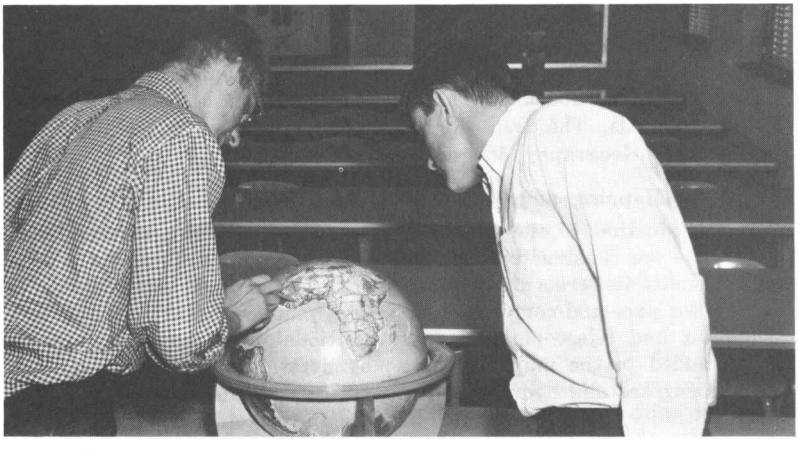
(Sci. Credit) Study of the more complex map projections, the compilation of data and the design of maps and graphs for research papers, and the application of statistical techniques in mapping geographic phenomena. Students are assigned special problems to develop their proficiency in the use of cartography as a tool in research. One hour lecture and 2 two-hour labs. Prerequisite: Geography 560 or consent.

582 Aerial Photograph Interpretation **3 hrs. Fall, Winter**

(Sci. Credit) The student will acquire proficiency in the fundamental techniques and skills of photogrammetry and photo-interpretation during the first part of the course. The remainder of the semester will be spent in interpreting photos dealing with such topics as geomorphology, archaeology, vegetation and soils, water resource, rural and urban land use, as well as topics adapted to the interest and anticipated future work of the student.

598 Readings in Geography **1–3 hrs. Fall, Winter**

Designed for highly qualified majors and graduate students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Consent of departmental adviser and instructor.



Geology

Lloyd J. Schmaltz, Head

Richard A. Davis, Jr.
W. David Kuenzi
Richard V. McGehee
Richard Passero
Karl A. Riggs

GEOLOGY MAJOR (29-30 HOURS)

Required Courses

Physical Geology 230	4
Historical Geology 231	4
Mineralogy and Optical Mineralogy 335	4
Petrology and Petrography 336	4
Structural Geology 430	3
Invertebrate Paleontology 533	4
Elementary Field Geology 539	3

Plus at least 1 additional course in geology chosen with advice and consent of counselor. A minimum of a "C" is required in each of the required courses. Seniors must attend Geology 460 (Senior Seminar) for two semesters.

Supporting required courses: Chemistry 100 or 102 (for students with a high school chemistry background), and 120; Physics 110 and 111; Biology 100 and 101 or 107 and 101; and Mathematics 122 and 123. Some modification of these requirements may be made in consultation with the student's departmental counselor. In addition, at least one year of foreign language (German, French, or Russian), and a summer field course in geology are recommended. Students electing to minor in chemistry as a supporting minor should take Chemistry 100 or 102, 120, 222 and 530.

GEOLOGY MINOR (MINIMUM 18 HOURS)

The geology minor is designed as a supporting minor for students preparing to do professional work in the fields of chemistry, physics, engineering, zoology, botany, and geography. It cannot be combined with earth science as a major-minor or double minor relationship.

Required Courses

Physical Geology 230	4
Historical Geology 231	4
Mineralogy and Optical Mineralogy 335	4
Petrology and Petrog. 336	4
Invertebrate Paleontology 533	4
or	
Minerals and Rocks 301	3
Invertebrate Paleontology 533	4
Plus 3 additional hours in Geology	3

Course substitution from other geology offerings can be made with the consent of counselor (e.g., a geography major might elect economic geology and geomorphology).

MAJOR OR MINOR IN EARTH SCIENCE

Major (30 hours) Required Courses		Minor (21 hours) Required Courses	
Astronomy 104	4	Astronomy 104	4
Introduction to Meteorology and Climatology 225	4	Introduction to Meteorology and Climatology 225	4
Physical Geology 230	4	Physical Geology 230	4
Historical Geology 231	4	Historical Geology 231	4
Minerals and Rocks 301	3	Oceanography 538	3
Life of the Geologic Past 310	3	Teaching of Earth Science 507	2
or			
Invertebrate Paleontology 533	4		
Oceanography 538	3		
Elementary Field Geology 539	3		
Teaching of Earth Science 507	2		

COURSE DESCRIPTIONS

112 Geological Science (See General Studies) **4 hrs. Fall, Winter**

An introduction to physical and historical geology for students who do not plan to major or minor in geology or earth science. The importance to man of minerals and rocks, geologic processes, and the history of the earth including the evolution of past life are emphasized. Three lectures and a two-hour laboratory period.

230 Physical Geology **4 hrs. Fall, Winter**

A study of the common rocks and minerals and the geologic processes acting upon these materials that form the structure and surface features of the earth. Three lectures and a two-hour laboratory period.

231 Historical Geology **4 hrs. Fall, Winter**

Study of major changes in the elevation, size, and form of the continents through geologic time, and the evolution of plant and animal life. Geologic development of North America is emphasized. Three lectures and a two-hour laboratory. Prerequisite Geology 230 or consent.

301 Minerals and Rocks **3 hrs. Winter**

A one semester course covering hand specimen mineralogy and petrology; includes introduction to crystallography, physical and chemical properties of minerals, and rock description and genesis. Will not count toward a major in geology. Prerequisite: Geology 230 or 112.

310 Life of the Geologic Past **3 hrs. Fall**

Study of the progressive development of plant and animal life as illustrated by fossils. The evolution of life is related to changes of physical environment in North America through geologic time. Two lectures and one two-hour lab. Prerequisites: Geology 112 or 231.

335 Mineralogy and Optical Mineralogy **4 hrs. Fall**

Introduction to crystallography, crystal chemistry, and optical mineralogy. Physical and chemical properties, occurrence, uses and determination of about 80 minerals. Lecture 3 hours a week. Laboratory 4 hours a week. Prerequisites: Geology 112 or 230 and General Chemistry or consent of instructor.

336 Petrology and Petrography **4 hrs. Winter**

Classification, origin, and description of igneous, sedimentary, and metamorphic rocks. Laboratory study of rocks and thin sections. Lecture 3 hours a week. Laboratory 4 hours a week. Prerequisite: Geology 335.

430 Structural Geology **3 hrs. Fall**

Development of rock structures and mechanics of rock deformation. Structural interpretation of geologic maps, cross-sections, and aerial photographs. Lecture 2 hours a week. Laboratory 2 hours a week. Prerequisites: Geology 231 and 336, or consent of instructor.

432 Economic Geology **3 hrs. Fall, Winter**

Origin, occurrence, and utilization of metallic and non-metallic mineral deposits, mineral fuels, and water. Lecture 3 hours a week. Prerequisite: Geology 335, or consent of instructor.

434 Problems in Geology **2 hrs. Fall, Winter**

Intensive reading and research on a topic in geology under the direction of a member of the geology faculty. Prerequisite: 16 hours in Geology and permission of instructor.

460 Senior Seminar in Geology **1 hr. Fall, Winter**

A seminar designed to provide senior students with the opportunity to examine and discuss important topics in geology. Oral presentations are required. Senior geology majors are required to elect this course for two semesters for one credit hour. Prerequisite: Senior standing in geology.

502 Special Problems in Earth Science **1–2 hrs. Fall, Winter**

Individual problems involving topical reading and/or research problems in the earth sciences. May be repeated for credit. Prerequisite: Consent of instructor.

507 Teaching of Earth Science **2 hrs. Fall**

Philosophy, objectives, and methods of teaching secondary school earth science. Designed for earth science majors and minors. One hour lecture and two hours of lab. Prerequisite: 16 hours of Earth Science or consent.

532 Geomorphology **3 hrs. Winter**

A systematic study of the development of land forms as created by the processes of vulcanism, gradation, and diastrophism with inter-

pretation of topographic and geologic maps, and aerial photographs. Prerequisite: Geology 112 and consent or 231.

533 Invertebrate Paleontology **4 hrs. Fall**

Morphology, classification, evolution, and stratigraphic distribution of major invertebrate fossil groups. Three lectures and a three-hour laboratory. Prerequisite: Geology 231 or consent.

534 Vertebrate Paleontology **4 hrs. Winter**

Comparative morphology, classification, stratigraphic distribution, and evolution of fossil fish, amphibians, reptiles, mammals, and birds. Three lectures and a three hour laboratory per week. Prerequisite: Geology 231 or consent.

535 Stratigraphy and Sedimentation **4 hrs. Winter**

Principles of stratigraphy and sedimentation including correlation, facies, stratigraphic nomenclature, and sedimentary petrology, processes and environments. Three lectures and three hour laboratory. Prerequisite: Geology 231 and consent.

536 Glacial Geology **3 hrs. Winter**

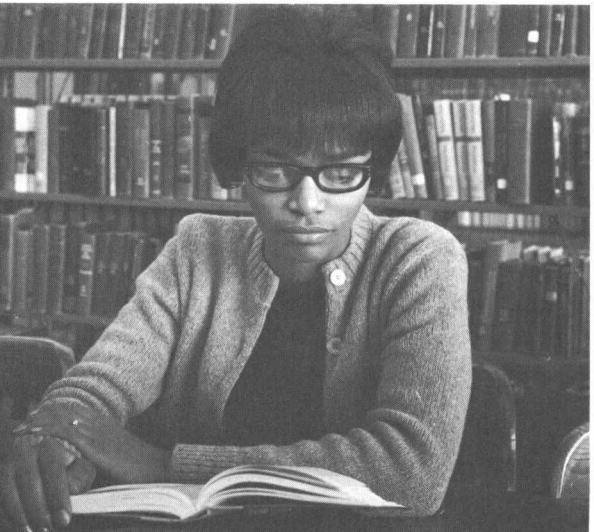
A study of the mechanics of glacier movement, processes of glacial erosion and deposition, and the distribution of glacial features in space and time. Special emphasis will be placed on the glacial geology of the Great Lakes area. Prerequisite: Geology 231 and consent of instructor.

538 Oceanography **3 hrs. Fall, Winter**

Survey of oceanographic sciences including physical, chemical, biological, and geological oceanography. Lecture 3 hours a week. Prerequisite: Geology 112 and consent of instructor, or 231.

539 Elementary Field Geology **3 hrs.**

Field studies of rocks, structures, and land forms. Areas of geologic interest in the Great Lakes region are studied. Prerequisite: Geology 336 or 301.



History

Ernst A. Breisach, Chairman

George T. Beech
Jozette W. Benson
Alan S. Brown
Walter J. Brunhumer
Richard T. Burke
Albert E. Castel
Sherwood S. Cordier
Ronald W. Davis
George Demetrakopoulos
Willis F. Dunbar
Edward O. Elsasser
Robert W. Gordon
Ross Gregory
Robert J. Hahn
H. Nicholas Hamner
Graham P. Hawks
John T. Houdek
John H. Jefferies, Jr.
Chafic Khaled
Margaret B. Macmillan
Paul L. Maier
A. Edythe Mange
Gilbert W. Morell
Howard A. Mowen
John E. Muendel
Andrew C. Nahm
Emanuel Nodel
Dale P. Pattison
Mark D. Rhines
Peter Schmitt
Chris Siehl
John R. Sommerfeldt
Charles R. Starring
Jing-shen Tao
John Yzenbaard

MAJORS AND MINORS IN HISTORY

Students planning to major or minor in History should declare their intentions with the Department as early as possible in their college career, preferably before the end of their third semester. Transfer students should so do soon after they are enrolled. The prospective major or minor should call at the Department Office (1420 Sangren Hall), obtain a personal data form, fill it out and arrange for an interview with the Department's Administrative Assistant.

REQUIREMENTS FOR THE MAJOR

1. The following four basic courses or their equivalents:

   (a) Western Civilization (General Studies 100 and 101). For transfer students, two semesters of European history will be accepted as equivalent.

   (b) United States History 210 and 211.

2. Advanced courses: A total of five courses numbered 299 or above. Of the five, two must be in the 500-series. One course must be selected from each of the following fields:

   (a) Advanced United States, British, Canadian, or Michigan history.

   (b) Ancient, medieval, or modern European history.

   (c) African, Asian, East European, Latin American, or Russo-Soviet history.

3. Earn an average of "C" or better for all courses counted towards the major, and a grade of "C" or better for all courses numbered 299 and above counted towards the major.

Students in the education curricula are reminded that they must have a 30 hour major in order to fulfill teacher certification requirements.

REQUIREMENTS FOR THE MINOR

1. The same four basic courses required for the major.
2. A total of three advanced courses numbered 299 or above.
3. Earn an average of "C" or better for all courses counted towards the minor, and a grade of "C" or better for all courses numbered 299 and above counted towards the minor.

RECOMMENDED COGNATES

There are no required cognate courses, but since the academic discipline of History is closely allied with the social sciences and humanities, majors and minors are urged to elect courses in the following areas: Anthropology, Art history, Economics, English, Geography, Philosophy, Political Science, Religion and Sociology. Students planning to do graduate work in History are strongly advised to elect two years of a foreign language.

Students planning to teach History in the secondary school are urged to elect Social Science 300, and those planning to teach in the elementary school are urged to elect Social Science 507. Credit earned in these courses cannot be counted towards a major or minor.

HONORS PROGRAM

The Honors Program in History provides an opportunity for qualified students to earn the Bachelor's degree with Honors in History. To be eligible for the Program, a student must have completed at least three semesters, attained a 3.3 grade point average in all history courses taken at the college level, and declared himself a History major.

Each honors student in History is expected to complete courses 390, 470, 598, to fulfill all the regular requirements for a History major, and earn a 3.5 grade point average for all courses counted towards the major.

BASIC COURSES

100 Early Western Civilization (to 1648) **4 hrs.**

For description, see Division of General Studies.

101 Modern Western Civilization (since 1648) **4 hrs.**

For description, see Division of General Studies.

210 The United States to 1877 **3 hrs.**

A mature approach to American history from colonial beginnings to the end of the Reconstruction.

211 The United States since 1877 **3 hrs.**

A mature approach to American history since Reconstruction.

SURVEY COURSES (Courses dealing with major chronological periods or extensive areas)

310 History of Michigan **3 hrs.**

The development of Michigan from a primitive wilderness to an industrial state, with emphasis on the relation of the history of the state to that of the nation.

312 Representative Americans **3 hrs.**

Reading and discussion of biographies of representative Americans from the fields of business, science, education, politics, diplomacy and the arts.

316 Economic History of the United States **3 hrs.**

A study of American economic life and institutions from the Colonial period to the present. Among the topic considered are the shifting status of agriculture and labor, the impact of transportation improvements, banking, and war, with emphasis on the role of government, the development of industry and its consequences, and the impact of non-economic forces.

340 Russia to 1917 **3 hrs.**

Political, economic, and cultural development of Russia in the Kievan, Muscovite, and Imperial periods.

341 The Soviet Union **3 hrs.**

The development of the Union of Soviet Socialist Republics from the Russian Revolution of 1917 to the present.

342 Great Britain and the British Empire **3 hrs.**

A survey of British history from about 1500 to 1815.

343 Great Britain and the British Commonwealth **3 hrs.**

Great Britain since 1815 and the evolution of the British Commonwealth of Nations.

344 Eastern Europe **3 hrs.**

Social, political, and economic developments in Albania, Czechoslovakia, Hungary, Poland, Rumania, and Yugoslavia from the 10th Century A.D. to the present.

345 The Baltic Region **3 hrs.**

The history of the Estonians, Finns, Latvians, and Lithuanians from the earliest times to the present.

346 German History since the Enlightenment **3 hrs.**

The significant interaction of the Central European region and the rest of Europe. Major developments in Germany's political and social experiences and its creative thought and expression.

349 The Ancient Near East **3 hrs.**

A cultural study of archaeology, early man, and the ancient civilizations of the Sumerians, Babylonians, Egyptians, Hittites, Phoenicians, Hebrews, Assyrians, and Persions.

350 Ancient Greece **3 hrs.**

Aegean civilization, the Homeric Age, Athenian and Spartan civilizations, Hellenism, and the achievement and cultural legacy of the Greeks.

351 Ancient Rome **3 hrs.**

The rise and fall of the Roman Republic and Roman Empire; Roman civilization, culture, and the rise of the Christian church.

352 Early Medieval History **3 hrs.**

The genesis of European civilization from the fall of Rome to the 12th century, and the evolution of medieval institutions.

353 Later Medieval History **3 hrs.**

The flowering of medieval civilization, followed by the break-up of medieval unity in the Renaissance, with emphasis on medieval ideas and institutions.

370 Colonial Latin America **3 hrs.**

A survey of pre-Colombian America and its conquest by the Iberians, together with a review of human and institutional development to 1825.

371 Latin American Republics **3 hrs.**

A survey of the distinguishing characteristics of the Latin American area since 1825, together with an intensive historical survey of selected nations.

380 The Early Far East **3 hrs.**

A survey of pre-modern cultures of China, Korea, and Japan; the political, economic, social, and cultural development of these countries from pre-historic times to about 1600 A.D.

381 The Modern Far East **3 hrs.**

Changes which have occurred in the Far East since the arrival of Western Civilization; the impact of the rise of Asian nationalism, Japanese imperialism, and communism in China.

HONORS AND INDEPENDENT STUDY COURSES

390 Introduction to the Study of History **2 hrs.**

The history, methods, and philosophy of historical studies. Analysis

of the role of history among the disciplines studying man. This course is designed for students planning to work for Honors in History.

470 Independent Research in History **2–3 hrs.**

Research on some selected period or topic under the supervision of a member of the History faculty. Approval of instructor involved and chairman of the Department Honors Committee must be secured in advance of registration.

598 Independent Reading in History **2–3 hrs.**

Reading on some selected period or topic under the supervision of a member of the History faculty. Approval of the instructor involved and chairman of the Department Honors Committee must be secured in advance of registration.

ADVANCED COURSES (Courses dealing with a restricted chronological period or special phase of history)

I. INTELLECTUAL HISTORY

506 Intellectual History of Western Man to 1500 **3 hrs.**

A study of the leading ideas and intellectual movements in Western civilization from the earliest times to about 1500.

507 Intellectual History of Western Man since 1500 **3 hrs.**

Modes of thought and expression characteristic of the Renaissance and the Reformation; the scientific revolution of the 17th century; classicism and the baroque in literature and the arts; the 18th-century Enlightenment; 19th-century romanticism, liberalism, nationalism, materialism and socialism; formation and leading features of the contemporary world view.

508 American Intellectual History to 1890 **3 hrs.**

The development of American thought from colonial times to 1890. Major themes in the American experience as illustrated by philosophers, theologians, educators, political scientists, and economists, and by trends in the fine arts.

509 American Intellectual History since 1890 **3 hrs.**

Major developments in American intellectual life from 1890 to the present. Reactions to urbanization and to the emergence of the United States as a world power.

II. UNITED STATES HISTORY

511 Historical Museums Workshop **3 hrs.**

Lectures, demonstrations, field trips, reading, discussion, and work experiences in museum theory and techniques. Prerequisite: a college course in American or Michigan History.

514 History of the Negro in American Life **3 hrs.**

A survey of the history of the Negro in the United States from colonial times to the present.

515 Social History of American Art and Architecture **2–3 hrs.**

Art and Architecture as aids to understanding American thought and life. Colonial aspirations, the development of national identity and contemporary movements in the arts are placed in historical perspective. Significant trends in artistic expression as related to Jeffersonian thought, the frontier experience, industrialism, and urbanization.

516 Constitutional History of the U.S. to 1877 **3 hrs.**

The development of constitutional theory and practice, with emphasis on the establishment of the governmental system and federal-state relations.

517 Constitutional History of the U.S. since 1877 **3 hrs.**

The development of constitutional theory and practice since 1877, with emphasis on federal regulation of the economy and civil rights.

518 History of United States Foreign Relations **3 hrs.**

The formation and evolution of United States foreign policy and foreign relations from the beginnings of the republic to the present.

520 Colonial America **3 hrs.**

The American colonies: imperial foundations, political, economic, and cultural developments to 1763.

521 Era of the American Revolution, 1763-1789 **3 hrs.**

The causes, character, and consequences of the American Revolution.

522 The Early National Period, 1789-1848 **3 hrs.**

The establishment of the national government; political, social, and cultural development; Jacksonian democracy; westward expansion.

524 The Civil War and Reconstruction **3 hrs.**

Causes and course of the Civil War; its significance and aftermath.

532 From Reconstruction to the Great Depression, 1877-1929 **4 hrs.**

An intensive study of industrialism and urbanization, overseas expansion, progressivism, World War I, the 1920's, and the causes of the Great Depression.

533 Recent U.S. History, 1929 to the Present **4 hrs.**

The New Deal, the coming of World War II and the impact of the war; America's role in the post-war world.

III. HISTORY OF EUROPEAN NATIONS

535 Medieval England **3 hrs.**

English history from the 5th to the 15th centuries, with emphasis on governmental, religious, economic, and social institutions.

536 Tudor-Stuart England **3 hrs.**

The history of England during the reigns of the Tudors and the Stuarts, 1485-1714.

537 Hanoverian England **3 hrs.**

Britain during the reigns of the Hanoverian kings, 1714-1837.

538 Victorian England **3 hrs.**

The character of Victorian England and its impact on the world.

539 Twentieth-Century Britain **3 hrs.**

British development since 1900 and the changing character of the Empire and Commonwealth.

540 Social and Cultural History of Tsarist Russia **3 hrs.**

Significant intellectual currents in 18th- and 19th-century Russia, with emphasis on the relationship between ideas and society.

541 The U.S.S.R. in World Affairs **3 hrs.**

The ideological, psychological, political, and economic factors in the evolution of Soviet foreign policy with respect to individual countries, international problems, and outer space.

542 Social and Cultural History of the U.S.S.R. **3 hrs.**

The history of the principal ethnic groups of the U.S.S.R., Soviet policy towards these groups, and the extent of their assimilation into Soviet Society.

IV. EUROPEAN HISTORY

551 Imperial Rome, 30 B.C.-70 A.D. **3 hrs.**

A study in depth of Roman politics and culture from the close of the Republican period through the Julio-Claudian Empire.

552 The Medieval Church **3 hrs.**

The impact on Christianity of classical culture, and the barbarian invasions; the church and feudalism; church-state relations; the rise and fall of papal theocracy, scholasticism, and mysticism.

553 Medieval Social and Economic History **3 hrs.**

A study of the development of medieval social classes and rural and urban economy from the fall of the Roman Empire to the 15th century. Special attention will be given to feudalism, the manorial system, and the rise of towns, commerce, and business institutions.

554 The Renaissance **3 hrs.**

A survey of man's endeavors in politics, thought, art and literature in Renaissance Europe.

555 The Reformation **3 hrs.**

The break-up of the Medieval church and its significance.

557 Seventeenth-Century Europe **3 hrs.**

The Thirty Years War and the shifting of power relationships; colonial enterprise and colonialism; absolutism; the rise of science; the baroque spirit.

558 Eighteenth-Century Europe **3 hrs.**

Social structure and economic development in the period; domestic politics and international relations; currents in religion and the arts; and the Enlightenment.

559 The French Revolution and Napoleon **3 hrs.**

Theories respecting the French and Atlantic Revolutions and the nature of revolution; the 18th-century background; the moderate and radical phases of the Revolution proper; the rise and fall of the Napoleonic Empire.

560 Nineteenth-Century Europe **4 hrs.**

The reaction following the Napoleonic wars; revolutions in behalf of liberalism and nationalism; the emergence of new states; the growth of nationalism and liberalism.

562 Europe, 1914-1945 **3 hrs.**

The origins and nature of World Wars I and II; the Great Depression; the rise of Fascism, Nazism, and Communism.

563 Europe since 1945 **3 hrs.**

The recovery of Europe from World War II; the movement towards European unity; the Cold War; NATO and the defense of free Europe.

V. LATIN AMERICA AND CANADA

571 History of Mexico **3 hrs.**

The evolution of Mexico since 1810, with particular emphasis on the continuing influence of significant institutions, concepts, and individuals.

572 History of the Plata Region **3 hrs.**

A study of the social, economic, and institutional evolution of a significant politico-geographic region of Latin America.

575 Canadian History **4 hrs.**

A survey of Canadian history from the time of the first French settlements to the present, with emphasis on Canada's political and economic development since Confederation.

VI. THE FAR EAST AND AFRICA

580 Early China **3 hrs.**

The history of China to the Western inroads in the 19th century, and a survey of the development of Chinese civilization and its influence on other Asiatic countries.

581 Modern China **3 hrs.**

The impact of the West on China; the Nationalist Revolution; relations with Japan, Russia, and the United States; the transition from the Republic to the communist regime; and Communist China today.

582 Japan to 1853 **3 hrs.**

A study of political, economic, social, and cultural history of traditional Japan up to the "opening" of Japan to the West.

583 Japan since 1853 **3 hrs.**

The "opening" of Japan to the West; the rise of modern Japan; nationalism, militarism, and colonialism; the Allied occupation; domestic and foreign affairs since 1952.

584 Modern Korea **3 hrs.**

The last stage of the Yi dynasty; Korea's struggle against foreign powers; the era of Japanese rule; Korea's independence and the emergence of two Koreas.

585 Southeast Asia in the Twentieth Century **3 hrs.**

Nationalism in southeast Asia and the struggle against Western colonialism; the rise of social and economic revolutions; problems of independence and modernization in the newly emerging nations of the region.

587 Pre-colonial Sub-Saharan Africa **3 hrs.**

588 Twentieth-Century Africa **3 hrs.**

VII. GENERAL COURSES

592 The Literature of History **2 hrs.**

Selected writings of great historians, with the purpose of evaluating different approaches to history, the use of sources, the handling of controversial matters, and developing appreciation of good history.

593 The Philosophy of History **2 hrs.**

An inquiry into the conscious and unconscious attitudes towards history, which, when systematized, are philosophies of history. The thought and positions of Greek and Roman thinkers as well as St. Augustine, Marx, Spengler, Toynbee, and the existentialists.

594 Problems in Modern Warfare **3 hrs.**

Selected topics in the history of warfare from the 17th century to the present. Topics for each semester will appear in the schedule of classes.

SERVICE COURSES (Courses designed especially for students in the education curricula)

569 Background for Recent European History **2 hrs.**

For seniors and graduate students not majoring in History. The movement towards European unity; the Cold War; currents of contemporary thought; economic developments; changing political and cultural patterns.

School of Liberal Arts and Sciences

Modern and Classical Languages

Clifford J. Gallant, Chairman

Helle Ajango
Charles A. Alberro
Elsa Alvarez
Elva Calmette
Mercedes Cardenas
Victor C. Coutant
Roger L. Cole
Benjamin Ebling
Marie Louise Frey
Elizabeth Giedeman
Paule Hammack
Herb Jones
John Lawson
Hans-Manfred Ledig
Anne Maier
Lois Monroe
Frances Noble
Genevieve Orr
George Osmun
Barbara Paradis
Hermann E. Rothfus
James L. Semelroth
Alexander R. Sohodski
Irene Storoshenko
Lindsey Wilhite
James L. Wilson

GENERAL

Essential for communication, useful or necessary in various technical and professional areas, the study of languages and literature as manifestation of a culture makes cultural heritage meaningful and contributes to a broader grasp of contemporary society.

For students majoring or minoring in a modern foreign language a course in modern European history is desirable. For Latin majors and minors a course in Roman history is recommended. A student may apply up to seven credits toward a Latin major from any three of the following courses: **Classical Drama in Translation, Mythology,** Greek 100-101. Both Greek 100 and 101 must be taken in order to apply four credits toward the Latin major. English majors are encouraged to take as much beyond the minimum in a foreign language as they can handle.

No credit will be given for a 100-course unless the 101-course is also completed.

All in-coming students (freshmen or upper classmen) who wish to continue in a language they have studied in high school must take a placement examination. The examination is given prior to each registration period and scores are posted in time for counseling. Native speakers of a given language must consult with a departmental adviser before registering for courses up through the 300 level. A student planning a language major should consult with a departmental adviser as early as possible and obtain a recommendation form to insure proper planning and avoid subsequent difficulties.

The undergraduate major consists of a minimum of 30 credit hours to include at least two 500-level courses (minimum of 20 credit hours for an undergraduate minor) beyond the 100-level (basic) or equivalent of the languages offered by the Department to include the following requirements (all majors and minors follow these course patterns in the appropriate language or languages):

French major
Thirty hours beyond 100-level to include a selection of 6 hours from this group: 316-317-320-322 and two 500 level courses.

German major
Thirty hours beyond 100-level to include 316-317 and two 500 level courses.

Latin major
Thirty hours beyond the 100-level with courses selected from the 200-500-series. Teaching majors must include 552 and 557.

Russian major
Thirty hours beyond the 100-level to include section 316.

Spanish major
Thirty hours beyond the 100-level to include 316-317 and two 500 level courses.

French minor
Twenty hours beyond 100-level to include a selection of 3 hours from this group: 316-317-320-322.

German minor
Twenty hours beyond 100-level to include a selection of 3 hours from this group: 316-317.

Latin minor
Twenty hours beyond the 100-level with courses selected from the 200-500-series. Teaching minors may include 552 and/or 557.

Russian minor
Twenty hours beyond the 100-level to include section 316.

Spanish minor
Twenty hours beyond the 100-level to include a selection of 5 hours from the group 316-317.

Teaching certification is approved for majors or minors in both secondary and elementary education for the following languages: French, German, Latin (secondary only), Russian, and Spanish.

A language methods course is required for all teaching majors in the modern languages and Latin (557 is required for Latin majors). Exceptions to the patterns may be granted only by Departmental permission.

For details concerning additional graduate offerings and the Master's Degree in Language (in French, German, Latin or Spanish) consult the current Bulletin of the School of Graduate Studies.

For courses in Independent Study, consult listings under the individual language concerned.

FOREIGN CREDITS

Credit for language study at a foreign university may be granted on official proof that the student has completed his course work successfully. For courses where no examinations or grades are given, the student may be recommended for appropriate credit upon his return to Western on the basis of papers, colloquies, or comparable work to be determined by the department.

HONORS COURSES

400–401 Language Honors **4 hours each**

A special program designed for selected students of Language. Departmental permission required for admission. Each course carries four hours credit; although both semesters, totaling eight hours, are required to complete the program, the courses need not be taken in sequence.

CRITICAL LANGUAGES

500 Basic Serbo-Croation **4 hours**

An intensive elementary course with emphasis on oral production and comprehension including reading and writing. Registration by "C" card only.

LANGUAGE TEACHING COURSES

Language 558 (French), or (German), or (Spanish), or (other language) Modern Language Instruction

Required for modern language teaching majors; recommended for teaching minors. The principles underlying language learning and teaching methodology are treated, with particular attention to the audiolingual method of instruction. Emphasis is placed on practical problems encountered by the language teacher. Preferably, students should complete this course before beginning directed teaching.

Courses in the various languages will be offered regularly.

The comparable methods course for Latin, 557 Teaching of Latin, is described under Latin offerings.

FRENCH

100 Basic French **4 hrs. Fall, Winter**

Fundamentals of French with audiolingual emphasis. French cultural readings. No prerequisite.

101 Basic French **4 hrs. Winter**

Continuation of 100. Prerequisite: French 100 or equivalent.

200 Intermediate French **4 hrs. Fall**

Level two French. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: 101, two years of high school French, or equivalent.

201 Intermediate French **4 hrs. Winter**

Continuation of 200. Prerequisite: French 200 or equivalent.

316 French Composition **3 hrs. Fall, Winter**

Emphasis upon increasing the student's command of written French. Prerequisite: French 201 or equivalent.

317 French Conversation **3 hrs. Fall, Winter**

Exercises to develop ease and accuracy in the use of everyday French. Emphasis on oral aspects of the language. Prerequisite: French 201 or equivalent.

320 French Phonetics **3 hrs. Fall**

Study and practice to correct typical difficulties encountered by students of French with Anglo-American patterns of pronunciation; also to study the teaching of French patterns. Prerequisite: French 201 or equivalent.

322 French Civilization **3 hrs. Fall, Winter**

A study of selected aspects of French life and culture and their historical settings. Prerequisite: French 201 or equivalent.

328 Survey of French Literature **3 hrs. Fall**

Readings in French Literature from its beginnings to the French Revolution. Prerequisite: French 201 or equivalent.

329 Survey of French Literature **3 hrs. Winter**

Continuation of French 328. Readings in nineteenth and twentieth century literature. Prerequisite: French 201 or equivalent.

Open to Upperclassmen and Graduate Students

400 Elementary Reading for Graduate Proficiency **4 hrs.**

Basic grammar and elementary reading for translation and research purposes. The course is for the graduate student who has had little or no study in the language. Course open to advanced undergraduates upon recommendation of major adviser and by "C" card. No oral work.

401 Intermediate Reading for Graduate Proficiency **4 hrs.**

Prerequisite: 400 or equivalent. Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to student's major field. Completion of 401 with a minimum grade of B constitutes graduate proficiency in the language. Open to advanced undergraduates upon recommendation of major adviser and by "C" card.

544 Summer Proseminar in France **4 hrs.**

A summer study of French language, literature, and culture concentrated at Grenoble and Paris. Designed especially for teachers and advanced college students of French, the course consists of three weeks of formal classes at the University of Grenoble with regularly scheduled lectures and discussions in the French language on questions relating to French history, institutions, social problems, linguistics, and teaching methods. The session at Grenoble is supplemented by twelve days of organized inspection of cultural monuments in Paris with full explanations by an instructor for all points visited. Each student submits

a term paper investigating one phase of his studies of particular interest to him. Graduate or undergraduate credit. Offered in summer of 1968.

550 Independent Study in French **1–3 hrs. Fall, Winter**

Directed, individual study of a specific topic in a French literary or linguistic area. Departmental approval required for admission.

551 Advanced French Composition **3 hrs. Winter**

Intensive practice with written French. Prerequisite: six hours of French 316-317 or equivalent.

552 Advanced French Conversation **3 hrs. Fall**

Intensive practice with spoken French. Prerequisite: six hours of French 316-317 or equivalent.

560 Studies in French Literature **3 hrs. Winter**

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisite: six hours selected from French 322-328-329. Representative topics which may be treated in this area include:

Medieval and Renaissance Literature—Outstanding works from the *Chanson de Roland* (in modern French) to the end of the sixteenth century.

Seventeenth Century Literature—Preclassic period: Reforms of Malherbe, *Préciosité*, Descartes, beginnings of classical drama, and Corneille. Also, Classic period: significant works from the beginning of the reign of Louis XIV to his death.

Eighteenth Century Literature—Analysis of outstanding works of the period.

Nineteenth Century Literature—Romanticism, Realism and Naturalism.

Twentieth Century Literature—General analysis of representative works from the beginning of the century to the end of the Second World War. Contemporary drama and post-war literature.

GERMAN

100 Basic German **4 hrs. Fall, Winter**

Fundamentals of German with audiolingual emphasis. German cultural readings. No prerequisite.

101 Basic German **4 hrs. Winter**

Continuation of 100. Prerequisite: German 100 or equivalent.

200 Intermediate German **4 hrs. Fall**

Level two German. Review and furthering of oral and reading skills

based upon cultural and literary materials. Prerequisite: German 101, two years of high school German, or equivalent.

201 Intermediate German **4 hrs. Winter**

Continuation of 200. Prerequisite: German 200 or equivalent.

316 German Composition **3 hrs. Fall, Winter**

Emphasis upon increasing the student's command of written German. Prerequisite: German 201 or equivalent.

317 German Conversation **3 hrs. Fall, Winter**

Emphasis upon increasing the student's command of spoken German. Prerequisite: German 201 or equivalent.

326 Readings in German Literature **4 hrs. Fall**

Masterworks of German literature from the 18th and 19th centuries, including such authors as Lessing, Schiller, Kleist, etc. Prerequisite: German 201 or the equivalent.

327 Readings in German Literature **4 hrs. Winter**

Selected dramas and prose from the 19th and 20th centuries, including such writers as Brecht, Dürrenmatt, Boll, Bergengrün, etc. Prerequisite: 201 or the equivalent. 326 is not a prerequisite for 327.

Open to Upperclassmen and Graduate Students

400 Elementary Reading for Graduate Proficiency **4 hrs. Fall**

Basic grammar and elementary reading for translation and research purposes. The course is for the graduate student who has had little or no study in the language. Course open to advanced undergraduates upon recommendation of major advisor and by "C" card. No oral work.

401 Intermediate Reading for Graduate Proficiency **4 hrs. Winter**

Prerequisite 400 or equivalent. Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to student's major field. Completion of 401 with a minimum grade of B constitutes graduate proficiency in the language. Open to advanced undergraduates upon recommendation of major adviser and by "C" card.

510 The Central European Area **2 hrs. Fall**

Investigates cultural aspects necessary for an understanding of Central Europe. Countries included are Germany, Austria, Switzerland, and Czechoslovakia. Historic, geographic, social and religious factors are treated. No foreign language prerequisite.

528 Survey of German Literature **3 hrs.**

A comprehensive study of German literature from its beginning through Romanticism. Prerequisites: 316 or 317, and 326 or 327.

529 Survey of German Literature **3 hrs.**

A comprehensive study of German literature from German Realism to the present. Prerequisites: 316 or 317, and 326 or 327.

550 Independent Study in German **1–3 hrs.**

Directed, individual study of a specific topic in a German literary or linguistic area. Departmental approval is required for admission.

552 Advanced German Composition **3 hrs. Fall**

Intensive practice in composition and stylistics directed towards appreciation of literary and other written expression in German with work in free composition at an advanced level. Prerequisites: German 316 and 317.

553 Advanced German Conversation **3 hrs. Winter**

Intensive training in conversational German with emphasis on colloquial language and idiom. Prerequisites: German 316 and 317.

556 Survey of German Literature **4 hrs. Fall**

A study of the development of literary movements, with particular emphasis on cultural and historical influences. Representative writers and their works will be treated, ranging from the beginnings of German literature through Classicism (aproximately to the end of the 18th century).

557 Survey of German Literature **4 hrs. Winter**

A continuation of 556. The period from Romanticism to the present day will be treated (approximately 19th and 20th centuries).

559 History of the German Language **3 hrs.**

Survey of the development. Prerequisite: 6 hours of 500-level German or equivalent.

560 Studies in German Literature **3 hrs. Fall, Winter**

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisite: German 326 or 328 or equivalent. Representative topics which may be treated in this area include:

The *Novelle*—Survey of the development with representative selections.

Lyric Poetry—Survey of the development with significant selections.

Nineteenth Century Drama—Primary Kleist, Gillparzer, Hebbel, and Hauptmann.

Twentieth Century Drama—Representative selections.

575 German Literature in English Translation **3 hrs.**

A comparative study of literary themes and techniques of major German writers from Hauptmann to the present, including Mann, Brecht, Kafka, and Borchert. This course does not apply toward a major or minor in German.

GREEK

100 Basic Greek **4 hrs. Fall**

Introduction to the fundamentals of classical Greek emphasizing essential grammar, syntax, and vocabulary required for the reading of simple texts. No prerequisite.

101 Basic Greek **4 hrs. Winter**

Continuation of 100. Simple selections from Greek literature as well as from New Testament literature. Prerequisite: Greek 100 or equivalent.

200 Intermediate Greek **3 hrs.**

Review of basic grammar and syntax. Selections from Xenophon and Plato. Prerequisite: Greek 101 or equivalent.

201 Intermediate Greek **3 hrs.**

Continuation of 200. Prerequisite: Greek 200 or equivalent.

LATIN

100 Basic Latin **4 hrs. Fall**

Fundamentals of Latin designed for students needing two years of Latin for admission to the AB curriculum or to a medical, law, or other professional program, and for those planning a Latin teaching major or minor. With Latin 101 it covers the work of two years of high school language requirement. No prerequisite.

101 Basic Latin **4 hrs. Winter**

Continuation of 100. Prerequisite: Latin 100 or equivalent (a student presenting one year of high school Latin may enter the course at this point).

200 Cicero **4 hrs.**

Intermediate Latin. Before reading orations and letters of Cicero, basic vocabulary, grammatical usage, and special constructions are reviewed. One hour weekly is devoted to Latin composition. Prerequisite: Latin 101 or two years of high school Latin. (Courses 200-201 alternate with 204-205.)

201 Ovid **4 hrs.**

Reading from the *Metamorphoses* with special attention to grammar, prosody, and myth. Prerequisite: Latin 101 or two years of high school Latin.

204 Vergil **4 hrs.**

Intermediate Latin. Before reading the first books of the *Aeneid*, basic vocabulary, grammatical usage, and special constructions are reviewed. Prerequisite: Latin 101 or two years of high school Latin or equivalent. (Courses 204-205 alternate with 200-201.)

205 Vergil **4 hrs.**

Continuation of 204. Prerequisite: Latin 204 or equivalent.

324 Latin Literature **4 hrs. Fall**

A survey of Latin Literature with reading of representative Latin authors from early times to the Golden Age. Prerequisite: Latin 201 or 205 or equivalent.

325 Latin Literature **4 hrs. Winter**

Continuation of 324, with reading of representative authors from the Golden Age through the late Silver Age. Prerequisite: Latin 201 or 205 or equivalent.

326 Horace **3 hrs.**

The *Odes*, *Epodes*, and *Satires* accompanied by a study of the philosophy of Horace. Prerequisite: Latin 201 or 205 or equivalent.

327 Latin Comedy **3 hrs.**

The epistles of Horace. The *Ars Poetica* serves as an introduction to a study of the rise and development of Latin comedy represented by selected plays of Plautus and Terence. Prerequisite: Latin 201 or 205 or equivalent.

Open to Upperclassmen and Graduate Students and Others by Permission of the Instructor

550 Independent Study in Latin **1–3 hrs.**

Directed, individual study of a specific topic in a Latin literary or linguistic area. Departmental approval required for admission.

552 Latin Writing **3 hrs.**

Practice in the fundamentals of correct expression. Required for Latin majors. Prerequisite: Latin 326 or 327 or equivalent.

557 Teaching of Latin **3 hrs.**

For prospective teachers of Latin in the elementary or secondary school. Principles, problems, and current practice. Required for Latin teaching majors.

560 Studies in Latin Literature **3 hrs.**

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisite: Latin 326 or 327 or equivalent. Representative topics which may be treated in this area include:

Satire—Rome as pictured in the conversations of Horace and the invectives of Juvenal. Readings on the origins and development of satire as a genre.

History—Reading and appraisal of Livy and of Tacitus as historians and literary artists.

Bucolic Poetry—Readings from Vergil's *Eclogues* and *Georgics* plus selections from later writers of bucolic poetry and discussion of its development as a literary form.

Lyric and Elegiac—Broad readings in Roman poetry, centering around Catullus, Ovid, Martial and the other poets of love. Discussion of the origin and influence of elegy as a poetic form.

Medieval Latin—A study of the period 500-1500 A.D. when Classical Latin was blending into the new vernaculars to form eventual Romance Languages. Prose and poetic readings include a variety of themes reflecting the intellectual, cultural, and religious thinking of the times.

568 Mythology **3 hrs. Fall**

Investigates the origins, elements, and interpretations of the principal myths and legends of Greece and Rome and their preservation not only in literature, but also in painting, music, and sculpture. No prerequisite.

575 Classical Drama in Translation **3 hrs.**

Reading and analysis of selected plays of Aeschylus, Sophocles, Euripides and Aristophanes as dramas and as expression of the Greek view of life. Some attention to Roman drama.

RUSSIAN

100 Basic Russian **4 hrs. Fall**

Fundamentals of Russian with audiolingual emphasis. Russian cultural readings. No prerequisite.

101 Basic Russian **4 hrs. Winter**

Continuation of Russian 100. Prerequisite: Russian 100 or equivalent.

200 Intermediate Russian **4 hrs. Fall**

Level two Russian. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: Russian 101, two years of high school Russian, or equivalent.

201 Intermediate Russian **4 hrs. Winter**

Continuation of 200. Prerequisite: Russian 200 or equivalent.

208 Technical Russian **4 hrs.**

Fundamentals and practice in reading technical or scientific Russian based upon current publications. Prerequisite: Russian 101, two years of high school Russian, or equivalent. To complete an eight-hour sequence, Russian 201 is suggested as a complementary course to 208.

316 Russian Composition and Conversation **3 hrs. Winter**

Emphasis upon increasing the student's command of written and spoken Russian. Prerequisite: Russian 201 or equivalent.

326 Russian Readings **3 hrs.**

Literary selections from Tolstoy, Chekhov, Turgenev, and Pushkin. Prerequisite: Russian 201 or equivalent.

327 The Russian Novel **3 hrs.**

Introduction to the Russian novel with consideration of the historical, social, and cultural settings. Prerequisite: Russian 201 or equivalent.

328 Survey of Russian Literature **3 hrs.**

Development of Russian literature from its beginnings to the present with emphasis on major works of nineteenth and twentieth century writers and poets in the context of Russian cultural evolution. Prerequisite: Russian 201 or equivalent.

Open to Upperclassmen and Graduate Students

550 Independent Study in Russian **1–3 hrs.**

Directed, individual study of a specific topic in a Russian literary or linguistic area. Departmental approval required for admission.

510 Russian Civilization **3 hrs.**

Survey of the historical, cultural, and philosophical development of Russian from its origins to the present. Prerequisite: Russian 201 or equivalent.

560 Studies in Russian Literature **3 hrs.**

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisite: six hours of 300-level Russian or equivalent. Representative topics which may be treated in this area included:

Poetry—Selections from classic masterpieces and contemporary poetry.

Eighteenth Century Literature—Survey of the classical and preromantic periods.

Nineteenth Century Literature—Representative selections from the period.

Twentieth Century Literature—Primarily Gorky, Blok, Mayakovsky, Lenov, and Sholokhov.

SPANISH

100 Basic Spanish **4 hrs. Fall, Winter**

Fundamentals of Spanish with audiolingual emphasis. No prerequisite.

101 Basic Spanish **4 hrs. Winter**

Continuation of 100. Prerequisite: Spanish 100 or equivalent.

200 Intermediate Spanish **4 hrs. Fall**

Level two Spanish. Review and furthering of oral and reading skills

based upon cultural and literary materials. Prerequisite: Spanish 101, two years of high school Spanish, or equivalent.

201 Intermediate Spanish **4 hrs. Winter**

Continuation of 200. Prerequisite: Spanish 200 or equivalent.

316 Spanish Composition **3 hrs. Fall, Winter**

Emphasis upon increasing the student's command of written Spanish. Prerequisite: Spanish 201 or equivalent.

317 Spanish Conversation **3 hrs. Fall, Winter**

Emphasis upon increasing the student's command of spoken Spanish. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

322 Life and Culture of Spain **3 hrs.**

A study of the ethnic, sociological development, music, art, and folklore of Spain as a basis for comprehension of the Spanish peoples with emphasis on individualism. A background for study of Hispanic literature, history, or culture. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

323 Life and Culture of Latin America **3 hrs.**

A study of Latin-American life and culture based on ethnic, historical, social, religious, and literary considerations. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

328 Introduction to Spanish Literature **3 hrs. Fall, Winter**

Synoptic literary selections with cultural and historical background. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

329 Introduction to Spanish-American Literature **3 hrs. Fall, Winter**

Synoptic literary selections with cultural and historical background. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

Open to Upperclassmen and Graduate Students

550 Independent Study in Spanish **1–3 hrs.**

Directed, individual study of a specific topic in a Spanish literary or linguistic area. Departmental approval required for admission.

552 Advanced Spanish Grammar and Composition **3 hrs.**

An advanced study of the intricacies and problems of Spanish grammer, syntax, and style with attention to improving written expression in Spanish at an advanced level. Taught in Spanish. Prerequisite: Spanish 328 or 329 or equivalent.

560 Studies in Spanish Literatures **3 hrs. Fall, Winter**

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings

at various times. Prerequisite: Spanish 328 or 329 or equivalent. Representative topics which may be treated in this area include:

Cervantes—*Don Quixote* and other works of Cervantes together with his life and thought.

Seventeenth Century Theater—Main works of Lope de Vega through Calderon de la Barca.

Nineteenth Century—The Romantic Movement.

Nineteenth Century Novel—Development of the regional novel from Fernán Caballero through Blasco Ibánēz.

Generation of '98—Thought and works of typical representatives as Unamuno, Ortega y Gasset, and Azorin.

Contemporary Theater—Evolution and analysis of the characteristics.

Spanish-American Short Story—Significant short stories along with the cultural and social background.

Contemporary Spanish-American Novel—The twentieth century novel along with the cultural and social background.

Linguistics

Robert A. Palmatier, Chairman

Daniel P. Hendriksen
James L. Wilson

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their dialectal variants, its acquisition by children and non-native speakers, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge.

The interdisciplinary aspects of this study are reflected in the unique organization of the Linguistics Department, which functions as a combined department-institute under the guidance of the Linguistics Advisory Committee. The Department not only offers its own core of general linguistics courses for Linguistics credit but recognizes credit for linguistically-related courses in other departments of the University. This recognition, which provides for liberal selection of courses from at least ten different departments in the School of Liberal Arts, characterizes the Linguistics program as both interdepartmental and interdisciplinary.

The Linguistics major is intended either as a "second" major for undergraduates with a major in another department or as a "first" major for undergraduates who expect to pursue a master's degree in

linguistics. The program for majors requires a minimum of thirty hours of credit, of which twenty hours must be taken for linguistics credit and ten hours in approved courses in other specified departments. One college year of a foreign language, or its equivalent, is required for majors. The Linguistics minor is intended as a supporting minor for undergraduates with a major in another department or for those in the Elementary Education Curriculum. The program for minors requires a minimum of twenty hours of credit, of which twelve hours must be taken in the Linguistics Department and eight hours in approved courses in other specified departments. Linguistics is suggested as a supporting major or minor for majors in Anthropology, English, French, German, Latin, Philosophy, Psychology, Russian, Sociology, Spanish, Speech, and Speech Pathology and Audiology. General Studies 400, Human Communication, is recommended for both majors and minors, although it does not count in the Linguistics programs.

PROGRAMS IN LINGUISTICS

I. INTRODUCTORY COURSES

(all majors and minors—4 hrs.)

Undergraduates Only

Linguistics	200	Linguistic Analysis	4 hrs.

Graduates/Undergraduates

Linguistics	500	Introduction to Linguistics	4 hrs.

II. PHONOLOGY COURSES

(majors—4 hrs.; minors—2–4 hrs.)

Undergraduates Only

Speech Pathology	202	Anatomy and Physiology	2 hrs.
Speech Pathology	204	Phonemics	2 hrs.
Speech Pathology	300	Speech and Hearing Science	2 hrs.
Speech	304	Physiological Processes	4 hrs.

Graduates/Undergraduates

Linguistics	520	Phonological Analysis	4 hrs.

III. STRUCTURE COURSES

(all majors and minors—4 hrs.)

Undergraduates Only

English	270	English Language	4 hrs.

Graduates/Undergraduates

Linguistics	530	Grammatical Analysis	4 hrs.
Linguistics	570	Studies in Linguistic Structures	4 hrs.

IV. HISTORY COURSES

(majors—3–4 hrs.; minors—*0–4 hrs.)

Undergraduates Only

Linguistics	300	Historical Linguistics	4 hrs.
English	372	Development of Modern English	4 hrs.

*Minors are not required to take credits in the starred areas but may elect up to 4 hours.

Graduates/Undergraduates

Linguistics	560	Comparative Linguistics	4 hrs.
German	559	History of German Language	3 hrs.

V. VARIATION COURSES

(majors—3–4 hrs.; minors—*0–4 hrs.)

Undergraduates Only

Linguistics	310	Language Variation	4 hrs.
Anthropology	332	Language and Culture	3 hrs.

Graduates/Undergraduates

Linguistics	548	Studies in Languages of the World	4 hrs.

VI. METHODS COURSES

(majors—3–4 hrs.)

Undergraduates Only

Linguistics	400	Teaching English as a Foreign Language	4 hrs.

Graduates/Undergraduates

Linguistics	580	Linguistic Field Techniques	4 hrs.
Language	558	Modern Language Instruction	3 hrs.
Speech	561	Teaching Speech in Elementary School	3 hrs.
English	574	Linguistics for Teachers	4 hrs.

VII. COMMUNICATION AND PERCEPTION COURSES

(majors—3–6 hrs.; minors—*0–4 hrs.)

Undergraduates Only

Speech	302	Communicative Processes	4 hrs.
Psychology	350	Stimulus Control of Behavior	3 hrs.

Graduates/Undergraduates

Speech	570	Studies in Communication	3–6 hrs.
Psychology	518	Sensory and Perceptual Processes	3 hrs.

VIII. COGNATE ELECTIVES

(majors—1–6 hrs.; minors—*0–4 hrs.)

Undergraduates Only

Physics	100	Acoustics	2 hrs.
Math	106	Introduction to Computers, I	1 hr.
Speech Pathology	203	Speech and Language Development	2 hrs.
Anthropology	231	Cultural Anthropology	4 hrs.
Philosophy	230	Elementary Logic	4 hrs.
Philosophy	330	Philosophy and Language	4 hrs.
French	330	French Phonetics	3 hrs.

*Minors are not required to take credits in the starred areas but may elect up to 4 hours.

Graduates/Undergraduates

Special Education	591	Braille and Other Communication Methods	2 hrs.
Librarianship	506	Introduction to Computers, I	1 hr.
Anthropology	545	Special Area Studies	3 hrs.
Philosophy	520	Studies in Logic	4 hrs.
Language	500	Critical Languages	4 hrs.
Teacher Education	535	Methods of Teaching the Disadvantaged	3 hrs.
Teacher Education	597	Reading and Related Language Experiences	2 hrs.

110 Introduction to American English **4 hrs.**

Instruction in oral and written English for non-native speakers by means of individual tutoring, laboratory work, and classroom orientation. Permission of instructor.

200 Linguistic Analysis **4 hrs.**

An introduction to the linguistic principles underlying the phonological, morphological, syntactic, and semantic analysis and description of languages.

300 Historical Linguistics **4 hrs.**

An introduction to the processes of language change and the principles which govern the historical and comparative study of languages. Prerequisite: Ling. 200 or equivalent.

310 Language Variation **4 hrs.**

An introduction to the linguistic principles and methods involved in the study of geographical, social, and stylistic variation within languages. Prerequisite: Ling. 200 or equivalent.

400 Teaching English as a Foreign Language **4 hrs.**

Study of the application of linguistics to the teaching of English to non-native speakers, with emphasis on current methods and materials for instruction and testing. Permission of instructor.

500 Introduction to Linguistics **4 hrs.**

An introduction to the principles and practices in the major schools (e.g. structural, transformational), fields (e.g. historical, comparative), and applications (e.g. dialectology, lexicography) of modern linguistic study.

520 Phonological Analysis **4 hrs.**

An examination of theories of phonological structure and methods of phonetic and phonemic analysis, correlated with field work in the analysis and description of phonological structures. Prerequisite: Linguistics 500 or equivalent.

530 Grammatical Analysis **4 hrs.**

An examination of ancient, medieval, and modern theories of morphology and syntax, with emphasis on conflicts and correlations among current systems of grammatical analysis. Prerequisite: Ling. 500 or equivalent.

548 Studies in Languages of the World **4 hrs.**

Intensive study of a group of languages (varying from semester to semester) that are either genetically related (e.g. Slavic languages), typologically similar (e.g. "tone" languages), or geographically proximate (e.g. African languages). Prerequisite: Ling. 200 or equivalent for undergraduates; no prerequisite for graduate students. May be repeated for credit.

560 Comparative Linguistics **4 hrs.**

This course introduces the student to the branch of linguistics which deals with the similarities and differences between related languages and the methodology through which the linguist is able to make statements about correspondences and divergences between related languages. Prerequisite: Ling. 500 or equivalent.

570 Studies in Linguistic Structures **4 hrs.**

This course presents a detailed examination of the phonological, morphological, and syntactic structure of a given language. Various models for describing the structure of the language will be considered. The language under analysis will be announced prior to the beginning of the term in which the course is offered. Prerequisite: An undergraduate minor in linguistics or its equivalent. May be repeated for credit.

580 Linguistic Field Techniques **4 hrs.**

Interview techniques for the elicitation of oral language data, and methods of analysis of the data into significant linguistic units for their eventual arrangement in the form of a grammar and dictionary. Prerequisite: Ling. 200 or equivalent for undergraduates; no prerequisite for graduate students.

Mathematics

A. Bruce Clarke, Head

Yousef Alavi
Fred A. Beeler
Gary Chartrand
Paul Chiang
Roy Erickson
Anthony Gioia
Herbert Hannon
Clarence Hackney
Philip Hsieh
S. F. Kapoor
Hudson Kronk
Bertrand Latil
Stanislaw Leja
Don Lick
Joseph McCully
Wayne McDaniel
Jack Meagher
J. K. Peterson
John W. Petro
James Powell
James Riley
Erich Rothe
Erik Schreiner
Robert Seber
Robert Sechler
Gerald Sievers
Arthur Stoddart
Michael Stoline
Walter Turner
Gertrude Wolinski
Kung-Wei Yang

A non-teaching major in mathematics must include the following courses beyond the 100-level: Mathematics 222, 223, 380, 330, (340, 342, 520, 540 or 542), (570 or 572 or 575), and one elective course at the 500-level. A teaching major must include Mathematics 222, 380, 330, (340, 342, 520, 540 or 542), 550, and two electives, at least one of which is at the 500-level. The election of courses for a major in mathematics must be approved by a departmental adviser.

A non-teaching minor in mathematics must include Mathematics 222 and 223. A teaching minor must include Mathematics 222, 380, and either 223 or 330.

All mathematics courses having numbers below 122, as well as Mathematics 150, 200, 260, and 360, are primarily "service" courses, and may not be included among those presented for a major or a minor in Mathematics.

Students who fail to earn a "C" or better grade in Mathematics 100, 122, 123 or 222 will not be permitted to enroll in the next sequence course.

HONORS PROGRAM IN MATHEMATICS

The purpose of the Honors Program in Mathematics is to give to the conscientious, industrious student the special attention which his superior performance and interest in mathematics have warranted. Students who are enrolled in or have completed Mathematics 330, 340 or 380 may be recommended by a member of the mathematics faculty for consideration as honors students. For further information, see the Chairman of the Departmental Honors Program.

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090 Mathematical Skills **No Credit**

A remedial course dealing with those topics from elementary algebra and geometry necessary for further work in mathematics. This course carries no credit in any degree program. Entering students may be

advised to take this course on the basis of the entrance mathematics placement test.

100 Algebra and Trigonometry **4 hrs. Fall, Winter**

A course dealing with polynomial, exponential, logarithmic, trigonometric and inverse trigonometric functions and some of their applications. It will include a review of basic algebraic skills. Prerequisite: One year of h.s. algebra, one year of h.s. geometry, and satisfactory performance on the entrance placement test.

106 Introduction to Computers I **1 hr. Fall, Winter**

Historical background. Flow charts and concepts of programming, including use of an Automatic Programming System with applications to selected problems to be run on the IBM 1620. Prerequisite: 1½ yrs. h.s. algebra or Math 100.

107 Introduction to Computers II **2 hrs. Fall, Winter**

Flow charts and programs will be prepared in Machine Language to be run on the IBM 1620. Additional problems will be programmed using the Symbolic Programming System. Prerequisite: Math 106.

122 Mathematics I **4 hrs. Fall, Winter**

The first of a four semester sequence of courses dealing with the differential and integral calculus and selected topics from analytic geometry and linear algebra. This course devotes special attention to functions, limits, derivatives, applications of derivatives, and integrals. Prerequisite: at least three years of college preparatory mathematics including trigonometry, or Math 100.

123 Mathematics II **4 hrs. Fall, Winter**

A continuation of Mathematics I. Topics include: the definite integral, differentiation and integration of elementary transcendental functions, techniques of integration, infinite series, and applications. Prerequisite: Math 122.

150 Structure of Arithmetic **4 hrs. Fall, Winter**

This course is designed to provide the elementary teacher with a minimal foundation in the structure of arithmetic. Included will be a discussion of sets, relations, the properties of natural numbers, integers, rational and real numbers, as well as selected topics from number theory, algebra and geometry. The nature of proof will be demonstrated through selected exercises. This course is restricted to students in Elementary Education, Elementary Music, Librarianship, and Special Education curricula. No others can receive credit.

200 Analysis and Applications **4 hrs. Fall, Winter**

Topics include: sets, functions, rates, limits, differentiation, integration, applications. The course should not be elected by those students who wish to take courses in the Mathematics 122, 123, 222, and 223 sequence. Prerequisite: Math 100 or 1½ years h.s. algebra and 1 year h.s. geometry.

222 Mathematics III **4 hrs. Fall, Winter**

A continuation of Mathematics I and II. Topics include: infinite series, plane curves, vectors, polar coordinates, three-dimensional analytic geometry, differential calculus of functions of several variables. Prerequisite: Math 123.

223 Mathematics IV **4 hrs. Fall, Winter**

A continuation of Mathematics I, II and III. Topics include: multiple integration, line and surface integrals, ordinary differential equations with applications. Prerequisite: Math 222.

260 Elementary Statistics **4 hrs.**

A study of probability distributions, sampling, estimation, testing hypotheses, correlation and regression. Prerequisite: Math 200 or equivalent.

330 Introduction to Modern Algebra **4 hrs. Fall, Winter**

A postulational approach to groups, rings, integral domains, ordered integral domains, and fields, with special emphasis on the integers, polynomials over a field and elementary group theory including quotient groups. Prerequisite: Math 380.

340 Fundamental Concepts of Geometry **4 hrs.**

A critical reexamination of plane and solid euclidean geometry followed by euclidean geometry of four dimensions and noneuclidean geometry. Prerequisite: Math 222 or equivalent.

342 Introduction to Projective Geometry **4 hrs.**

A survey of analytic geometry using vector methods followed by an axiomatic development of projective geometry. Prerequisite: Math 222 or equivalent.

360 Statistical Methods for Industry **4 hrs. Fall, Winter**

A study of histograms and empirical distributions, random variables and probability distributions, normal, chi-square, t, F, binomial, Poisson distributions, central limit theorem, significance tests both one- and two-sided, point and interval estimation, correlation, analysis of variance. Control charts, sampling inspection both by attributes and variables. Prerequisite: Math 223 or equivalent.

380 Foundations of Mathematics **4 hrs. Fall, Winter**

This course is required for all mathematics majors and is a prerequisite for most upper division mathematics courses. Topics include: elementary logic, set theory, relations, equivalence relations, functions, binary operations, mathematical induction, development of the real number system, bounds, completeness property. Prerequisite: Math 222 or equivalent.

500 Differential Equations **3 hrs. Fall, Winter**

This course is a continuation of linear ordinary differential equations studied in Math 223. Topics include: simultaneous linear equations,

equations with variable coefficients, series solutions leading to Bessel, Legendre and other functions, partial differential equations, method of separation of variables in Laplace's and related equations. Prerequisite: Math 223 (Math 380 recommended).

506 Programming for Computers **3 hrs. Fall, Winter**

Designed to give preparation in the organization and general use of high speed computing machines used in scientific and engineering computations. The language of the Computer, Symbolic Programming System, and Fortran II will be used to prepare programs. Problems such as exponential, multiplication of matrices, inverse of a matrix, solution of polynomials, numerical integration, and solution of a differential equation will be prepared to be run on the Computer. Prerequisite: Math 222 or equivalent (223 recommended).

507 Numerical Analysis **3 hrs. Winter**

Numerical methods involving polynomial evaluation, Legendre polynomials, Cebysev polynomials, differences, integration, solution of differential equations and linear programming. Prerequisites: Math 223 and Math 506.

508 Automatic Programming Systems **3 hrs. Winter**

A thorough study of the internal organization of the Fortran Compiler. Each student will be required to construct a compiler. Prerequisite: Math 506.

520 Introduction to Topology **3 hrs. Fall**

Topics include: Metric spaces, convergence and sequential compactness, principle of contraction mapping and its application in analyis, topological spaces, product spaces, continuity and other related topological properties, compactness, separation axioms, metrizable spaces, applications. Prerequisite: Math 380.

530 Linear Algebra I **3 hrs. Fall, Winter**

Properties of n-dimensional vector spaces, linear transformations, and matrix algebra are studied. Prerequisite: Math 330.

531 Linear Algebra II **3 hrs.**

A continuation of Math 530. Topics covered will include rational and Jordan canonical forms, inner product spaces, self-adjoint, unitary, and normal operators, the spectral theorem and bilinear forms. Prerequisite: Math 530.

540 Introduction to Algebraic Geometry **3 hrs.**

A study of the basic properties of projective space of n-dimensions ultilizing both the algebraic and synthetic definitions, representation of projective geometry as the geometry of subspaces of a vector space, and the algebraic approach to affine geometry. Prerequisite: Math 380 (Math 330 recommended).

542 Differential Geometry **3 hrs.**

Topics include: directional derivatives, differential forms, curvature and torsion of curves, transformations and tensor calculus, geodesics and other curves on surfaces, conformal and isometric mappings, minimal surfaces. Prerequisite: Math 570.

550 Teaching of Secondary Mathematics **3 hrs. Fall, Winter**

In this course consideration is given to curriculum problems and trends in secondary school mathematics and to specific problems of teaching mathematics effectively to secondary school students. Prerequisite: Math 380.

552 Teaching of Elementary Mathematics **2 hrs. Fall, Winter**

In this course consideration is given to curriculum problems and trends in elementary school mathematics and to specific problems of teaching mathematics effectively to elementary school children. Prerequisite: Math 150 or equivalent.

560 Probability **3 hrs. Fall**

Probability spaces; mathematical expectation; moment-generating functions; special discrete and continuous distributions; independence; transformations of variables; sampling theory; statistical inference. Prerequisite: Math 380 or equivalent.

561 Mathematical Statistics **3 hrs. Winter**

A continuation of Math 560. Point estimation, maximum likelihood estimates, sufficiency and stochastic independence, limiting distributions, some distribution-free problems, statistical hypotheses, quadratic forms and some multivariate distributions. Prerequisite: Math 560.

562 Statistical Analysis I **4 hrs. Fall**

Elementary probability theory; combinatorial probability; binomial, Poisson, and hypergeometric distributions and applications; normal, chi-square, F, and t distributions with applications to estimation, hypothesis testing, and confidence intervals; curve fitting; linear regression; non-parametric techniques; emphasis on applications. Followed by Mathematics 662. Prerequisite: Mathematics 222 (Mathematics 223 recommended).

563 Statistical Analysis II **3 hrs.**

See Mathematics 662.

570 Introduction to Analysis I **3 hrs.**

This course along with Math 571 constitutes a further study of calculus beyond that covered in the Math 122, 123, 222, 223 sequence. The concepts of limit, continuity, differentiability, and the Riemann integral are developed rigorously; mean value properties are emphasized. The properties of infinite series are discussed in detail. The calculus of several

variables is developed carefully with discussions of the implicit function theorem, maxima and minima problems, line and surface integrals, elementary vector analysis, Green's theorem and the divergence theorem.

571 Introduction to Analysis II **3 hrs. Winter**

(See description of Math 570). Prerequisite: Math 570.

572 Mathematical Analysis **3 hrs.**

The real number system. Elementary topology and differentiation in Euclidean spaces. Uniform convergence. Prerequisite: 570 or consent of adviser.

575 Applied Analysis I **3 hrs. Fall**

This course and Math 576 form a two semester sequence wherein the principal aim is the study of certain topics in mathematics which are useful in varied fields of application. Topics will be selected from: vector analysis; differential equations, series solutions and some special functions; partial differential equations; Laplace transform; complex variable and contour integration; conformal mapping; calculus of variation. Prerequisite: Math 223 (380 recommended).

576 Applied Analysis II **3 hrs. Winter**

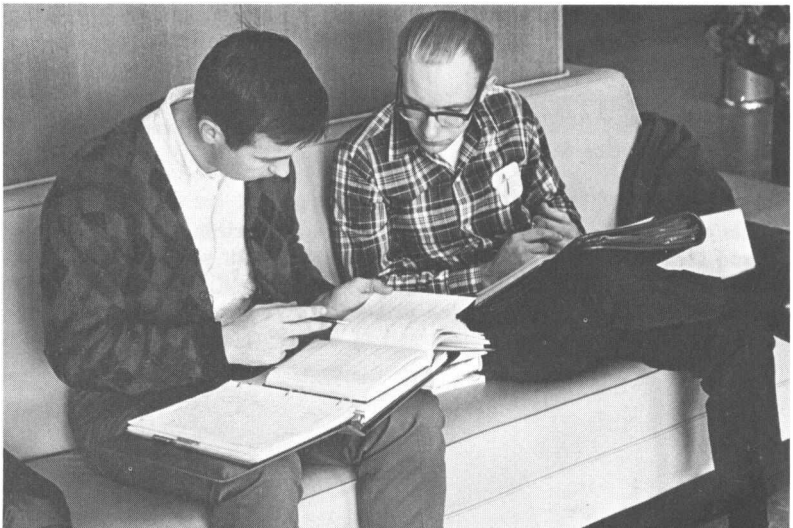
(See Math 575). Prerequisite: Math 575.

580 Number Theory **3 hrs. Fall**

Diphantine equations, congruences, quadratic residues, and properties of number theoretic functions. Prerequisite: Math 380 or equivalent.

598 Independent Study in Mathematics **1–3 hrs. Fall, Winter**

Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approval of head of department.



Music

Robert Holmes, Chairman

Ethel G. Adams
Sam B. Adams
William Appel
Elmer R. Beloof
Margaret F. Beloof
Ada Berkey
Joan Boucher
Russell W. Brown
Donald Bullock
Herbert Butler
Elwyn F. Carter
Robert M. Davidson
Marcella Faustman
Robert R. Fink
Jack J. Frey
Tom R. Fulton
Willard Hahnenberg
Thomas C. Hardie
James Hause
William Heiles
Marilynn Heim
Robert Humiston
Lambert Kroon
Daniel A. Kyser
Gerald Lloyd
Holon Matthews
Leonard V. Meretta
Frank Olenchak
Charles E. Osborne
Olive G. Parkes
Linda Phillips
Phyllis Rappeport
A. Boggs Ryan
David Sheldon
Larry Stewart
Julius Stulberg
Burt Szabo
Robert Whaley
Joseph T. Work
Joyce Zastrow

The Department offers courses leading to the Bachelor of Music, Bachelor of Arts, and the Bachelor of Science degrees. The Bachelor of Arts degree allows for a broad liberal arts background. The Bachelor of Science degree is an Elementary Education-Music degree. The Bachelor of Music degree is highly professional in its requirements and permits the student to do extensive work in the field of music. A Bachelor of Music degree in Music Therapy is also offered. Specific requirements relative to all music degrees are found in the *Music Supplement* which may be procured from the Music Office.

Those students who want both elementary and secondary teaching certification in music should work for the B.Mus. degree. Elementary certification with a music major may be secured with the B.S. degree.

Those students who want a music major without teaching certification may work for the Bachelor of Music degree in applied music, theory, composition, or music history, or for the Bachelor of Arts degree.

Education students minoring in music must complete Basic Music 160, 161, Music Methods as counseled, Piano as counseled, Conducting 330 or 331, and Music Electives, except ensembles. Total requirement, 20 semester hours.

Those students not seeking Teacher Certification who wish to major or minor in music should secure major and minor slips from the Music Department counselor.

Credit from another institution in any branch of theory will be accepted only upon satisfactory completion of an examination covering the field for which the student desires transferred credit. All transferred credit is tentative and is conditioned upon the successful completion of a semester's work at Western Michigan. No credit hours exceeding the

number granted for parallel work at Western Michigan will be accepted for transfer from another institution.

All music majors must be enrolled in Music Convocation 101 as described below.

The University is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the NASM and the National Council for Accreditation of Teacher Education.

MUSIC COURSES

101 Music Convocation **No Credit Fall, Winter**

A series of special musical events required of music majors. Programs include lectures and recitals by faculty, selected students, and guest artists.

120 Piano Class **1 hr. Fall, Winter**

A basic course required of music majors and minors who have inadequate proficiency on piano. Opportunity is provided for some individual instruction. Recommended for piano majors to gain knowledge of piano class instruction.

121 Piano Class **1 hr. Fall, Winter**

A continuation of 120.

122 Voice Class **1 hr. Fall, Winter**

A study of the fundamental processes of breath control and tone production, providing some individual instruction in preparing and singing standard song literature. The course is designed to benefit students interested in solo and choral singing.

124 Brass Class (Cornet) **2 hrs. Fall, Winter**

Fundamentals of attack, breath control, formation of the embouchure. *A Tune-a-Day,* Herfurth. Solos from *Miniature Concert Series* by Goldman. For wind and percussion majors in Public School Music. This class requirement is waived for Cornet and Trumpet majors, but before a degree is granted to these students, they must attend one semester of the padagogy lectures which are usually held on Wednesday of the assigned class hours.

125 Brass Class (Mixed) **2 hrs. Fall, Winter**

The study of the French horn, trombone, baritone, and tuba, to the extent that the student can demonstrate a knowledge of the basic fundamentals of all four instruments. For wind and percussion majors in Public School Music.

126 Woodwind Class (Clarinet) **2 hrs. Fall, Winter**

Fundamentals of attack, breath control, formation of the embouchure. *The Study of the Clarinet,* Stubbins. Selected solos. For wind and per-

cussion majors in Public School Music. This class requirement is waived for Clarinet majors, but before a degree is granted to these students, they must attend one semester of the pedagogy lectures which are usually held on Wednesday of the assigned class hours.

127 Woodwind Class (Mixed) **2 hrs. Fall, Winter**

The study of oboe, flute, and bassoon, to the extent that the student can demonstrate a knowledge of the basic fundamentals of these instruments. The study of a limited repertoire. For wind and percussion majors in Public School Music.

128 Violin Class **1 hr. Fall, Winter**

This course is designed to acquaint the student with basic problems encountered in playing the violin, including terminology and conventions of string performance. The course is intended for students with a piano or vocal major in Public School Music who are occasionally faced with the need to include string groups in the preparation of operettas, cantatas, or solo accompaniments.

129 String Class **2 hrs. Fall, Winter**

A thorough examination of all string instrument performance, pedagogy, materials, methods and maintenance. For wind and percussion majors in Public School Music.

130 Percussion Class **1 hr. Fall, Winter**

A study of the requirements for a percussion performer and function of the percussion section in the band and orchestra. The student is required to play the snare drum in an acceptable manner and to demonstrate a working knowledge of three other percussion instruments.

131 English and Italian Diction and Song Literature **1 hr. Fall**

Required of all students whose field of concentration is voice. English and Italian diction and song literature are studied, and opportunity is provided for solo performance.

140 Music for Classroom Teachers **4 hrs. Fall, Winter**

Designed for elementary education students without regard to previous musical training. Students are prepared to use music functionally and developmentally in the elementary classroom through singing, through playing the piano and informal instruments, and through responding to music rhythmically. Creative aspects and values of music are emphasized, and materials are studied in relation to their future use in the classroom.

Students who need special help in singing are required to enroll in 141. Prerequisite: Ed. 230 for Elementary Teachers in Creative Arts minor. Otherwise no prerequisite.

141 Vocal Clinic for Non-Singers **No credit Fall, Winter**

Students are taught to sing through the development of pitch and breath control. Prerequisite: Must be enrolled in 140.

142 Piano for Classroom Teachers **1 hr. Fall, Winter**

A beginning piano course for elementary education students who are not majors or minors in music. Emphasizes the fundamentals of music through the medium of the keyboard. Provides some opportunity for individual instruction.

160 Basic Music **3 hrs. Fall, Winter**

A study of the structure and function of the language of music integrated with basic skills in music reading, ear-training, keyboard and written harmony. Students with no piano facility or a limited background in piano must also be enrolled in piano class (120, 121, 220, 221).

161 Basic Music **3 hrs. Fall, Winter**

A continuation of 160. Students with a limited piano background must also be enrolled in piano class (121, 220, 221). Prerequisite: 160.

170 Music Appreciation **4 hrs. Fall, Winter**

This introductory course is designed to cover significant musical repertoire of the western world and stresses fundamental knowledge of music through guided listening and descriptive analysis.

190 Accompanying **1 hr. Fall, Winter**

Supervised experience in accompanying vocal and instrumental music, both solo and ensemble. (This course may be repeated for credit not to exceed a total of four semester hours.)

220 Advanced Piano Class **1 hr. Fall**

A continuation of 120-121. Prerequisite: 120-121 or consent of instructor.

221 Advanced Piano Class **1 hr. Winter**

A continuation of 220.

224 Cornet Class **1 hr. Fall, Winter**

Fundamentals of attack, breath control, formation of the embouchure. *Method for the Cornet,* Beeler. Solos from *Miniature Concert Series* by Goldman. *Tri-Form Folio* by Schaefer. For vocal, keyboard, and string majors in Public School Music.

226 Clarinet Class **1 hr. Fall, Winter**

Fundamentals of attack, breath control, formation of the embouchure. *Elementary Clarinet Method,* Waln. Selected solos. For vocal, keyboard, and string majors in Public School Music.

228 String Class **1 hr. Fall**

A specialized course for the string major presenting the techniques and materials of string instruments other than his major. Students also attend the pedagogy lectures given in String Class 129. Prerequisite: string majors in Public School Music.

229 String Class **1 hr. Winter**

A continuation of 228. Prerequisite: String majors in Public School Music.

231 French Diction and Song Literature **1 hr. Winter**

Required of all students whose field of concentration is voice. French diction and song literature are studied, and opportunity is provided for solo performance.

232 German Diction and Song Literature **1 hr. Fall**

Required of all students whose field of concentration is voice. German diction and song literature are studied, and opportunity is provided for solo performance.

233 Major Performance Literature **2 hrs. Fall, Winter**

Literature for the major performance instrument is studied, and opportunity is provided for solo performance. Required of applied music (except voice) majors during the junior and senior years. (This course may be repeated for credit not to exceed a total of four semester hours.)

Piano majors in the public school music curriculum are required to take this course for two semester hours during either the sophomore or junior year.

240 General Music Methods **3 hrs. Fall, Winter**

A study of the methods of teaching and an evaluation of the materials to be used in the singing, rhythmic, instrumental, creative, and listening activities in General Music classes. Special emphasis on the basic music program in the elementary schools. Prerequisite: 160-161.

244 Elementary Music Practicum **3 hrs. Fall**

This course is designed to meet the needs of the elementary music teacher in the areas of theory and piano. Special emphasis is given to keyboard facility in accompaniments in the elementary classroom, harmonizations of melodies, the playing of rhythms, modulations, and a continuation of ear-training. Prerequisite: 160-161.

245 Elementary Music Practicum **3 hrs. Winter**

A continuation of 244. Prerequisite: 244.

260 Basic Music **4 hrs. Fall, Winter**

A continuation of 161. Students with a limited background in piano must also be enrolled in an appropriate piano class. Prerequisite: 161 with a grade of C or better.

261 Basic Music **4 hrs. Fall, Winter**

A study of the structure and function of chromatic harmony. Students with a limited background in piano must also be enrolled in an appropriate piano class. Prerequisite: 260 with a grade of C or better.

262 Composition **2 hrs. Fall**

Beginning work in composition, with emphasis on the phrase, period, and double period. Attention given to melodic, rhythmic, and harmonic devices. Prerequisite: 161.

263 Composition **2 hrs. Winter**

A continuation of 262.

266 Musical Acoustics **2 hrs. Winter**

A course specifically for the music student. Study includes overtone series, frequency, tone quality, wave lengths, air columns, noise, and temperaments. Prerequisite: 161.

270 Music Literature **2 hrs. Fall, Winter**

A course designed to give the music major an introduction to the style, technical features, and scope of the music literature of the 18th, 19th, and 20th centuries. Prerequisite: 161.

281 Introduction to Music Therapy **2 hrs. Fall**

Function of music in total therapeutic program. History of development of music in therapy. Study of qualifications of the therapist. Survey of disability areas using music. Participation in music on hospital wards and with exceptional children.

290 Recreational Music **2 hrs. Winter**

Function of music in a recreation program. Fundamentals of non-symphonic instruments. Techniques and materials to be used in leading singing and other group music activities.

291 Functional Piano **1 hr. Fall**

Designed to develop pianist's ability to invent and organize musical ideas at the piano. Emphasis is placed on the use of piano in children's rhythmic activities, the harmonization and transposition at sight of songs with appropriate accompaniment, and the improvisation of music in various forms.

292 String Technology **1 hr. Winter**

An introduction to string instrument maintenance and repair, this course is designed to train the music teacher in rudimentary repairs and adjustments of an emergency nature which may arise in the teaching situation. Not intended to train repairmen.

293 Piano Technology **1 hr. Winter**

An introduction to piano technology in which various aspects of the technician's art are investigated. Important topics covered include mechanics of the musical scale, art of tuning in equal temperament, and construction of modern grand and upright pianos. The course is designed to give the student valuable insights into the field of piano technology in order that he might intelligently purchase and care for this instrument. Not intended to train tuners.

322 Vocal Pedagogy **2 hrs. Winter**

A course designed to acquaint the voice major with the physiological, psychological and acoustical problems involved in singing. Consideration will be given to pedagogy, breathing, phonation, resonance, range, dynamics, ear training, diction, and interpretation. An opportunity for individual voice analysis and solo performance will be provided.

330 Choral Conducting **2 hrs. Fall, Winter**

The fundamentals of choral conducting are presented, including patterns and rehearsal techniques. The student prepares and conducts choral literature with respect to tempo, nuance, phrasing, and fundamental choral techniques. The study and selection of literature is included. One class meeting per week is video taped in the television studio and viewed at the following class meeting. Control card required.

331 Instrumental Conducting **2 hrs. Fall, Winter**

A beginning course in the techniques of preparing and conducting orchestral and band literature.

340 Vocal Methods and Materials for the Junior High School
2 hrs. Fall

A study of vocal music activities in the education of the adolescent. Total sequence of musical experiences in the general music program, choir, and ensembles. Technical problems such as the changing voice and voice testing will be discussed. A presentation of rehearsal techniques, lesson plans, materials, equipment and methods of organizing and teaching music at this level. Administration, curriculum organization, programming, and interdepartmental relations. Practical experience will be gained by teaching units and songs to members of the class. Prerequisite: 240 for music majors; otherwise, no prerequisite.

341 Vocal Methods and Materials for the Senior High School
2 hrs. Winter

A continuation of 340 with emphasis upon materials for the high school vocal program. Preparation of concerts and musicals. Library organization, budget construction, scheduling, and plans for vocal rooms. Appropriate testing procedures and interpretation is presented. Practical experience is gained by rehearsing several musical selections with members of the class. Prerequisite: 240 for music majors; otherwise, no prerequisite.

342 Organization and Administration of Church Choral Groups
1 hr. Fall

A course designed for vocal teachers who may be involved in the directing of church choirs. A short history and philosophy of church music and an extensive survey of church music literature. Prerequisite: 240 for music majors; otherwise, no prerequisite.

343 Teaching Strings in the Public Schools **2 hrs. Winter**

A course designed to help the prospective teacher apply his know-

ledge of strings to the classroom situation. Special attention is given to the principles of learning and the principles of group teaching and how they apply to the elementary, the junior high, and the senior high string class and orchestra. The course also includes a study of basic repertoire at all levels with special emphasis on appropriate solo and ensemble materials. Prerequisite: 240 for music majors; otherwise, no prerequisite.

344 Methods and Music for Teaching Band Instruments 2 hrs. Fall

The purpose of this course is to assist the prospective teacher in applying his knowledge of band instruments to the public school music classroom situation. Special emphasis is given to the principles of group teaching and how they apply to the effective teaching of music through band instruments at the elementary, the junior high, and the senior high levels. Basic literature and methods for teaching are studied and a unit in maintenance and emergency repair of wind instruments is included. Prerequisite: 240 for music majors; otherwise, no prerequisite.

345 Administration of the Instrumental Music Program 2 hrs. Winter

An introduction to the organizational facets of an instrumental music program, to include such topics as public school organization, scheduling, student evaluation, student records, public relations, contest and festival, public performance, music rooms and equipment, library, uniforms, inventory tests and measurements, and finance. Prerequisite: 240 for music majors; otherwise, no prerequisite.

346 Marching Band Techniques 2 hrs. Fall

An introduction to the techniques and administrative problems peculiar to the school marching band. Marching techniques, charting, show design, selection of music, and rehearsal techniques are topics included. Prerequisite: 240 for music majors; otherwise, no prerequisite.

347 Music in the Humanities in Secondary Schools 2 hrs.

This course attempts to prepare the music student to participate in the teaching of humanities in secondary schools. The student learns to participate in setting the goals, content, and techniques for the humanities program. Prerequisite: 240 for music majors; otherwise, no prerequisite.

348 Public School Music Production 2 hrs. Winter

A course in methods and materials for use in public school music productions with particular attention to the selection and evaluation of materials for such productions. Prerequisite: 240 for music majors; otherwise, no prerequisite.

360 Analysis of Basic Forms 2 hrs. Fall, Winter

An analytical study of music in the smaller forms. Prerequisite: 261 with a grade of "C" or better.

361 Analysis of Instrumental Forms **2 hrs.**

A continuation of 360 with special emphasis on the larger forms such as the sonata, symphony, quartet, concerto, etc. Prerequisite: 360 with a grade of "C" or better.

362 Composition **2 hrs. Fall**

A study of the techniques of twentieth century composition with original work in vocal and instrumental forms. Prerequisite: 263.

363 Composition **2 hrs. Winter**

A continuation of 362.

365 Contemporary Music Literature **2 hrs. Winter**

Survey of contemporary music literature through listening. Some study of the chronological evolution of modern structure and harmony. Special emphasis on the atonal concepts and electronic media.

366 Instrumental Arranging **2 hrs. Fall, Winter**

A course designed to give the student experience in arranging music for instrumental groups with emphasis placed on making use of available resources. Prerequisite: 261 with a grade of "C" or better.

367 Contemporary Techniques **2 hrs. Winter**

Recent compositional techniques including total serialization, aleatoric procedures, musique concrete, electronic and computer music. Written assignments. Prerequisite: 261.

370 Music History and Literature **3 hrs. Fall**

A survey of the growth of music from the earliest times through the Medieval, Renaissance, and Baroque periods.

371 Music History and Literature **3 hrs. Winter**

A continuation of 370 from the Classic period forward.

374 Graderoom Music Literature **3 hrs. Winter**

Designed to meet the needs of the elementary teacher in music literature and application in the classroom. Included are: (1) works of great composers in relation to the age and culture; (2) native and foreign folk music; (3) historical development, structure, timbre, and use of instruments. Prerequisite: 140 or 240.

380 Motivational Aspects of Music **2 hrs. Winter**

The psychic and physiological effect of sound on the individual, and systems of tonal relationships. The effect of music on personality and the consideration of music as a form of communication. The nature of musicality and its measurement. The nature of musical memory. The underlying bases for musical taste and for aesthetic experience in music. Prerequisite: Psychology I.

382 Influence of Music on Behavior **2 hrs. Fall**

Review of the relationship between music and personality. The function of music in personality adjustment and development. A study of pertinent research methods by analysis and evaluation of published studies. Prerequisite: Psychology I.

383 Influence of Music on Behavior **2 hrs. Winter**

Development of skills essential to research. An analytical survey of pertinent recent publications. Prerequisite: 382.

462 Composition **2 hrs. Fall**

Original work in composition with emphasis on chamber music and orchestral music. Prerequisite: 363.

463 Composition **2 hrs. Winter**

A continuation of 462.

466 Theories of Musical Practice **2 hrs. Fall**

The musical principles of important authors, past and present, of treatises dealing with composition, counterpoint, and harmony. Written assignments exploiting these principles. Prerequisite: 261.

467 Theories of Musical Practice **2 hrs. Winter**

A continuation of 466.

480 Music Therapy Methods and Materials **2 hrs. Fall**

Survey of materials available for use in music therapy programs and methods of adapting such materials to institutional use. Study of publications and techniques developed specifically for use in music therapy programs. Prerequisite: Music therapy major.

490 Undergraduate Workshop in Special Problems **1–3 hrs.**

Designed for students interested in some special field of music not formally listed for instruction. All special problems must be approved by the Chairman of the Department of Music, but may be under the direct guidance of any member of the music faculty. This course may be elected as many as three times.

530 Advanced Choral Conducting **2 hrs.**

Supervised experience in conducting vocal ensembles. The complete preparation of choral music will be stressed. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 330.

531 Advanced Instrumental Conducting **2 hrs.**

Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 331.

540 Elementary School Music **2 hrs. Summer**

Emphasizes the place of music in the curriculum and the use of music

in the day-to-day activities of the classroom. The fundamental musical skills are developed in order to assist the teacher to achieve these objectives.

541 Music Supervision and Consultation **2 hrs.**

A study of the structuring and implementation of a music education program in the schools, in terms of three organizational relationships: the music administrator or supervisor, the scheduled music teacher, and the unscheduled music consultant. Relation of music specialist to classroom teacher.

542 Studies in Music Education **2 hrs.**

Topics to be announced. Selection will be made from the following or similar topics: Music in the Humanities, Evaluation of Music Education Materials, and Curriculum Planning for Innovation in Music Education. This course may be repeated to an accumulation of not more than four credits.

543 Psychology of Music Education **2 hrs. Winter**

Personal and social needs, motives and goals in relation to music in education. The function of musical achievement and aptitude tests in music education. Psychological aspects of behavior pattern in musical organizations. Physical, social and psychological factors involved in a developmental music program.

544 Analysis and Evaluation of Music Education Materials **2 hrs.**

A study of the theoretical bases for, and practice in, analyzing and evaluating music for use in music education programs.

560 Counterpoint **2 hrs. Fall**

Modal and harmonic counterpoint as exemplified by the composers of the sixteenth, seventeenth, and eighteenth centuries. Practical application through the writing of strict counterpoint in the five species—double counterpoint, obligatos, descants, canons and fugues. Prerequisite: 261 with a grade of "C" or better.

561 Counterpoint **2 hrs. Winter**

A continuation of 560.

562 Advanced Composition **2 hrs. Fall**

A study of twentieth century techniques in composition with original work in vocal and instrumental forms. Prerequisite: 560.

563 Advanced Composition **2 hrs. Winter**

A continuation of 562.

564 Form in Music **2 hrs.**

A survey of the musical forms, large and small, used from the Baroque period to the present day. Analysis of both structure and texture of

representative works of the various periods and styles. Prerequisite: 261 or consent of instructor.

567 Orchestration **2 hrs. Fall**

A study of the characteristics of instruments, arranging for the various individual choirs, for combinations of choirs, and for full orchestra. Prerequisite: 366.

568 Orchestration **2 hrs. Winter**

A continuation of 567.

570 Introduction to Musicology **3 hrs. Fall**

History, purposes, scope of musicology; leading historians, past and present; modern methods of research, with special emphasis on primary sources and bibliography of the field.

571 Introduction to Musicology **3 hrs. Winter**

A continuation of 570.

572 Baroque Music (1600-1750) **2 hrs.**

A survey of the choral and instrumental music of the Baroque masters such as J. S. Bach and G. F. Handel. Special attention to the development of style from monody through harmonic polyphony. Prerequisite: 370-371.

573 Classical Music (1750-1800) **2 hrs.**

Examination of the chief works of Mozart and Haydn, with intensive study in symphonic form and the development of the classic opera. Prerequisite: 370-371.

574 Romantic Music (1800-1910) **2 hrs.**

Music of the important composers of the period beginning with Beethoven, along with the historical, cultural and political background of the era. Special attention is given to the development of Nationalism. Prerequisite: 370-371.

575 Musicology and Research **3 hrs. Fall**

Presentation of musicological material in formal writing as well as informal classroom lecture; specific research projects with emphasis on selection and qualitative judgment of materials used.

576 Musicology and Research **3 hrs. Winter**

A continuation of 575.

580 Music Therapy Internship **2 hrs.**

Six months clinical training through resident internship in an approved neuropsychiatric hospital with an established music program. Prerequisite: Completion of music therapy major and staff approval.

591 Piano Pedagogy **2 hrs.**

A study of the teaching of piano at beginning level, to children and

adults in private studio or in groups. The ideas developed in beginning piano will be extended through the intermediate and advanced levels.

598 Readings in Music **2 hrs. Fall, Winter**

Graduate students may enroll in this course after consultation with the graduate adviser.

APPLIED MUSIC

Individual lessons in applied music can be elected for academic credit by any student in the University. Students who wish individual instruction in some field of applied music should contact the Department of Music to register and receive assignment of instructor. Such requests will be granted to the extent that the instructor's time and practice facilities are available beyond the needs of the music major degree candidates.

All B.Mus. degree candidates are required to have one class hour per week of individual instruction in their major performance field of concentration through the entire four-year course. Applied music requirements in fields other than the major performance area are listed in the *Music Supplement.*

Eight levels of study in the various areas of applied music are indicated in the *Music Supplement.* Levels one through five grant two semester hours of credit per semester. Levels five through eight may grant three semester hours of credit per semester.

H20 through H35—Harp

H40 through H55—Piano

H60 through H75—Organ

H80 through H95—Voice

Z20 through Z35—String Instruments: Violin, Viola, Cello, String Bass

Z40 through Z55—Brass Instruments: Cornet or Trumpet, Trombone, French Horn, Tuba, Baritone

Z60 through Z75—Woodwind Instruments: Flute, Oboe, Bassoon, Clarinet, Saxophone

Z80 through Z95—Percussion

MUSIC ENSEMBLES

All B.Mus. degree candidates are required to participate in some large music ensemble, e.g., orchestra, choir, band, wind ensemble, glee club, or chorale throughout their four years of study (Marching Band not included). It is expected that each student will take part for his first two years in a large ensemble employing his major performance area. The student will remain in that large ensemble for the entire academic year. Freshman voice majors should select Men's or Women's Glee Club. All public school music wind and percussion majors are required to be

in Marching Band through their junior year. Sometime during the student's residence he is expected to take one year of small ensemble. All music ensembles grant one hour of credit for each semester of participation. Not more than eight hours credit will be granted for participation in any one ensemble. Not more than twelve hours of ensemble credit will be accepted toward any degree. Students who want to participate in an ensemble should contact the director.

LARGE ENSEMBLES

109 University Marching Band **1 hr. Fall only**

The University Marching Band is the major performing ensemble for Fall football activities. Positions are open only to all male students who play wind or percussion instruments. Male Public School Music Education majors with a wind or percussion instrument minor are required to take this course through their junior year. Membership by audition. (May be substituted for Physical Education requirement, except that a minimum of one semester hour of credit must be earned in a general physical education course.)

110 Symphonic Band **Mr. Meretta**

An organization which performs a wide range of symphonic band literature. This group furnishes music at many University events. Membership by audition.

111 University Orchestra **Mr. Stulberg**

The orchestra is open to all students who have had a reasonable amount of orchestra experience. Many fine compositions are studied and played during the year, and the orchestra sometimes joins with other campus organizations in programs. Instruments are available for the use of students. Membership by audition.

112 University Choir **Mr. Hardie**

The University Choir, open to all students, is an a cappella choir with selected membership. The ensemble seeks to develop and to perpetuate a high standard of choral singing. Each year the choir performs frequently on campus, for regional high schools, and for professional organizations. Membership by audition.

113 University Singers **Staff**

University Singers is open to all students who wish to obtain a knowledge of choral music. The Singers present concerts on campus and for organizations in the area.

114 The Wind Ensemble **Staff**

An organization which performs a wide range of literature for the modern wind ensemble. This group performs both on and off campus. Membership by audition.

115 Men's Glee Club **Mr. Frey**

Open to all men with musical ability who have had experience in singing. The club makes a concert tour during the spring in addition to filling numerous other engagements and taking an active part in the musical life of the campus.

116 Women's Glee Club **Miss Zastrow**

Membership in the Women's Glee Club is open to all women of the University and seeks to provide and develop artistic training in ensemble singing. In addition to such traditional campus appearances as the Christmas Chocolate and the Spring Concert, the group sings before a number of high schools throughout the state every year and appears before various local and civic organizations, taking an active part in the musical life of the campus and the community.

118 Campus Chorale **Mr. Appel**

This choir prepares traditional choral literature for performance on campus and for area high schools. The University Choir and the Campus Chorale are joined for performance of major choral compositions. Membership by audition.

SMALL ENSEMBLES

117 Special Music Ensembles **The Staff**

Special instrumental or vocal ensembles may be formed with the permission of the Chairman of the Department of Music. Where a sufficient number of hours of rehearsal per week warrant it, one hour of credit will be granted. String, woodwind, brass, vocal, and percussion ensembles are regularly active.

119 Varsity Choir **Dr. Carter**

A highly selective mixed vocal group which specializes in folk music, speciality numbers, and popular arrangements. The repertoire of the group is designed to please all ages and musical tastes with high quality entertainment. Quartets, dance routines, and a Dixieland Combo are included. Membership by audition.

210 Jazz Lab Band **Mr. Davidson**

This organization affords the student an opportunity to develop in all areas of modern jazz and dance music. Concerts may be given both on and off campus. The band may also provide music for some athletic events.

219 Madrigal Singers **Staff**

Membership is open to a limited number of students who are interested in madrigal singing. This group sings concerts on campus and for other organizations in the area. Membership by audition.

317 Opera Workshop **Mr. Appel**

A production experience in the acting, singing, accompanying, and producing of musical theatre. The class is offered each semester and culminates in the performance of an opera or operatic scenes. Open to advanced singers, pianists, and persons interested in production techniques. Admission by personal interview with the instructor.

517 Collegium Musicum **Staff**

Performance of early Western music. Open to all students of the University. Required of Music History majors. Additional transcription, arranging, editing, and conducting of early music is required of Music History majors. Graduate students may count not more than two hours of this course for graduation. Membership by audition.

Philosophy

Dale Westphal, Acting Chairman

Joseph Ellin
Arthur Falk
Donald Milton
Richard Pulaski
Gregory Sheridan

A student may decide to elect philosophy as a major with one of several educational objectives in mind. He may desire to pursue graduate work in philosophy. In addition to teaching philosophy courses at the college level, people with advanced degrees in philosophy may find a place in industry, education, or government in advanced phases of programming and operations research. Many who plan to enter a profession such as medicine, journalism, or law, find that philosophy contributes to achieving a depth in analysis and a breadth of view which contribute to their professional education and achievement.

The department offers an Honors Program for outstanding students.

MAJOR AND MINOR REQUIREMENTS

A major in philosophy consists of not more than 40 nor less than 28 hours of course work. Prospective majors are urged to elect Phil. 200 as soon as possible, preferably not later than their third semester. Phil. 200 will not be accepted for credit toward the major if elected after the student has completed his Sophomore year.

Course requirements for the major are: Phil. 300-301 (History of Philosophy), one seminar, and a distribution requirement of one course chosen from three of the four categories: History of Philosophy, Value Theory, Logic and Philosophy of Science, Theory of Knowledge and Reality.

Students planning to do graduate work in philosophy must elect Phil. 220 (Elementary Logic) as soon as possible.

A minor consists of 16 hours. The restriction concerning Phil. 200 applies. The minor includes Phil. 300-301, but there is no distribution requirement. For term courses offered, please see Schedule of Classes.

INTRODUCTORY COURSES

200 Introduction to Philosophy **4 hrs.**

An introduction to the nature of philosophy by a consideration of major types of philosophical questions, such as the principles of rational belief, the existence of God, what is the good life, the nature of knowledge, the problem of truth and verification. Selected texts from representative philosophers are used to define the questions and to present typical answers.

201 Introduction to Ethics **4 hrs.**

An introduction to the philosophic study of morality. Deals with questions such as: What is the good life? Why should I be moral? What is the meaning of right and wrong?

HISTORY OF PHILOSOPHY

300 History of Ancient Philosophy **4 hrs.**

A study of Greek philosophical thought from Thales to Plotinus with an emphasis on Plato and Aristotle.

301 History of Modern Philosophy **4 hrs.**

A survey of modern philosophy from the Renaissance through Kant, with emphasis upon Descartes, Leibniz, Locke, Berkeley, Hume and Kant.

302 American Philosophy **4 hrs.**

Philosophical thought in America from colonial times to the present, studied through the works of such thinkers as Jonathan Edwards, Jefferson, Emerson, Thoreau, James, Dewey, Niebuhr, Lippmann and others. The course will sketch the broad movement of American thought and focus on the five major attitudes of the American mind: Puritan fundamentalism, revolutionary rationalism, Transcendentalism, pragmatic naturalism, and neo-conservatism.

303 Existentialist Philosophies **4 hrs.**

A concentrated study of leading thinkers in modern philosophical existentialism: Kierkegaard, Nietzsche, Jaspers, Sartre, and Camus.

304 Analytic Philosophy **4 hrs.**

Contemporary philosophical analysis: an evaluative examination of Russell's Logical Atomism, and a study of the rise of ordinary language philosophy as represented by the later Wittgenstein, Ryle, Strawson, Austin, and others.

305 20th Century Philosophers of Religion **4 hrs.**

An analysis, interpretation and critique of one or more of the philosophers of religion influential in contemporary philosophical and theological movements.

306 Asian Thought: China **4 hrs.**

A study of the major trends of Chinese thought, notably Confucianism and Taoism, with particular emphasis on their relevance to recent developments in China.

307 Phenomenology **4 hrs.**

A systematic study of the origins and developments of the phenomenological movement. The writings of several major phenomenologists will be considered, e.g. Husserl, Heidegger, Merleau-Ponty, etc. Prerequisite: Phil. 200.

500 Seminar in Medieval Philosophy **4 hrs.**

Medieval philosophical thought from Augustine to Ockham.

501 Seminar in History of Philosophy **4 hrs.**

Topic to be announced. The topic selected may be either the concentrated study of an individual philosopher, or an identifiable philosophical school, or the historical examination of a philosophical problem or concept. Prerequisite: Permission of the instructor.

VALUE THEORY

310 Moral Philosophy **4 hrs.**

A study of some basic problems in moral philosophy. Special attention is given to the question of the relationship between the justification of actions, and motives, excuses, intentions, consequences. Contemporary works are emphasized. Prerequisite: 200 or 201.

311 Social Philosophy **4 hrs.**

The meaning of justice, human rights, and freedom in the context of the philosophy of law. Questions such as the nature of a legal system, the significance of judicial interpretation, the justification of law and the right to resist, the function of punishment, and the connection of law and morality will be studied. The course will consider the views of historical figures (such as St. Thomas, Hobbes, Thoreau, Marx and Gandhi) in order to illuminate contemporary problems. Prerequisite: One course from among the following: Phil. 200, General Studies 202 (Man and Society), General Studies 204 (Institutions and Ideologies).

312 Philosophy of Art **4 hrs.**

Readings in major contemporary theories of aesthetics. Topics include the creative process, aesthetic experience, standards of criticism, and the role of art in human experience.

510 Seminar in Theory of Value **4 hrs.**

An analysis of the value concepts as employed in the general theory of value, or in the value disciplines, ethics, political philosophy, and aesthetics.

LOGIC AND THE PHILOSOPHY OF SCIENCE

220 Elementary Logic **4 hrs.**

A study of the rules and techniques of deductive reasoning and the sources of some common fallacies. Topics included are syllogisms and the logic of propositions. Open to freshmen. Students with a background in college mathematics should take Intermediate Logic instead.

320 Intermediate Logic **4 hrs.**

Symbolic logic: the logic of propositions, the predicate logic, and an introduction to the theory of identity and definite descriptions. Prerequisite: Phil. 220 or some college mathematics or permission of the instructor. Open to qualified freshmen.

321 Advanced Logic **4 hrs.**

Continuation of 320. Topics included are identity, definite descriptions, elementary set theory and relations; introduction to axiomatic systems of logic and metatheorems. Prerequisite: Phil. 320 or permission of the instructor.

322 Philosophy of the Social Sciences **4 hrs.**

A critical examination of the concepts, methods, presuppositions, and conclusions of the social and behavioral sciences. Prerequisite: one course from among the following: Phil. 200, General Studies 202, 203, 204, or any course in the social sciences.

520 Seminar in Logic **4 hrs.**

Selected topics in one or more of the following areas: foundations of logic and mathematics, meta-mathematics, set theory, modal and many-valued logics, inductive logic, formal semantics and linguistics, the history of logic. Prerequisite: Math 380 or two courses in logic (or their equivalent) or permission of the instructor.

521 Philosophy of Science **4 hrs.**

An examination of the nature of scientific explanation, inductive reasoning, and probability. Particular problems arising in the physical and social sciences which may be included are the nature of scientific laws and theories, an analysis of the concepts of space, time, and causality, the existence of unobservable entities, and the requirement of simplicity. Prerequisite: One course in logic or its equivalent or permission of the instructor.

THEORY OF KNOWLEDGE AND REALITY

330 Philosophy and Language **4 hrs.**

A study of the nature and criteria of meaning and truth in the context of different types of discourse such as ethical, religious, or scientific. Prerequisite: Phil. 220 or permission of the instructor.

331 Philosophy of Religion **4 hrs.**

An examination of the place of religion in human experience with special attention to the problem of whether there is rational ground for validating religious beliefs. This is done through an examination of the nature of religious language and the problem of religious knowledge.

332 Theory of Knowledge **4 hrs.**

An examination of basic problems concerning knowledge and belief, discussing traditional approaches but stressing recent analyses. Possible topics: skepticism and certainty, knowing and believing, perception, memory, 'a priori' vs. 'a posteriori' knowledge, self-knowledge, knowledge of others.

333 Metaphysics **4 hrs.**

A study of basic metaphysical questions, discussing traditional solutions but emphasizing recent approaches. Questions will be selected from such topics as: substances, qualities and relations, universals and particulars, identity, space and time, causation, mind and body, persons, free will.

530 Seminar in Theory of Knowledge **4 hrs.**

A detailed study of one or more selected problems in the theory of knowledge. Prerequisite: Phil. 332 or permission of instructor.

531 Seminar in Metaphysics **4 hrs.**

A detailed study of one or more selected metaphysical questions. Prerequisite: Phil. 333 or permission of instructor.

498 Independent Study **2–4 hrs.**

Independent study is for those students who have attained a degree of competence in philosophy and wish to embark upon a project to be carried out without the usual close guidance of the instructor in the classroom. Independent study may not be elected as a substitute for a regularly scheduled course. Prerequisite: Permission of the instructor with whom the student wishes to work.

Physics

George Bradley, Head

David Carley
Stanley Derby
Jacob Dewitt
Ollin Drennan
Allen Dotson
Gerald Hardie
John Herman
Dean Kaul
Haym Kruglak
John Kusmiss
Robert Miller
Nathan Nichols
Larry Oppliger
Robert Shamu
Michitoshi Soga
James Zietlow

The Department of Physics offers two programs of study leading to a major in physics. One program is the physics major for those preparing for graduate study or professional employment in physics. The second program is designed for those in Secondary Education who desire to major in physics. Both programs require 32 credit hours in physics but differ according to the goals of the representative programs.

The requirements for the physics major in each program are:

Physics Major			Secondary Education Physics Major		
210	Mechanics and Heat	4	210	Mechanics and Heat	4
211	Electricity and Light	4	211	Electricity and Light	4
212	Atomic and Nuclear Physics	4	212	Atomic and Nuclear Physics	4
342	Electrical Measurements and Electronics	5	360	Introduction to Theoretical Physics	4
520	Analytical Mech.	3	342	Electrical Measurements and Electronics	5
540	Fundamental of Electricity and Magnetism	3	470	Historical Development of Concepts of P. S.	3
560	Modern Physics I	4			

The remaining credit hours necessary to complete the major must be elected from the following list for each program.

Physics Major			Secondary Education Physics Major		
330	Thermodynamics and Kinetic Theory	3	104	Astronomy (3 hours credit toward major)	4
352	Optics	4	202	Photography (2 hours credit toward major)	3
470	Historical Development Concepts of Physical Science	3	Any physics course numbered above 300 except 308.		
498	Special Problems	1-3			
552	Applied Spectroscopy	3			
561	Modern Physics II	4			
563	Introduction to Solid State Physics	3			
598	Selected Topics	1-4			

Suggested courses of study for a student majoring in physics under either program are:

First Semester		Second Semester	
Math 122	4	Math 123	4
Chemistry 102	4	Physics 210	4
Freshman Reading 140	2	Freshman Writing 116	4
Western Civilization 100 or 101	4	General Studies (Soc. Science)	4
Physical Education	1	Physical Education	1
	15		17

Third Semester	
Math 222	4
Physics 211	4
Chemistry 120	4
General Studies (Elective)	3
	15

Fourth Semester

Physics Major		Secondary Education Physics Major	
Math 223	4	Math 223	4
Physics 212	4	Physics 212	4
General Studies (Arts & Ideas)	4	General Studies (Arts & Ideas)	4
Physics 330	3	Education 250	4
Physical Education	1		16
	16		

Fifth Semester

Physics 342	5	Physics 360	4
Physics 520	3	Math 380	4
Math 575	3	Physics 104 (3 hours toward major)	4
General Studies 304	4	General Studies (Elective)	3
Physical Education	1	Physical Education	1
	16		16

Sixth Semester

Physics 540	3	Physics 342	5
Math 576	3	General Studies 304	4
General Studies 400's	4	Education 300	3
Physics Elective	3 or 4	Physics 308	2
Elective	3	(Teaching of Phy. Sci.)	
		Physical Education	1
	16 or 17		15

Seventh Semester

Physics 560	4	Education 410	
Cognate Elective	3, 4	Education 450	
General Studies (Elective)	3	Education 470	
Electives	5, 6		14
	16, 17		

Eighth Semester

Physics Elective	3, 4	Physics 352	4
Physics 498	1-3	Physics 202	3
Electives		(2 hours toward major)	
		Physics 470	3
	16	General Studies 400's	4
		Elective	3
			17

Any physics major may qualify for departmental Honors in Physics by fulfilling the following requirements:

1. Attain by the end of the semester preceding graduation an accumulated honor point ratio of at least 3.5 (B+) in his physics courses, and an accumulated honor point ratio of 3.0 or more in his other courses.

2. Carry out an advanced project involving either laboratory experience or reading.

3. Give a report on the above project before a Physics seminar.

A minor in physics consists of 20 credit hours including courses 210, 211, 212. With the consent of the Department, General Physics 110, 111 may be substituted for 210, 211. Those in Secondary Education who minor in physics must also take Physics 360 and either 342 or 352. The remaining hours for others who minor in physics may be selected from any of the courses listed above under Physics Major. Any student contemplating majoring in physics should contact his counselor in the Physics Department as early as possible.

The Physics Department offers seminar, colloquium, and club programs for undergraduate and graduate students. The regular Physics Seminar is a series of talks given bi-weekly, usually by visitors from other institutions, on topics of general interest. Attendance is expected

of all physics majors. The Graduate Colloquium is a weekly program for graduate students and physics staff presented usually by WMU physics staff members or visitors from other universities on topics related to their research specialties.

In addition to the above, the Department sponsors a student section for the American Association of Physics Teachers. The Physics Club is open to undergraduates who assume responsibility for its program and social functions.

PHYSICS COURSES

108 Physical Science (see General Studies)

100 Acoustics **2 hrs. Fall**

In this course are studied the nature and transmission of sound, how sounds are produced with special emphasis on pipes and strings, interference of waves, the physics of speaking and hearing, pitch, quality, and loudness of sounds, overtones and harmonic series. This course may not be applied toward either a major or minor in physics.

104 Astronomy **4 hrs. Fall**

This non-mathematical course in astronomy is for students who desire an acquaintance with the solar system, with stars and constellations, and with the great galaxies of stars which nature has spread so abundantly throughout the known universe. Three lecture-recitations and two hours of evening observation and laboratory per week are required. Astronomy may count as three hours toward a physics major only for those in the Secondary Education Curriculum.

106 Elementary Physics **4 hrs. Fall, Winter**

This course surveys physics from mechanics to modern physics in one semester. It is designed for students in curricula requiring four credit hours at the level of general college physics. The course consists of four lectures and one two-hour laboratory per week.

110 General Physics **4 hrs. Fall, Winter**

A general college physics course in the principles and practical application of mechanics, sound, and heat. Required of all medical and dental students. Recommended for students in curricula other than science and students desiring a non-calculus course in physics. The course meets for three lectures, one recitation, and a two-hour laboratory per week.

111 General Physics **4 hrs. Fall, Winter**

This course follows 110 and consists of studies in electricity, magnetism, light, and atomic and nuclear physics. Prerequisite: Physics 110.

202 Photography **3 hrs. Fall, Winter**

This is an elementary course in the theory and use of photographic materials. It is open to all students but is applicable toward a major

or minor in physics only for those in the Secondary Education Curriculum. The course consists of one two-hour lecture-recitation and one two-hour laboratory per week.

210 Mechanics and Heat **4 hrs. Fall, Winter**

This first course of a sequence of three in general college physics employing calculus deals with mechanics and heat. It is required of physics majors and recommended for pre-engineering students, majors in other sciences, and future physics teachers. The course consists of 3 lectures, 1 recitation and a two-hour laboratory per week. Prerequisite: Math II concurrently or consent of instructor. Open to qualified freshmen.

211 Electricity and Light **4 hrs. Fall, Winter**

This course follows 210 and consists of studies in electricity, magnetism, and light. Prerequisite: Physics 210 or consent of instructor.

212 Atomic and Nuclear Physics **4 hrs. Fall, Winter**

This course, with 210 and 211, completes the sequence making up the introductory course in physics with calculus. Students transferring from community colleges with one year of physics will normally be expected to take this course. Prerequisite: Physics 211 or consent of instructor.

308 Teaching of Physical Science **2 hrs. Winter**

This course deals with problems of teaching high school chemistry, physics and physical science. The main emphasis is on effective methods of instruction. Practical methods of selection, maintenance, and construction of apparatus are also considered. Prerequisites: One year of college chemistry and one year of college physics.

330 Thermodynamics and Kinetic Theory **3 hrs. Winter**

An intermediate course dealing with the basic principles of thermodynamics and their applications to homogeneous solids, liquids, and gases. Introductory kinetic theory with selected applications is also included. Prerequisite: Physics 211.

342 Electrical Measurements and Electronics **5 hrs. Fall, Winter**

This course deals with the theory and practice of electrical measurements and electronic circuits, the more important uses of vacuum tubes and transistors. There are three lectures and two 2-hour laboratories per week. Prerequisite: Physics 211.

352 Optics **4 hrs. Fall**

This is a course in geometrical and physical optics in which the main topics discussed are: reflection, refraction, wave motion, interference, diffraction, polarization, double refraction, lasers. Three lectures and one 3-hour laboratory per week. Prerequisite: Physics 212.

360 Introduction to Theoretical Physics **4 hrs. Fall**

Selected topics and problems from mechanics, electromagnetic theory and quantum mechanics will be discussed in detail and solutions to some

problems will be obtained. In particular the harmonic oscillator, the use of effective potentials, application of boundary conditions in electromagnetism, electromagnetic waves and radiation, and some solutions of the Schrödinger equation will be treated. Enrollment in this course is limited to students in Secondary Education who are majoring or minoring in Physics. Prerequisites: Physics 212, Math III.

470 Historical Developments of Concepts of Physical Science **3 hrs. Winter**

This course, which is designed for the science major at the junior-senior level, considers the logic and interpretation of contemporary physical problems through a study of their historical development. Representative of discussed topics are: physical characteristics of matter, conservation and symmetry, casuality, field representation versus particle representation, relativity and role of mathematics in explanation. (Although oriented toward philosophy and history this course is primarily a course in physics and it will emphasize care and depth in its analyses.) Prerequisite: Physics 212 and junior status as a science major.

498 Special Problems **1-3 hrs. Fall, Winter**

In this course a student works on a laboratory project or a reading project under the direction of a staff member. Prerequisite: Consent of instructor.

520 Analytical Mechanics **3 hrs. Fall**

The topics include statics, dynamics of a particle and of a rigid body. Lagrange's and Hamilton's equations are introduced. Vector methods are used frequently. Prerequisites: Physics 212, Math III.

540 Fundamentals of Electricity and Magnetism **3 hrs. Winter**

This is a theoretical course providing a thorough investigation of electric and magnetic fields. The applications of the theorems of Stokes and Gauss are emphasized, and Maxwell's equations are developed. Prerequisites: Physics 212, Math IV.

552 Applied Spectroscopy **3 hrs. Winter**

This is a combined class and laboratory course on methods of spectrographic analysis. The topics studied include the history of spectroscopy, the origin of line spectra, spectrographic instruments, and modern techniques of qualitative and quantitative analysis. Prerequisite: Physics 212 or consent of instructor.

560 Modern Physics I **4 hrs. Fall**

This course includes an introduction to quantum mechanics with selected applications, the one-electron atom, radiative transitions, atomic shell structure, and atomic and molecular spectroscopy. A knowledge of elementary differential equations is assumed. Recommended for seniors. Prerequisites: Physics 212, Math III.

561 Modern Physics II **4 hrs. Winter**

The first part of this course covers quantum statistics and an introduction to solid state physics. The latter part is a study of nuclear physics including properties of nuclei, nuclear reactions and models. and the particles of physics. Prerequisite: Physics 560

563 Introduction to Solid State Physics **3 hrs. Winter**

This course is designed to acquaint the student with modern theories of the structure of solids. Included in the course are discussions on the symmetry properties of solids; bond structure; electrical and thermal properties of insulators, semi-conductors and metals; and theories of magnetism. Attention will be given to both theoretical and experimental aspects of these topics. Prerequisite: Consent of instructor.

572 Techniques in the Use of Radiation and Radioisotopes **2 hrs. Winter**

Increasing use of radioisotopes and radiation in research in biology, chemistry and physics make it necessary to provide formal training for graduate students and advanced undergraduates in the principles and practices of safe radioisotope use. The course is interdisciplinary in content and consists of one lecture and one laboratory per week. It does not count toward a physics major or minor. Prerequisites: one year of college chemistry and one year of college physics.

598 Selected Topics **1-4 hrs. Fall, Winter**

The following courses are for graduate students only and may be selected only after consultation with the physics graduate adviser.

612 Current Developments in Physics **2 hrs.**

This course consists of demonstration-lectures and discussions of some of the outstanding developments in physics in recent years, such as nuclear energy and its applications, artifiical radioactivity, elementary particles, high energy accelerators, semi-conductors and transistors and ultrasonics. Special attention will be given to make the course of practical value to high school teachers of science. Prerequisite: One year of General College Physics.

622 Quantum Mechanics **3 hrs. Winter**

This course is designed to provide a foundation of fundamental techniques of calculation for more advanced work in physics and chemistry of atoms, molecules, nuclei and solids. An attempt will be made to provide an understanding of the principles of the subject through the Schroedinger-Heisenberg equations as well as through the formal operator theory of Dirac. Discussing the simple and representative systems of the simple harmonic oscillator and the one electron atom, the course will confine itself almost solely to the non-relativistic approximation.

624 Statistical Mechanics **3 hrs. Winter**

This course deals with concepts of probability and statistics as applied to physics with particular emphasis on the kinetic theory of gases. Topics covered will include Laplace's formula, Stirling's formula, normal distribution law, Maxwell's distribution of velocities, canonical ensemble, and Gibbsian ensemble.

630 Classical Mechanics **3 hrs. Fall**

This course deals with the Hamiltonian method of mechanics and develops the variational principles and the equations of Lagrange. Examples of point mass and rigid body problems are examined by these methods. The principles of relativity are introduced by establishing the Lorentz invariance requirement for the Hamiltonian. Canonical transformations, angle and action variables, and theory of small vibrations, are introduced in a way that makes the historical bridge between classical and quantum mechanics.

662 Electricity and Magnetism **3 hrs. Fall**

This course deals with static and time dependent electromagnetic fields and their interaction with matter. Radiation, wave motion, scattering, and relativity, are several of the topics in the latter part of the course. Vector analytical notation is used exclusively.

Political Science

Milton Greenberg, Chairman

Robert J. Batson
Samuel I. Clark
Kenneth A. Dahlberg
Donald R. Holt
Alan C. Isaak
Robert W. Kaufman
C. I. Eugene Kim
George Klein
Richard L. McAnaw
James E. Nadonly
Roy Olton
Claude S. Phillips, Jr.
Jack C. Plano
Charles A. Redenius
Richard J. Richardson
William A. Ritchie
Chester B. Rogers
Ernest E. Rossi
Robert D. Smith
Leo C. Stine
Frank L. Van Voorhees
Howard A. Wolpe
Lawrence Ziring

Courses in the Department are designed to prepare a student to: (1) become a functioning citizen; (2) become a teacher of government or civics; (3) become a governmental employee or officer; (4) understand the part government plays in every day business or other activities; (5) develop sound methods of investigation and reflection as well as the ability to evaluate political information critically; (6) understand the role which individuals and organized groups can play in the political process; and (7) appreciate the relationship of the study of government and public affairs to other social sciences.

A major in Political Science consists of a minimum of 30 semester hours of work in the Department. A minor consists of 20 semester hours in the Department. The following are required courses for majors and minors:

The major core requirements are:

200 National Government
250 International Relations
340 or 342 Comparative Government
One course in theory

The additional courses taken by the student to complete his 30 hour major must include work in at least two fields with no more than 9 hours in any one field. It is recommended that students in a teaching curricula choose American Government as one of their fields.

The minor core requirements are:

200 National Government
250 International Relations
340 or 342 Comparative Government
Plus electives to complete 20 hours.

Core requirements may be waived with the written permission of the Chairman of the Department.

The Department of Political Science cooperates with the School of Business in offering a curriculum in Public Administration designed for students planning careers in the public service or in other employment where their work will bring them into continuing contact with governmental agencies and activities. The student may take a Bachelor of Arts Degree with a Major in Political Science and a Minor in Business, or a Bachelor of Business Administration Degree consisting of a Business Administration Major plus a Minor in Political Science. For further details see page 176 under Business Administration.

A program of graduate study leading to the Degree of Master of Arts is offered by the Political Science Department. For information on courses offered, see the Graduate Bulletin.

The Honors Program in Political Science provides an opportunity for students to earn the Bachelor's degree with Honors in Political Science. To be eligible, a student must have sophomore standing, a better than "B" average, and a willingness to do original and independent work. Students interested in the program should consult the departmental Honors Adviser.

The Institute of Public Affairs is involved in a number of activities designed to promote research. In this connection it strives to (1) contribute to the knowledge of political science; (2) encourage faculty members to participate in research and discussion; (3) train graduate and undergraduate students through participation and research; (4)

communicate to interested public officials and citizens the knowledge of the academic community; and (5) make available data processing equipment for training and research. For further information see Chester B. Rogers, Director, Institute of Public Affairs.

AMERICAN GOVERNMENT

200 National Government **3 hrs. Fall, Winter**

An introductory survey of American national government. This course introduces the basic principles and theories of American government, explores the political process, describes the structure, and illustrates its functions.

302 State Government **3 hrs. Fall, Winter**

A study of the governing processes and institutions of the state governments in the United States. Comparison of policy-making, services extended, financial resources, administrative arrangements.

304 Local Government **3 hrs. Fall, Winter**

An intensive analysis of the ecology, legal powers and limitations, administrative structure, decision-makers, and process of government in urban and rural America. Alternative arrangements for governing metropolitan areas will be examined and compared.

502 Studies in Political Behavior **3 or 4 hrs. Fall, Winter**

Analysis of behavior of participants in the political process. Group behavior, Legislative, Administrative, or Judicial behavior will be studied utilizing modern research tools for the analysis of the political system. The subject matter of the course will vary from semester to semester and students may repeat the course. Prerequisite: Junior standing.

506 Problems of American Government **3 or 4 hrs. Winter**

A critical examination of major problems facing national, state, or local government with emphasis upon contemporary efforts to reach solutions to such problems. Significant issues such as agriculture, education, taxation, welfare, labor and business will be considered. The subject matter will vary from semester to semester and students may repeat the course. Prerequisite: Junior standing.

POLITICS

310 U. S. Politics, Parties, Pressure Groups & Legislation
4 hrs. Fall, Winter

Designed as an introduction to the field of politics, this course will introduce the student to formal and informal instruments of politics and the role each plays in the operation of government. Emphasis is placed on the nature and interrelationship of political forces which operate within the legislative process in the development of public policy. Prerequisite: Junior standing.

312 Public Opinion and Voting Behavior **4 hrs. Winter**

Introduction to the theory of public opinion and techniques for its measurement. The role of mass communications and propaganda in influencing public opinion and public policy. A study of public opinion and other factors entering into the voting behavior of citizens. Prerequisite: Junior standing.

510 The Political Process of Government **5 hrs.**

An analysis of political behavior in the United States with particular reference to the growth and internal dynamics of interest groups; the characteristics of the party system; the role of both groups and party in relation to public opinion and to the operation of the legislative, executive, and judiciary. Not open to students who have taken Political Science 310.

PUBLIC LAW

320 The American Judicial Process **4 hrs. Fall, Winter**

A study of the relationship of the judicial system to other elements of the political system and to society at large. Judicial functions and procedures are considered with special attention to the interaction between the courts and the legislative and executive branches. Prerequisite: 200 or 302.

520 Constitutional Law and Civil Liberties **4 hrs. Fall, Winter**

A study of the interpretation of the United States Constitution as embodied in the opinions of the United States Supreme Court. The political and social situation giving rise to great constitutional controversies are studied in the context of the role of law and judges. Subject areas covered include national-state relations, judicial, legislative and executive power, with special attention to contemporary developments in civil liberties and civil rights. Prerequisite: 200.

526 Administrative Law and Public Regulation **4 hrs. Fall**

A study of the requirements for, and the limits on, the exercise of administrative powers by public officials charged with regulating significant aspects of the social and economic life of the nation. Special attention is paid to the extent of government regulation and the means of safeguarding individual rights through fair administrative procedures and judicial control over administrative determination. Prerequisite: 200 or a course in Economics.

PUBLIC ADMINISTRATION

330 Public Administration **4 hrs. Fall, Winter**

An introductory course in the administrative process in the public service. Special attention given to the environment and politics of administration, the role of the chief executive and the legislature. Detailed

consideration of personnel and financial problems in administration. Examination of the role and status of the public bureaucracy in a democracy. Prerequisite 200.

332 The American Chief Executive **3 hrs. Fall**

The role and position of the chief executive in American Government: President, governor, mayor, city manager. The growth of the Presidency in the 20th Century will receive special attention.

530 Problems of Public Administration **3 or 4 hrs. Fall**

Consideration of issues and problems of current interest in the field of public administration. This course is intended to provide advanced work for undergraduates and also to serve as an introduction to the field for graduate students without previous training in public administration. Prerequisite: For undergraduates, 330 or consent of instructor.

COMPARATIVE GOVERNMENT

340 European Political Systems **4 hrs. Fall, Winter**

Considers the organization, political behavior and decision-making process of the major countries of Europe. Political trends and forces challenging and reshaping democratic institutions are examined.

342 Political Systems of Developing Areas **4 hrs. Fall, Winter**

A systematic analysis of the various patterns of politics in the developing nations of the various areas of Asia, Africa, and Latin America. Consideration is given to the major political and governmental problems inherent in societies seeking to achieve economic and social modernization. The specific areas to be studied will be announced each semester; course may be repeated.

540 Problems of Foreign Political Systems **3 or 4 hrs. Winter**

Course will consider selected problems of the governments and political systems of Western and Eastern Europe, Asia, Africa, and Latin America. The specific problems, topics, and countries to be studied will be announced each semester. May be repeated.

542 Administration in Developing Countries **3 hrs. Winter**

A consideration of the relation of administrative structure and technique to the political, economic and social problems of the developing countries. Special attention to the role of the bureaucracy in the political system and the nature of, and obstacles to, administrative modernization.

546 Governments of the Soviet Union and Eastern Europe **3 or 4 hrs. Winter**

The governmental organization and political structure of the Soviet Union and the States of Eastern Europe. Special attention is directed to the Communist Party and its relationship to the organization of the state. The educational and economic bases of the current system are stressed. Prerequisite: Junior standing.

INTERNATIONAL RELATIONS

250 International Relations **4 hrs. Fall, Winter**

A study of the nature of the international community and the forces which produce cooperation and conflict. Particular attention is given to analyzing power in terms of its acquisition and uses.

350 American Foreign Policy **4 hrs. Fall, Winter**

An analysis of the institutions and processes by which the American people and their government determine and seek to achieve the national interest of the United States in the international community. Prerequisite: 200 or 250 or equivalent.

354 International Organization and Law **4 hrs. Winter**

Explores systems, methods, and agencies developed by states for meeting their common problems. Examines also the legal relations of nations in war and peace, international legal theory and institutions. Emphasis is placed on the United Nations and regional political, military, and economic agencies. Prerequisite: Political Science 250 or 550.

550 Problems of International Relations **3 or 4 hrs.**

An intensive introduction for seniors and graduate students who have had no previous work in the international field. The course surveys the subfields of international politics, law, organization, and foreign policy. Constitutes a prerequisite to any other 500 or 600 level international courses for such students. May not be taken by students who have had Political Science 250.

552 Studies in International Relations **3 or 4 hrs. Fall, Winter**

Examines selected topics within the field of international relations. Topics will vary and will be announced each semester. Course may be repeated. Prerequisite: 250 or equivalent.

POLITICAL THEORY

360 Introduction to the History of Political Theory I: Greek Political Philosophy to Hobbes **3 hrs. Fall**

A survey of significant political theories and ideologies. Emphasis is placed on post-Socratic Greek theories, and the characteristic theories of the Medieval, Renaissance, and Reformation periods. Prerequisite: Junior standing.

361 Introduction to the History of Political Theory II: Hobbes to the Present **3 hrs. Winter**

A survey of significant political theories and ideologies. Emphasis is placed on the Enlightenment, the Nineteenth and early Twentieth Centuries. Prerequisite: Junior Standing.

362 Contemporary Political Thought **4 hrs. Winter**

A consideration of recent thought on the matter of politics, the current political condition of man, politics and psychology, politics and contemporary economic and philosophical thought, political systems, and contemporary problems.

366 Introduction to Scope and Methods of Political Science **3 hrs. Fall**

A consideration of the nature and scope of political science, and various approaches to the study of politics and their methods, primarily the application of scientific methodology to political inquiry.

560 Comparative Political Ideologies **4 hrs. Fall**

A consideration of the functions of ideology in various political systems. Communism, Fascism, and Democracy are directly considered.

562 Modern Democratic Theory **3 hrs. Winter**

The course consists of two parts. First, a consideration of traditional democratic theories, and the criticisms of these theories emanating from modern elitists such as Mosca, Michels, Pareto and Ostrogorski. Second, an analysis of the attempts by contemporary economists, political scientists, and sociologists to meet these criticisms by revising democratic theory.

READING AND SPECIAL STUDIES

490 Political Science Honors Seminar **2 hrs. Winter**

An undergraduate seminar for Honor students and others admitted by consent of the Departmental Honors Committee. The content of the seminar varies and will be announced in advance. May be repeated. Prerequisite: Admission by invitation by Departmental Honors Committee.

590 Research Methodology **4 hrs. Spring**

Study of the formulation of research questions, the design of research projects, the methods of data gathering, and the procedures for analysis of data. The course will involve discussion of measurement theory, statistics, and data processing mechanism, including computers. Each student will be required to apply the methods discussed. For graduates and those undergraduates who intend to pursue graduate studies. Undergraduates must obtain permission of instructor before entering.

598 Studies in Political Science **1 to 4 hrs. Fall, Winter**

An opportunity for advanced students with good scholastic records to pursue independently the study of some subject of interest to them. Subjects are chosen and arrangements made to suit the needs of individual students. Prerequisite: Approval of Chairman of Department or instructor.

Psychology

Paul Mountjoy, Acting Chairman

Douglas Anger
Eston J. Asher
Donald A. Davis
Frank A. Fatzinger
Robert Hawkins
B. L. Hopkins
Ronald Hutchinson
Louise R. Kent
Neil D. Kent
Chris Koronakos
Stanley Kuffel
David O. Lyon
Richard Malott
John Nangle
Malcolm Robertson
Richard Schmidt
Robert M. W. Travers
Roger Ulrich
Donald Whaley

There are three majors in the Department: (a) a basic (pre-graduate) major, (b) a general major, and (c) a secondary school teaching major. All majors are required to complete the departmental core curriculum which consists of (a) a minimum of 24 hours in psychology including 150 (Psychology I), 160 (Psychology II), 250 (Behavior Modification I), 260 (Behavior Modification II), 350 (Analysis of Behavior I), 360 (Analysis of Behavior II), 450 (Methodological Foundations of Psychology I), and 460 (Methodological Foundations of Psychology II), and (b) a minimum of 8 hours of mathematics including 200 (Analysis and Applications) and 260 (Elementary Statistics) or 122 (Mathematics I), 123 (Mathematics II) and 260 (Elementary Statistics).

The *basic major* is designed for students who plan to pursue graduate study in psychology. Students in this program are required to complete, in addition to the departmental core curriculum, (a) Engineering and Technology 240 (Electrical Circuits) and 241 (Electronic Circuits) or Physics 110 (General Physics) and 111 (General Physics) and (b) the requirements for the B.A. degree in the General Curriculum or the Liberal Arts Curriculum with a minor in biology, chemistry, mathematics, or physics. Students are advised to choose French, German, or Russian to satisfy their language requirements and to include Biology 219 (Systemic Physiology), Mathematics 106 (Intro. to Computers I) and 107 (Intro. to Computers II), and Philosophy 220 (Elementary Logic) and 521 (Philosophy of Science) in their program of study. Students who complete this program will satisfy the major requirements for the Bachelor of Arts degree.

The *general major* is designed for students whose primary goal is a liberal education terminating with the baccalaureate degree. Students satisfy the requirements of this program by completing the departmental core curriculum and the requirements specified in the General Curriculum. Students who complete this program will satisfy the major requirements for the Bachelor of Science degree. Although the basic major is designed to provide an optimal preparation for graduate study in psychology, students may do graduate work with only the general major as preparation. Students who are unable to complete all of the requirements for the basic major are encouraged to complete as many of them as possible.

The *secondary school teaching major* is designed to train secondary school teachers of psychology as behavioral scientists. Students who elect this program are required to complete, in addition to the departmental core curriculum, (a) Psychology 505 (Teaching Psychology in the Secondary School) and (b) a secondary school teaching minor in biology, chemistry, mathematics, or physics.

PSYCHOLOGY MAJORS UNABLE TO SEQUENCE PROPERLY THE REQUIRED COURSES INTO THEIR SCHEDULE SHOULD OBTAIN PERMISSION FROM THE DEPARTMENTAL ADVISER TO TAKE SOME COURSES CONCURRENTLY.

Students with the specified prerequisites (see Honors Courses) are encouraged to enroll in the honors sections offered concurrently with the core courses.

Students in any of the above programs may graduate with Departmental Honors by completing a minimum of 8 hours of Honors Sections with a grade of A. Psychology 451 (Methodological Foundations of Psychology I—Honors Section) and 461 (Methodological Foundations of Psychology II—Honors Section) must be included in the eight hours.

A minor in psychology (for other than business or education students) consists of Psychology 150 (Psychology I), 160 (Psychology II), 250 (Behavior Modification I), 260 (Behavior Modification II), 350 (Analysis of Behavior I), and 360 (Analysis of Behavior II). A minor for business students consists of fifteen hours including Psychology 150 (Psychology I), 160 (Psychology II), 250 (Behavior Modification I), and 260 (Behavior Modification II). A minor for education students consists of Psychology 150 (Psychology I), 160 (Psychology II), 250 (Behavior Modification I), 260 (Behavior Modification II), 380 (Psychological Testing in Education) and 517 (Psychology of Learning for Teachers).

A teaching minor in Psychology consists of Psychology 150 (Psychology I), 160 (Psychology II), 250 (Behavior Modification I), 260 (Behavior Modification II), 350 (Analysis of Behavior I), 360 (Analysis of Behavior II), and 505 (Teaching Psychology in the Secondary School).

CORE COURSES

150 Psychology I: An Introduction to the Science of Behavior
3 hrs. Fall, Winter

An introduction to the basic principles of the science of behavior of organisms, their biological and environmental bases, and the application of these principles to the understanding, prediction, and control of behavior. This course consists of one lecture hour, two seminar hours, and two laboratory hours per week. Open to freshmen.

160 Psychology II: Personality and Developmental Psychology
3 hrs. Fall, Winter

The application of the principles of behavior in the analysis of complex behavior. An emphasis is placed on the topics of personality and developmental psychology. Elementary quantitative concepts needed to

understand psychological literature will also be presented. Prerequisite: Psychology 150 (or 200 or 201) or permission of the instructor.

250 Behavior Modification I: Abnormal Behavior 3 hrs. Fall, Winter

An introduction to the modification of behavior. Particular attention is paid to variables related to the development, physiological bases, maintenance and modification of abnormal behavior. In addition an introduction to research methodology and selected basic research areas will be considered. Prerequisite: Psychology 160 (or 205, 220, or 270) or permission of the instructor.

260 Behavior Modification II: Normal Behavior 3 hrs. Fall, Winter

A study of normal human behavior. The subject matter of educational and social psychology will be emphasized. Concepts of experimental methods and philosophy of science will also be considered. Prerequisite: Psychology 250 or permission of the instructor.

350 Analysis of Behavior I: Stimulus Control of Behavior 5 hrs. Fall, Winter

An analysis of the stimulus control of both operant and respondent behavior. Areas covered are sensory processes, verbal behavior, imitation, concept formation, sensory scaling, perception, generalization, discrimination and psychophysics. Emphasis is placed on experimental methodology. This course consists of five laboratory hours and one lecture hour per week. Prerequisite: Psychology 260 or permission of the instructor.

360 Analysis of Behavior II: Contingencies and Consequences 5 hrs. Fall, Winter

A study of the various approaches to response measurement, experiment methodology, and theoretical interpretations of data in the areas of classical conditioning and operant behavior. This course consists of five laboratory hours and one lecture hour per week. Prerequisite: Psychology 350 or permission of the instructor.

450 Methodological Foundations of Psychology I: Principles 3 hrs. Fall, Winter

Interpretation and application of descriptive and inferential statistical techniques necessary in the understanding of data in behavioral research. Other topics will be the methodology of the experimental analysis of the behavior of individual organisms, the methodology of research with groups, non-statistical quantitative techniques, and philosophy of science. Perequisites: Psychology 360 and Mathematics 260 or permission of the instructor.

460 Methodological Foundations of Psychology II: Applications 3 hrs. Fall, Winter

Applications of the concepts learned in Psychology 450. Prerequisite: Psychology 450 or permission of the instructor.

ADVANCED COURSES

505 Teaching Psychology in the Secondary School 3 hrs. Fall, Winter

Class discussions, laboratory experiences and field work concerned with the teaching of psychology in high school. Prerequisite: Permission of the instructor.

512 Physiological Psychology 3 hrs. Fall, Winter

A survey of the relationships of physiological and behavioral processes. Lecture and laboratory. Prerequisite: Permission of the instructor.

513 Animal Behavior 3 hrs. Fall, Winter

A phylogenetic approach to the study of behavior. Lecture and laboratory. Prerequisite: Permission of the instructor.

516 Conditioning and Learning 3 hrs. Fall, Winter

A study of the various approaches to response measurement, experimental methodology, and theoretical interpretations of data in the area of conditioning and learning. Prerequisite: Permission of the instructor.

518 Sensory and Perceptual Processes 3 hrs. Fall, Winter

A survey of sensory and perceptual phenomena with an emphasis on vision and audition. Lecture and laboratory. Prerequisite: Permission of the instructor.

535 Instrumentation in Psychology 3 hrs. Fall, Winter

A survey of problems in response measurement in experimentation. Lecture and laboratory. Prerequisite: Permission of the instructor.

542 Human Factors in Engineering 3 hrs. Fall, Winter

A survey of research on the adaptation of equipment, products, and environment to man's use. Prerequisite: Permission of the instructor.

574 Experimental Social Psychology 3 hrs. Fall, Winter

Methodology of research with groups with emphasis on experimental design and application. Lecture and laboratory. Prerequisite: Permission of the instructor.

595 History of Psychology 3 hrs. Fall, Winter

The historical and philosophical foundations of contemporary American psychology.

SEMINARS AND INDEPENDENT STUDY

397 Seminar in Contemporary Problems 1-5 hrs. Fall, Winter

Survey and discussion of selected topics in contemporary psychology. Prerequisite: Permission of instructor. May be repeated for credit.

398 Independent Study 1-5 hrs. Fall, Winter

This course provides an opportunity for independent reading and/or

research under the direction of a faculty member. Prerequisite: Permission of instructor. May be repeated for credit.

597 Topical Seminar **1-5 hrs. Fall, Winter**

A survey in depth and discussion of a research topic of current interest. Prerequisite: Permission of instructor. May be repeated for credit.

598 Special Projects in Psychology **1-5 hrs. Fall, Winter**

Prerequisite: Permission of instructor. May be repeated for credit.

HONORS COURSES

151 Psychology I: Honors Section **2 hrs. Fall, Winter**

This course is designed to provide an opportunity for more depth in reading, laboratory work, and report writing. Emphasis will be placed on the theoretical aspects of psychology. This course consists of three laboratory hours. Prerequisites: The student must be concurrently enrolled in Psychology 150. Enrollment by permission of the Honors College only.

161 Psychology II: Honors Section **2 hrs. Fall, Winter**

Similar to Psychology 151. This course consists of five laboratory hours. Prerequisites: Students enrolling in this course must have completed Psychology 150 (or 200 or 201) with a grade of A, be concurrently enrolled in Psychology 160, and obtain permission of the instructor.

251 Behavior Modification I: Honors Section **2 hrs. Fall, Winter**

This course will consist of laboratory experience in the modification of abnormal behavior with human subjects. Prerequisites: In order to enroll in this course a student must have completed Psychology 160 (or 205, 220, or 270) with a letter grade of A, be concurrently enrolled in Psychology 250, and obtain permission of the instructor.

261 Behavior Modification II: Honors Section **2 hrs. Fall, Winter**

This course consists of five laboratory hours per week in the modification of normal behavior. Prerequisites: A student enrolled in this course should have completed Psychology 250 with the grade of A, be concurrently enrolled in Psychology 260, and obtain permission of the instructor.

351 Analysis of Behavior I: Honors Section **2 hrs. Fall, Winter**

This course consists of two seminar hours and one lecture hour per week. Students enrolled in this course must have completed Psychology 260 with the grade of A, be concurrently enrolled in Psychology 350, and obtain permission of the instructor.

361 Analysis of Behavior II: Honors Section **2 hrs. Fall, Winter**

This course consists of two seminar hours and one lecture hour per week. Prerequisites: A student enrolled in this course should have completed Psychology 350 with the grade of A, be concurrently enrolled in Psychology 360, and obtain permission of the instructor.

451 Methodological Foundations of Psychology I: Honors Section
2 hrs. Fall, Winter

This course consists of five laboratory hours. Prerequisites: A student enrolled in this course should have completed Psychology 360 with a grade of A, be concurrently enrolled in Psychology 450, and obtain permission of the instructor.

461 Methodological Foundations of Psychology II: Honors Section
2 hrs. Fall, Winter

This course consists of five laboratory hours. Prerequisites: A student enrolled in this course must have completed Psychology 450 with a grade of A, be concurrently enrolled in Psychology 460, and obtain permission of the instructor.

SPECIAL COURSES (Three hours of introductory psychology is a prerequisite to all special courses.)

205 Intermediate Psychology **5 hrs. Fall, Winter**

This course is designed as an orientation for students who have had one or more psychology courses at institutions other than Western Michigan. An emphasis is placed on the basic principles of behavior and their applications to personality and developmental psychology. Elementary quantitative concepts needed to understand psychological literature will also be presented. This course is not open to students who have had Psychology 150 or 160. Prerequisite: One psychology course outside this department.

380 Psychological Testing in Education **3 hrs. Fall, Winter**

An introduction to psychological testing with an emphasis on educational applications.

381 Psychological Testing in Business and Industry
3 hrs. Fall, Winter

An introduction to psychological testing with an emphasis on applications to business and industry. (A student may not receive credit for both 380 and 381)

510 Advanced General Psychology **3 hrs. Fall, Winter**

Lecture and discussion of topics in the behavioral sciences. Prerequisite: Psychology 150.

517 Psychology of Learning for Teachers **3 hrs. Fall, Winter**

An introduction to the basic principles of learning with particular emphasis on application. (A student may not receive credit for both 516 and 517)

530 Statistics for Education **3 hrs. Fall, Winter**

An introduction to basic procedures and concepts. (Not open to psychology majors)

540 Industrial Psychology **3 hrs. Fall, Winter**

Application of psychological principles to industry. An examination of employee selection, occupational analysis and classification, training, evaluation of performance, supervision, and working conditions.

580 Testing and Measurement in Education **3 hrs. Fall, Winter**

Educational applications of testing and measurement procedures.

581 Personnel Selection and Placement **3 hrs. Fall, Winter**

Application of testing procedures to selection and placement problems in industry.

Religion

E. Thomas Lawson, Head

Nancy Auer
Otto Grundler
Byron Earhart
Guntram Bischoff
Maynard Kaufman
Jerome Long
Rudolf Siebert

The study of religion in a public university is universal in scope and theoretical in intent. It is universal rather than parochial because the course offerings are not confined to any particular religious tradition, such as the Judeo-Christian heritage peculiar to Western culture, but are attempts to consider the religious experiences and expressions of mankind. It is theoretical rather than practical in that students are challenged to learn and think about religion both critically and constructively. There is no explicit attempt to make the students more religious.

Since religion is a basic mode of experiencing, expressing, and appropriating humanness, the study of religion can contribute to an appreciative awareness of that humanness. Thus its purpose is generally humanistic, at least as far as the education of undergraduates is concerned. The various courses which comprise the curriculum in Religion can serve to deepen the student's self-understanding both within the context of Western culture and in the light of cross-cultural perspectives. This humanistic emphasis should not, however, obscure the fact that courses in Religion can be useful to students who wish to continue the study of religion on a graduate level, to students who plan to go into professional religious work, or to students who need to deepen their knowledge of other cultures.

The data for the study of religion are drawn from many sources, including the disciplines of anthropology, archaeology, sociology, psychology, history, philosophy, and from the arts. But in the Department of Religion these data are structured and interpreted in terms of an autonomous discipline which is specifically designed to consider the nature

and history of man's encounter with the sacred. In the context of this discipline the data are approached in four different ways, and the courses are thus listed under four specific fields of study. In the Field of Historical Studies the focus is on the development of various religious traditions and on the development of religion in different periods and places. The Field of Morphological and Phenomenological Studies approaches religious phenomena through the study of recurring religious patterns, forms or structures as they can be discerned regardless of time or place. This Field is concerned with the structure of religion rather than with the history of religion. The Field of Methodological Studies is analytical and critical in its approach to religion. An important element in this Field is a disciplined consideration of how to study religion. The Field of Constructive Studies is especially concerned with the power of religion as it explores issues and proposals in the contemporary religious situation, the significance of new religious forms, and the religious possibilities for the future which emerge in and through ecumenical and cross-cultural perspectives.

REQUIREMENTS FOR MAJORS AND MINORS

A major in religion consists of a minimum of 28 hours and includes Rel. 200 (Introduction to Religion), two courses in the Field of Historical Studies, and at least one course from each of the remaining three fields (Morphological studies, Methodological studies, constructive studies). Two of these courses should be at the 500 level.

A minor in religion consists of a minimum of 16 hours and includes Rel. 200 (Introduction to Religion). One course is required in the field of Historical Studies. The two remaining courses should be taken in two of the three remaining Fields.

COURSE DESCRIPTIONS

200 Introduction to Religion **4 hrs.**

An introduction to the study of religion emphasizing the historical and structural aspects of religion and developing the methodological and constructive issues involved in the discipline.

HISTORICAL STUDIES

300 Prehistoric and Primitive Religions **4 hrs.**

The purpose of this course is to introduce the student to the religious life of prehistoric and primitive peoples. Primary attention will be placed on various religious forms created and used by these people. Such religious forms will include burial rites, mother goddess, sacrifices, pictographs, cave art, myths, ideas of the soul, initiation ceremonies, etc. In foscussing upon the emergence and modifications of religious forms the religious continuity and discontinuity between prehistoric and primitive peoples will be indicated.

301 Protohistoric Religions: Ancient Near East, Greece and Rome, Meso-America **4 hrs.**

Cities were once a new mode of human existence on the face of the earth, and they brought with them many new religious forms. This course will consider some of the major religious discoveries made in the urban centers of the Ancient Near East, Greece and Rome, and Meso-America with an attempt to find answers to questions such as: What is a city? What has man discovered about himself and his world through the experience of living in cities? Is the city itself a religious form?

302 Religion in the Indian Tradition **4 hrs.**

This course draws its materials primarily from the great religious traditions native to India—i.e. Brahmanism, Buddhism, Jainism, and Hinduism. Particular attention is paid to the continuities of motif and practice that allow one to speak of "Indian Religion" as a unified phenomenon with a single history. Means of instruction are, insofar as it is possible, primary texts in translation and archeological data.

303 Religion in the Chinese and Japanese Traditions **4 hrs.**

A study of two important religious traditions in their historical continuity and overall unity, taking each tradition separately. In each tradition a historical analysis reveals a number of rather diverse religions which coexist within the unity of a larger tradition. In China the formal religions of Confucianism, Taoism, and Chinese Buddhism, as well as the informal religious movements of "ancestor worship", family religion, and state religion will be studied. In Japan the formal religions of Shinto and Japanese Buddhism, as well as the informal religious factors of reverence for the dead, agricultural festivals, family religion, religious Taoism and Confucianism will be studied. An attempt is made to assess the meaning of religion in Chinese and Japanese history.

304 African Religions **4 hrs.**

This course is designed to introduce the student to the complexity and varieties of the religions of Africa. This is done by focussing on the myriads of religious forms, e.g. Idea of the soul, cosmology, initiation rates, etc. which have emerged during the long history of Africa. The course pays attention to religious forms which either came into being with or define a specific cultural stratum. For example, Hunters and Foodgatherers, Horticulturalists, Agriculturalists, Nomadic Herders. Finally an attempt is made to see what changes Westernization has made in the appropriation by the Africans of their traditional religious symbols.

305 The Christian Tradition **4 hrs.**

A historical survey of the development of Christianity with an emphasis upon its rites and symbols, its theological ideas, its institutional patterns, its continuity and discontinuities.

306 The Jewish Tradition **4 hrs.**

A comprehensive survey of the development of Judaism from its pre-exilix roots to the present. Attention will focus on the problem of the nature and continuity of the Jewish religion within the context of Near Eastern, Greek and Western culture.

307 The Islamic Tradition **4 hrs.**

A study of Islam in its historical continuity and overall unity, from its appearance on the Arabian peninsula to its later expansion. Topics to be covered will include Pre-Islamic influence, the life of Muhammed, the early Muslim community, the Koran and "tradition", prayer, pilgrimages, Muslim law, theology, mysticism, sect developments, and geographical expansion.

500 Historical Studies in Religion **2–4 hrs.**

The topic to be announced in the time schedule. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Special problems in prehistoric and primitive religions, Japanese, Chinese and Indian Buddhism, The Protestant Reformation, Early and Medieval Christianity, Romantic Spirituality, 20th Century Neo-Orthodoxy, the Evolution of Modern Catholicism.

MORPHOLOGICAL AND PHENOMENOLOGICAL STUDIES IN RELIGION

310 The Morphology and Phenomenology of Religion **4 hrs.**

Method in the most general sense refers to a way of organizing data with a specific goal in mind. This course will attempt to organize selected religious data in terms of forms (morphe) and structures (phenomenology). The specific purpose of the course will be to elucidate both the specificity of religious structures and their comprehensiveness. Types of data to be included are Divine forms, cultic practices, initiatory scenarios, religious symbols, etc.

311 Myth and Ritual **4 hrs.**

Eric Dardel, an anthropologist has written: "Myth says with utmost seriousness something that is of essential importance." In this course an attempt will be made to discover just what this important something is and how it is actualized in certain rituals. Myths and rituals will be taken from a variety of historical traditions in order to reflect the cultural milieu of the communities whose lives are governed by them. Special problems to be considered will be the relationship between myth and cult, the problem of time and myth, the logic of mythic forms, etc.

312 Religious Forms in Modern Literature **4 hrs.**

A study of the correlation between various religious forms and literary forms. Particular attention will be devoted to the structural function of religious forms in modern literature. Specific religious forms such as the Saviour, the Divine Child, the Earth Mother, the Hero, the

Adrogyne, Demons, Initiation, Vocation, The Eschaton, and Cosmic and spiritual regeneration will be identified and exemplified in particular works of literature.

510 Morphological and Phenomenological Studies in Religion 2–4 hrs.

The topic to be announced in the time schedule. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Divine Forms in West African religions, Christian rites and symbols, theology as a religious form, Sacred texts, sacrifice, initiation.

METHODOLOGICAL STUDIES IN RELIGION

320 The Philosophy of Religion 4 hrs.

An examination of the place of religion in human experience with special attention to the nature of religious language, the role and structure of religious concepts, the relation between religion and theology, and the logic of religious symbols.

321 The History of the Study of Religion 4 hrs.

In calling mythology a "disease of language", and religion an error founded on dreams, a projection of society, an Oedipus complex, etc. a number of great thinkers helped to found a discipline—and to endow it with some massive problems. This course will introduce students to these major thinkers and the contributions of their various fields: philology, anthropology, sociology, psychology, psychoanalysis, and even theology. Special attention will be devoted to the problem of the autonomy of the discipline of religion in relation to the "parental" human sciences.

520 Methodological Studies in Religion 2–4 hrs.

Topic to be announced in the time schedule. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Philosophical and Cultural Approaches to Religion, Psychological and Sociological Approaches to Religion, Myth and Symbol in Religion and Literature, Theological Method, Hermeneutics and Exegesis, Theological Method.

CONSTRUCTIVE STUDIES IN RELIGION

330 Studies in Contemporary Theology 4 hrs.

Topics such as the following will be studied: Radical Theology, Modern Catholic theology, Ecumenical theology, Christian-Marxist dialogue, etc. Radical theology involves a study of the issues involved in Death of God Theology as well as secular theology as represented by Catholic, Protestant, and Jewish thinkers. Modern Catholic theology involves a study of the problems and promises of the Church's affirmative response

to the reality of the modern world, particularly since Vatican II. Ecumenical theology involves a study of the issues which divide Christians and the attempt to resolve these issues in a conciliatory manner. The Christian-Marxist dialogue involves a study of the theological and ethical issues which separate a religious point of view, particularly a Christian one, from a Marxists view of the world as well as the similarities of these perspectives.

331 The Religious Quest in Modern Literature **4 hrs.**

Several novels and plays are read as concrete and dramatized forms of different religious options or "quests" which students are challenged to evaluate in the context of their dramatic efficacy and power. A disciplined attempt is made to recognize secularized aspects of the Judeo-Christian tradition as well as the neo-pagan religious motifs of modern literature.

332 Religion and Social Ethics **4 hrs.**

A study of the creative socio-ethical ideas, problems, and attitudes in religion with particular reference to modern revolutionary changes in family life, economics, politics, and culture.

530 Constructive Studies in Religion **4 hrs.**

Topics to be announced in the time schedule. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: The nature and function of religion in contemporary society, the possibility of a post-Christian theology, a constructive theory of religious symbolism, the possibility of a religious humanism, religious dimensions of social evolution.

Sociology

Leonard C. Kercher, Head

John W. Barkey
Robert Barstow
William S. Bennett
Donald H. Bouma
Milton J. Brawer
Edsel L. Erickson
J. Ross Eshleman
Donald N. M. Horning
Paul B. Horton
Chester L. Hunt
David M. Lewis
Helenan S. Lewis
Jerome G. Manis
Nellie N. Reid
Evan L. F. Richards
Stanley S. Robin
Martin H. Ross
James A. Schellenberg
Visho B. L. Sharma
Herbert L. Smith
Subhash R. Sonnad
Morton O. Wagenfeld
Lewis Walker

Courses are designed (1) to give students a better understanding of the significant factors and processes of modern life; (2) to meet the needs of students preparing to teach in the social science field; (3) to prepare students to do graduate work in the field of sociology; and (4) to

stimulate interest in and provide prerequisite study for the profession of social work.

A major in Sociology consists of a minimum of 24 hours (30 hours for teaching curricula). Courses 200, 504, and 582 are required. (Social work minors may substitute 580 for 582.) Six hours of social work or anthropology courses may be counted toward the 30-hour major.

A combined major in Sociology and Anthropology consists of a minimum of 30 hours. Sociology 200, 504, and 582, and Anthropology 230 and 231 are required. At least 12 hours of course work in each of the two fields are required.

A minor in Sociology consists of a minimum of 15 hours (20 hours for teaching curricula). Courses 200 and 210 are required. Four hours of social work or anthropology courses may be counted toward the minor.

A minor in Social Work consists of a minimum of 15 hours selected from courses 260, 362, 364, 368, 462, 463, and 560, 580 or 582. Completion of 560 and consent of instructor is required for enrolling in 462 and 463.

Courses 500 and 580 are recommended for those planning to do graduate work in sociology. All courses may be taken separately and taken in any order by students who have had the prerequisite courses.

The curriculum in social work requires a major in sociology, or a combined major in sociology and anthropology. Students intending to pursue this curriculum should seek counsel and guidance early from an instructor in social work, Mrs. Nellie Reid or Mr. Robert Barstow.

Certain students majoring in sociology or following the social work curriculum may spend one semester at the Merrill-Palmer Institute of Human Development and Family Life in Detroit, receiving credit towards graduation at Western.

Students interested in the major or minor in sociology should see the following: Mr. Herbert Smith if their last names start with A through G; Dr. Leonard Kercher for H-P; and Dr. Morton Wagenfeld for Q-Z. Dr. Leonard C. Kercher should be contacted for work at Merrill-Palmer. For the combined major, the student may contact either Dr. Kercher or Dr. Maher (Anthropology).

Center for Sociological Research has conducted studies of group dynamics, marital roles, race relations, voting behavior, migrancy, alcoholism, and mental health since it was established in 1956 within the Department of Sociology. As the research arm of the Department, it aims (1) to contribute to the field of sociology; (2) to assist and provide research facilities to faculty members engaged in research projects; (3) to enable students to participate in current research; and (4) to provide factual information for the community and region. Part-time training and employment is offered to a limited number of superior undergraduate and graduate students. See Dr. Jerome G. Manis, Director of the Center, or Dr. Milton Brawer, Associate Director, for further information.

THEORY

100 Sociology (for Nurses) **3 hrs. Fall**

An introductory course in sociology especially adapted to the need of students of nursing. Not open to regular students.

200 Principles of Sociology **3 hrs. Fall, Winter**

A study of man's social nature and of the social world in which he lives. The biological, social, and cultural factors underlying the development of human personality and the various forms and processes of group association are analyzed.

500 History of Social Thought **3 hrs. Fall**

A critical survey of the social thinking of outstanding students of society from Plato to those of modern social science. Prerequisite: 9 hours of sociology.

504 Sociological Theory **3 hrs. Fall, Winter**

A study of the major theoretical approaches in contemporary sociology. Prerequisite: 9 hours of sociology.

SOCIAL PROBLEMS

210 Modern Social Problems **3 hrs. Fall, Winter**

A general survey of some of the major social problems now confronting American society, such as inter-group conflict, physical and mental ill health, economic insecurity, juvenile delinquency and crime, population changes, and mass communication. Prerequisite: Soc. 200.

Rural Sociology **4 hrs. Winter**

See course description page 221.

312 Criminology **3 hrs. Fall, Winter**

A study of crime as a social problem. Course includes (1) an analysis of causative factors in crime, (2) a study of American police and court systems, (3) a survey of problems of penology, and (4) a consideration of crime prevention. Visits to institutions are made. Prerequisite: Soc. 200.

314 Race Relations **3 hrs. Fall, Winter**

A study of race and intergroup relations, stressing (1) the meaning of race, (2) the nature and roots of race prejudice, race discrimination, and intergroup conflict, and (3) the character and effectiveness of various means of adjustment to the problem. Prerequisite: Soc. 200.

510 Selected Social Problems **3 hrs.**

An examination of a selected area of concern in social problems not intensively covered in other courses. This course may be repeated for credit with consent of adviser. The focus of the course will be substantive, rather than theoretical or methodological. Topics may include

such areas as poverty, mental illness, narcotic addiction, alcoholism, aging, international tensions, etc. Prerequisites: Soc. 200, 210 or consent of instructor.

512 Seminar in Criminological Theory **2 hrs.**

A critical analysis and evaluation of the leading theories concerning the causes of crime, the nature of criminal personality and the treatment of convicted offenders. Prerequisite: Soc. 312 or 514 or consent of instructor.

514 Juvenile Delinquency and the Community **3 hrs. Fall, Winter**

A study of juvenile delinquency as a social problem. Extent, causative factors, methods of treatment, and programs of prevention and control are covered. When possible, extensive use of community resource people is made. Prerequisite: Soc. 200 or 600*, or equivalent.

515 Social Conflict **3 hrs. Winter**

An examination of causes of social conflict, strategies in pursuing conflict, and forms of conflict resolution in conflicts between individuals, between groups, and between nations. Prerequisite: 15 hours of sociology, political science and economics.

SOCIAL PSYCHOLOGY

220 Social Psychology **3 hrs. Fall, Winter**

A study of the social and cultural aspects of individual personality, together with an analysis of the problems of personal adjustment that arise from the interaction of personalities and from the relation of the individual to the social environment in general. Prerequisite: Soc. 200.

322 Mass Communication **3 hrs. Fall**

The study of the media of mass communication in modern society. Impact of radio, television, movies, and newspapers on family life, delinquency, leisure, and mass behavior. Analysis of humor, propaganda and ideologies. Prerequisite: Soc. 200.

523 Contemporary Social Movements **3 hrs. Fall**

A study of the growth and place in contemporary society of selected social movements, including communism, fascism, Ku Klux Klan, the Townsend movement, and the like. Prerequisite: Soc. 200 or 600*.

524 Advanced Social Psychology **3 hrs. Winter**

A study of selected theoretical, methodological and substantive problems in Social Psychology. Prerequisite: Soc. 220 or equivalent.

525 Social-Psychology of Education **3 hrs.**

An intensive examination of student, teacher, and administrative roles. Particular attention will be given to the import of peers, family, and social structure. Prerequisite: Soc. 220 or equivalent.

*600 Social Dynamics of Human Behavior is a foundational course in sociology at the graduate level.

532 Introduction to Comparative Sociology **3 hrs.**

An introduction to the history, major theoretical viewpoints and methodological issues associated with cross-national and cross-cultural studies. Particular emphasis will be placed upon those studies of major institutions and problem areas which have been central to the development of the comparative approach in sociology. Prerequisite: 9 hrs. of Soc. or consent of instructor.

COMMUNITY AND CLASS

353 The City **3 hrs. Fall**

A study of city life as influenced by the processes of industrialization and urbanization. Community problems and social planning for community life are given appropriate consideration. Prerequisite: Soc. 200.

554 Sociological Analysis of Population **3 hrs. Fall**

Application of selected sociological theories to analyze and interpret population characteristics and processes such as size, growth, social structure and social change. Prerequisite: 5 semester hours in Sociology or consent of instructor.

556 Social Stratification **3 hrs. Winter**

An analysis of the structuring of societies along social class and caste lines. Emphasis is placed on the class structure of the United States and its implications for educational, occupational, and political policies. Prerequisites: Soc. 200 or 600 or consent of instructor.

557 Changing Social Systems—Sub-Saharan Africa **2 hrs. Winter**

A study of the erosion of traditional tribal systems and the rise of secondary associations and social systems in sub-Saharan Africa resulting from the impact of European Culture and other contemporary world influences. Prerequisite: Soc. 200 or Anth. 231 or consent of instructor.

558 Social Forces in Underdeveloped Areas **3 hrs. Winter**

An examination of the social factors which influence the growth of industrialization in underdeveloped areas. These factors include cultural tradition, social class stratification and the problems involved in a shift from rural to urban residency. Case materials from private business enterprises, missionary and educational ventures, U. S. Foreign Aid projects and U. N. projects included. Prerequisite: Soc. 200 or 600.

SOCIAL WORK

260 The Field of Social Work **3 hrs. Fall, Winter**

A study of social work as a professional field. The philosophy, functions, employment opportunities, patterns of specialization, and methods of social work are surveyed.

362 Family and Child Welfare **3 hrs. Fall**

A study of personality development and adjustment in family situations. Cases are analyzed to reveal the common emotional problems encountered by social workers. Prerequisite: Social Work curriculum or consent of instructor. Prerequisite: Soc. 560.

364 Public Welfare **3 hrs. Winter**

The history of social legislation and public welfare and their underlying philosophy are considered from the Elizabethan Poor Law to the Social Security Act. An analysis is made of various aspects of welfare legislation of importance to the social worker. Prerequisite: Social Work curriculum or consent of instructor.

368 Community Welfare Organization **2 hrs.**

A study of the community organization method as it applies to the planning, coordination, and integration of social, health, welfare, and recreation services.

462 Orientation to Field Work **2 hrs. Fall, Winter**

A course in agency observation and study, aiming to orient the student to a specific field work assignment. A minimum of 90 hours of on-the-spot study of the agency's organization, functions, and methods is required. Prerequisites: Soc. 560, Social Work curriculum and consent of instructor. 2.5 average required in major and minor.

463 Supervised Field Work **3 hrs. Winter**

A continuation of 462, with emphasis on supervised participation in the work of the agency. Each student is required to complete 135 hours of field work on specific assignments. The student's work is evaluated jointly by the agency supervisor and the instructor. Prerequisites: Soc. 462, 560, and consent of the instructor.

560 Principles of Social Work **3 hrs. Fall, Winter**

A course designed for students without social work experience. It constitutes a general introduction to the basic principles and processes of social case work, social group work and community organization. Prerequisite: Minimum of 5 semester hours of Sociology.

INSTITUTIONS

571 Social Change—(designated areas) **2 hrs.**

This course deals with institutional change in specific geographic areas designed in the full course title as scheduled.

572 Community Agency Resources **2 hrs. Fall, Winter**

A study of community agencies and resources for those concerned with family and personal problems. Emphasis is placed upon the availability of these resources and their effective use by business and industry, speech therapists, guidance counselors, teachers, etc. Not open to students in Social Work curriculum.

573 The Sociology of Political Behavior **3 hrs. Winter**

Systematic sociological theory and research applied to the study of political organization and behavior in the United States and in selected countries abroad. Such topics as political parties, voting, bureaucracy, and political ideology will be considered. Prerequisite: 9 hours of sociology and/or political science.

574 Sociology of Religious Institutions **3 hrs. Winter**

A study of the social role of religious institutions and beliefs, with particular reference to the United States; the relation between religion and other aspects of society. The course considers social factors affecting the development of different types of religious institutions and the influence of religion on American society. Prerequisite: Soc. 200 or 600 or consent.

575 Industrial Sociology **3 hrs. Fall, Winter**

The sociological study of work organizations. The impact of industrialization on society, the factory as a social system, the structure and function of work organizations, status systems in work groups, the individual in work organizations, and analysis of worker dissatisfaction in terms of group relations. A consideration of the power relationships between labor and management. Prerequisite: Soc. 200 or equivalent.

576 Sociology of Education **3 hrs. Fall, Winter**

The classroom as a social situation analyzed in terms of the interaction between teacher-student and student-student. The educative process as a function of the interpersonal relations among teachers and between teachers and administrators. The school as a social system as it affects and is affected by the community in which it is located and society at large. Prerequisite: Soc. 200 or 600.

577 Comparative Institutional Studies **2 hrs.**

A comparative study of the structure and the functioning of selected aspects of culture in America and other selected countries. The legal structure, family and educational systems, the welfare structure, class stratification, economic institutions, political organization, the role of science and the basic character of social change. Prerequisite: Soc. 200 or 600.

578 Social Structure of the Soviet Union **3 hrs.**

A sociological analysis of contemporary Soviet society focusing on the patterns and functions of its basic institutions—the family, government, education, and industry. Consideration will also be given to the existing stratification system in terms of class formation and distribution of power. Prerequisite: Soc. 200 or 330 or 600 or consent of instructor. Not offered in 1966-67.

579 Social Structure and Social Change in Japan **2 hrs. Winter**

Introduction to Japanese society, focusing upon the contemporary processes of industrialization and urbanization and their impact upon

Japanese family life, village organization, urban community, class structure and personality. Prerequisite: Soc. 200 or 600 or consent of instructor.

RESEARCH

580 Sociological Statistics I **3 hrs. Fall, Winter**

An introduction to statistical reasoning with particular reference to social science research. The course will view statistics as an aspect of scientific inquiry and consider problems of analysis and interpretation of typical social science data. While no mathematics prerequisite is required, a course in college algebra will be helpful.

582 Introduction to Social Research **3 hrs. Fall, Winter**

An introduction to the basic methods of empirical research in sociology. Techniques and theory of research design, formulating and testing hypotheses, sampling, collection, analysis and interpretation of data are studied. Prerequisite: 9 hours of Sociology.

MARRIAGE AND FAMILY

290 Modern Marriage **2 hrs. Fall, Winter**

A general education course designed to increase the student's competence for coping with interpersonal problems arising in dating, courtship, engagement, marriage and parenthood. Factors involved in courtship, mate selection, marital adjustment, and preparing for parenthood are considered. Not counted in a Sociology major or minor. Not recommended for students who have had 390.

390 Marriage and Family Relations **3 hrs. Fall, Winter**

A sociological analysis of marriage and family behavior within the contemporary American Society. A study of the interactional aspects of marriage and the family with major emphasis upon the American middle-class. Included are discussions of contemporary trends and problems, factors involved in family unity and disorganization, and predicting success or failure in marriage. Prerequisite: Soc. 200 or equivalent.

590 Family as a Social Institution **3 hrs. Winter**

The family viewed in historical and cross-cultural perspectives. A structural-functional analysis of the family institution and the relationship between the social structure of society and the family system. Emphasis is placed on change and comparative analysis. Prerequisite: Soc. 200 or equivalent.

592 Family Life Education and Counseling **2 hrs. Winter**

Provides the student with a working knowledge of the methods and materials appropriate in the school, the church and other social situations, for working with individuals and small groups who desire prep-

aration for marriage and parenthood. Some attention will be given to the techniques for handling counseling opportunities arising out of these teaching situations. Prerequisite: Soc. 200 or 600 or consent of instructor.

INDEPENDENT STUDIES

498 Honors Study **2 hrs. Fall, Winter**

A program of independent study (reading or research) to provide the honors student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. May be repeated once. Permission to register must be obtained from the Department Honors Committee.

499 Honors Seminar **2-6 hrs. Fall, Winter**

Investigation of selected topics in seminar sessions by advanced undergraduates. Registration by special invitation from the department honors committee.

598 Readings in Sociology **1–4 hrs. Fall, Winter**

Offers advanced students with good scholastic records an independent program of study, arranged in consultation with the instructor. 1 to 2 hours credit per semester, cumulative to 4 hours. Prerequisite: Honors Program, or consent of Department Head.

Speech

Charles Brown, Chairman

Albert Becker
Roy Beck
William Buys
Loren Crane
Richard Dieker
Daniel Fleischhacker
Russell Grandstaff
Lyda Hausenfluck
Ruth Heinig
Charles Helgesen
Deldee Herman
James Jaksa
David Karsten
Radford Kuykendall
William Livingston
James McIntyre
Leon Nobes
Beatrice Prussion
Jules Rossman
Thomas Sill
R. Franklin Smith
Robert L. Smith
Laverne Stillwell
Eleanor Walton
Ethel West
Zack York

Oral communication is the principal mode for establishing and maintaining human relationships. Effective oral communication is an educational imperative for all human beings.

The Department of Speech not only offers the student opportunity to educate himself in professional competencies, but also offers him an opportunity to educate himself broadly in the liberal arts tradition.

Because the Department of Speech places a large share of responsibility on the student for designing his own speech curriculum, students planning to major or minor in speech should secure a copy of Departmental Bulletin No. 1 and discuss their curriculum needs and interests with the departmental adviser at the earliest possible date. The schedule of courses to be taught is available from the departmental adviser.

I. MAJORS

Two majors are available.

(1) Speech Major
A Speech major requires 30 semester hours of speech, including Speech 100 and 27 hours to be arranged in consultation with the student and the adviser of the Department.

(2) Speech Education Major*
Speech Education major requires 30 semester hours of speech including the following courses: 100**, 562, for the secondary speech major, or 561 for the elementary school major and minor.

II. MINORS

Two minors are available.

(1) Speech Minor
A Speech minor requires 20 semester hours including General Speech***, and 17 additional elective hours to be chosen in consultation with the adviser of the Speech Department.

(2) Speech Education Minor*
A Speech Education minor requires 20 semester hours of speech for teaching in secondary and elementary schools, including the following courses: Speech 100** and for the elementary school teacher Speech 561.

III. DEPARTMENTAL COURSES

100 General Speech** **3 hrs.**

A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Required of all students planning to secure a Speech major or minor or a Speech Education major or minor.

102 Speech for Teachers** **3 hrs.**

A beginning course in speech for those who intend to teach in elemen-

*To teach speech in a school accredited under North Central Association, teachers must have 13 hours in English.
**Of courses Speech 100, 102 and 104, only one may be taken for credit.
***Exceptions may be made upon the approval of the Chairman of the Department, Room 318, Sprau Office Tower.

tary or high schools. Deals with the basic elements of speech, with listening, and with the personality of the speaker as these are involved in the activities of a teacher. The focus is on the prospective teacher's speech rather than on the speech of his pupils.

104 Business and Professional Speech* **3 hrs.**

A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Particular attention is given to developing skill in meeting the speech situations encountered in the business and professional world.

106 Voice and Diction **3 hrs.**

Individual improvement program emphasizing voice production and diction.

111 Readers' Theatre **1 hr.**

Performances in group reading of prose and poetry. May be taken for maximum of 4 semester hours credit.

131 Parliamentary Procedure **1 hr.**

Study and practice of the principles and rules which govern business meetings in voluntary organizations.

210 Oral Interpretation **4 hrs.**

Emphasis is placed on developing the student's appreciation of literature and his skill in analysis and oral reading of representative works in prose and poetry.

220 Introduction to Theatre** **3 hrs.**

Consider theatre as a part of the individual's cultural heritage and liberal arts background. Includes attending theatre performances and participation in University Theatre.

222 Acting **3 hrs.**

Study and practice of the basic principles and techniques of acting designed to help the student develop a basis for appreciation and criticism. Prerequisite: Speech 210 or instructor's consent.

224 Stagecraft **4 hrs.**

A beginning course in technical production, including basic stage lighting, the planning and construction of stage scenery. Includes laboratory work on University Theatre productions.

226 Stage Design **4 hrs.**

A beginning course for students in design, including stage lighting and stage settings. Includes laboratory practice in staging University Theatre productions.

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*Of courses Speech 100, 102 and 104, only one may be taken for credit.
**May be used as a partial substitute for Arts and Ideas 222. See page 253.

228 Stage Make-up **1 hr.**

Study and practice of the principles and techniques of stage make-up.

231 Public Speaking **3 hrs.**

Study of public speech and audience psychology principles. Frequent practice to develop skill in speech composition, clarity of language, logical development and effectiveness as a speaker.

232 Discussion **3 hrs.**

Study and practice in discussion and conference. Skill in participation, leadership, group thinking, and evaluation are emphasized. Recommended for students whose vocational plans involve work with groups.

236 Intercollegiate Debate **1 hr.**

Participation in intercollegiate debates, discussions and student congresses. The national college debate and discussion topics are used. Debaters meet reguarly as a group. Students interested in qualifying for this activity should contact either the men's or women's debate coach. Students may accumulate a maximum of six hours credit.

240 Broadcasting Foundations **3 hrs.**

Survey of the history, organization, operation and regulation of American commercial and educational broadcasting. Emphasis on broadcasting's importance as a business, as a social phenomenon, as mass media and as a public trust.

244 International Broadcasting **3 hrs.**

Comparative study of several broadcast systems; theories of broadcast control; electronic media in the underdeveloped world; use of media as propaganda instruments such as Voice of America, Radio Free Europe.

302 Communicative Processes of Speech **3 hrs.**

Study of the way experience is perceived, symbolized and patterned. Interrelates speech, personality, and society. Special emphasis made on creative independent study.

304 Physiological Processes of Speech **4 hrs.**

Concerns the physics and the physiology involved in the speech process. Includes the study of: acoustics, recording of sound, hearing, breathing, phonation, articulation, and the sounds of English speech. Designed to help the student to better understand his own speech processes, as will as to help him function more intelligently as a teacher of speech.

320 Stage Direction **3 hrs.**

Theory and application of basic principles of directing and staging plays with particular emphasis upon production problems of school and community. Prerequisite: Speech 222 or instructor's consent.

321 Play Production for High School Teachers **4 hrs.**

A "How-to-do-it" course giving an introduction to the basic theory and skills needed to produce the high school play. Includes all aspects of play production, such as play selection, casting, rehearsal, planning scenery, costumes, make-up, etc.

325 Summer Theatre **5 hrs.**

A Summer Theatre Program providing qualified students with opportunities to concentrate on the various activities of theatre production. Participation is integrated with seminars under faculty direction so that the practical facet of theatre work is constantly related to theory.

326 History of the Theatre **3 hrs.**

From the beginning to the English Renaissance.

327 History of the Theatre **3 hrs.**

From the English Renaissance to the present day.

328 Stage Costume **3 hrs.**

Study of historic costume as adapted for the stage. Practical laboratory experience in costume construction offered in conjunction with University Theatre productions.

334 Argumentation and Debate **3 hrs.**

Study of argumentation and debate principles and frequent practice in debating current public questions. Attention is given to problems involved in analyzing and judging debates.

340 Radio Production **3 hrs.**

Analysis of radio as a creative medium. Production of radio programs, including news, documentary and drama. Limited enrollment. Prerequisite: Speech 240 and/or consent of instructor.

342 Radio and TV Journalism **3 hrs.**

Study of radio and television as news media; basic principles of news reports, newscasts, news commentary, on-the-spot coverage and features.

344 Practicum in Broadcasting Arts **2 hrs.**

Provides the students with practical experience at commercial or educational stations, allowing him to gain some familiarity with operation, equipment, and problems of broadcasting.

346 Introduction to the Cinema **3 hrs.**

History, aesthetics, form, function, method of film; study of outstanding examples of experimental, documentary and feature films.

398 Independent Study in Speech **1–3 hrs. Fall**

Designed to allow outstanding students to work independently under staff supervision. Includes extensive study, research or special creative projects in any of the several speech areas. 1–6 semester hours credit may be accumulated. Prerequisite: Consent, Chairman of Department.

400 Introduction to Rhetorical Theory **3 hrs.**

A consideration of philosophies of past rhetoricians and their relationships and relevancies to present speech theory. A consideration of contemporary rhetorical theory and its implications for effective speech behavior. Advanced Sophomores by permission.

401 Public Address Criticism **3 hrs.**

Analysis of great speakers and speeches. Comparative analysis of past and contemporary speakers and speeches with application to students own speech behavior and times.

510 Studies in Oral Interpretation **3 hrs.**

Projects in reading and analysis of literature designed to intensify the student's application of the theory and principles of oral interpretation.

Each of the courses listed below carries separate credit although each is listed under 510.

A. ORAL INTERPRETATION OF SHAKESPEARE. The analysis and interpretation of selected Shakespearean plays and sonnets; individual and group participation in reading aloud.

B. ORAL INTERPRETATION OF THE BIBLE. Interpretation of the various literary forms found in the student's choice of versions or translations, based on individual research; emphasis placed on the oral reading skills.

C. ORAL INTERPRETATION OF SELECTED, LONG LITERARY FORMS. Study in depth of the problems inherent to the analysis, cutting, and presentation of long literary forms, such as the novel, the epic poem, and the biography.

520 Studies in Theatre **3 hrs.**

Selected study within the range of the several aspects of theatre including backgrounds, theory and production. Emphasizes concepts rather than skills.

530 Studies in Public Address **3 hrs.**

Selected areas of detailed study within the total range of public address.

531 Public Speaking **3 hrs.**

The intensive study of speech organization, audience adaptation, and delivery. Includes practice in speaking. Research project required.

532 Persuasion **3 hrs.**

Study of factors of human behavior and their ethical implications as related to oral communication. Class activities include research, experimentation and discussion.

540 Studies in Broadcasting **3 hrs. Fall**

Each of the courses listed below carries separate credit although each is listed under 540.

A. ISSUES IN BROADCASTING. Analysis in depth of current and continuing issues affecting broadcast development and programming, such as pay television, the fairness doctrine, free press versus fair trial conflicts.

B. BROADCASTING REGULATIONS. The role of self-regulation and governmental regulation of the broadcasting industry.

545 Broadcasting Criticism **3 hrs.**

Exploration of aesthetic and social factors unique to radio and television media. The role of the media critic. Search for standards of critical evaluation of media messages, through study of selected dramatic documentary, experimental radio and TV programs.

550 Television Production **3 hrs.**

Study of television as a creative visual medium. Exploration of all elements involved in producing televised studio programs. Practical experience in production and direction of various program units such as interview or teleplay. One lab per week. Limited enrollment. Prerequisite: Speech 240, or consent of instructor.

560 Studies in Speech Education **3 hrs.**

Selected studies in background, methods, materials and procedures in any one of the several speech areas.

561 Teaching Speech in the Elementary School **3 hrs.**

Examination of the linguistic development of pre-school and elementary school children, the functions of language, study of the nature of the emotional and physical development of children as related to symbol using behaviors, study of materials and methods for effecting desired behaviors in children's thinking, communicating and enjoyment.

562 Teaching Speech in the Secondary School **4 hrs.**

In this course, the student planning to teach speech, is assigned to a Master Teacher in the Department of Speech and works with that instructor in teaching a beginning college general speech course.

The student enrolled in this course should try to keep a Monday, Wednesday, and Friday class hour free, especially in the morning. In addition to this learner-teacher assignment, the student meets one day a week with the course instructor for discussions and lectures on materials, methods, and philosophies related to teaching speech in high school. Opportunity for work in handling extra-curricular speech activity is provided.

564 Creative Dramatics for Children **4 hrs.**

Study of the principles, materials and techniques of dramatics with children as a classroom activity in elementary grades. Observation of demonstration groups. Emphasizes creative dramatics and includes the creative approach to formal dramatics.

570 Studies in Communication **3 hrs.**

Each of the courses listed below carries separate credit although each is listed under 570. Thus, a student may take any or all of the offerings listed below.

A. INTERPERSONAL THEORIES OF COMMUNICATION. Current interpersonal communication theories and relevant research are studied with emphasis on the social, psychological, and cultural factors influencing interpersonal communication.

B. MEASUREMENT TECHNIQUES IN COMMUNICATION. Various measurement techniques for studying variables related to the communication process are analyzed. Emphasis is on developing and utilizing reliable and valid instruments in communication research.

C. PERSONALITY AND COMMUNICATION. This course focuses on aspects of personality, cognitive structure and function, attitudes, values, perception and meaning as they relate to communication.

598 Independent Studies in Speech **1–4 hrs.**

Offers a program for advanced students with good scholastic records to pursue independently a program of readings, research or projects in areas of special interest. To be arranged in consultation with department chairman.

Speech Pathology and Audiology

Frank B. Robinson, Head

Harold L. Bate	Mary Ida Hunt	L. Jay Platt
Paul Czuchna	Karen Knoska	Charles Van Riper
George O. Egland	Stanley Martinkosky	Clyde R. Willis
Robert L. Erickson	Donna B. Oas	

Communication is the most complex aspect of human behavior. Impairments in the process of communication—speech, language, and hearing—leave myriad problems in their wake. The child with a communication problem may encounter overwhelming obstacles to learning and may find it difficult to establish relationships with other children which are essential to growing up to a healthy, stable adulthood. The adult who acquires a speech or hearing disorder may experience a variety of social problems. Speech pathology and audiology is the area of professional specialization which has developed out of concern for persons with disorders of communication.

Two programs are available:

(1) Speech Pathology and Audiology Pre-professional Program (General). This program is designed for the student with an interest in clinical, teaching, and research careers in the field. It provides the basic preparation for ultimate work as a speech pathologist or audiologist in appropriate employment settings other than the public schools, i.e., in hospitals, community clinics, or universities. In addition to the academic requirements which are described on page 264 of this catalog, the student must satisfactorily complete certain clinical requirements specified by the department.

(2) Speech Pathology and Audiology Pre-professional Program (Public School Orientation). This program is designed for the student who has a special interest in working in a public school setting. In addition to the basic preparation in speech pathology and audiology, it includes the Teacher Education requirements for certification in the State of Michigan. In addition to the academic requirements which are described on page 216 of this catalog, the student must satisfactorily complete certain clinical requirements specified by the department.

SPEECH PATHOLOGY AND AUDIOLOGY

200 Introduction to Communication Disorders 3 hrs. Fall, Winter

An introduction to the professions of speech pathology and audiology with emphasis on the communication and associated problems of people served by the clinical speech pathologist. Prerequisite: Sophomore standing.

201 Orientation to Clinical Practice 1 hr. Fall, Winter

An introduction to the clinical procedures, methodology and instrumentation employed in the treatment of individuals with communication disorders. Demonstration therapy is included. Taken concurrently with 200.

202 Anotomy and Physiology of Speech and Hearing 2 hrs. Fall, Winter

The structural anatomy and physiology of the processes related to normal speech production and reception. Major units include respiration, phonation, articulation, the auditory system and the nervous system. Prerequisite: Sophomore standing.

203 Speech and Language Development 2 hrs. Fall, Winter

A study of the nature and development of the normal acquisition of speech and language. Prerequisite: Sophomore standing.

204 Phonemics 2 hrs. Fall, Winter

A study of the phonemes of English. Practice in the use of the International Phonetic Alphabet is provided to prepare the student for accurate transcription of speech behavior. Prerequisite: Sophomore standing.

300 Speech and Hearing Science **2 hrs. Fall, Winter**

An introduction to the scientific study of speech production, perception and reception. Speech is studied as an acoustic event and modern developments in the recording and analysis of vocal utterances are examined. Prerequisites: 202, 204.

351 Phonemic Disorders **2 hrs. Fall, Winter**

A detailed study of the nature of phonemic disorders; orientation to clinical management. Prerequisites: 200, 202, 204.

353 Fluency Disorders **2 hrs. Fall, Winter**

A detailed study of the nature of fluency disorders; orientation to clinical management. Prerequisite: 200.

352 Phonatory Disorders **2 hrs. Fall, Winter**

A detailed study of the nature of phonatory disorders; orientation to clinical management. Prerequisites: 200, 202, 300.

354 Language Disorders in Children **2 hrs. Fall, Winter**

A detailed study of the nature of communication problems associated with congenital or acquired impairment of language function in children; orientation to clinical management. Prerequisites: 200, 202, 203, 204.

355 Hearing Disorders **2 hrs. Fall, Winter**

A study of aural pathology and the effects on hearings. Prerequisites: 200, 202, 300.

357 Introduction to Audiometry **2 hrs. Fall, Winter**

An introduction to the study of the measurement of hearing and to the field of audiology. Prerequisites: 200, 202, 300, 355.

400 Practicum in Speech Pathology and Audiology I
1 hr. Fall, Winter

Clinical experience in the management of speech, language and/or hearing disorders. Prerequisite: C-card.

401 Practicum in Speech Pathology and Audiology II
1 hr. Fall, Winter

Clinical experience in the management of speech, language and/or hearing problems. Prerequisites: C-card, 400.

455 Seminar in Speech Pathology and Audiology
2 hrs. Fall, Winter

Designed to provide an opportunity for qualified students to examine and discuss a subject area in a field of common interest. Prerequisites: C-card, senior standing.

551 Language Disorders in Adults **2 hrs. Fall, Winter**

Orientation to the clinical management of communication problems associated with neurological impairment in adults. Prerequisites: 200, 202, 203.

556 Aural Rehabilitation **2 hrs. Fall, Winter**

Orientation to the clinical management of communication problems associated with auditory impairment. Prerequisites: 355, 357.

554 Speech and Hearing Therapy in the Schools **2 hrs. Fall, Winter**

Study of clinical work with speech or hearing disordered children in the school setting. Prerequisites: 351, 352, 353, 354, 355.

School of Graduate Studies

GEORGE G. MALLINSON,
Dean

LEO C. STINE,
Associate Dean

SID DYKSTRA,
Assistant Dean

Department:
Librarianship

School of Graduate Studies

An independent graduate program leading to the degree of Master of Arts in various curricula in the field of education was first offered at Western Michigan University in the fall semester of 1952-53. Today, twenty-nine education programs are offered at the Master of Arts level. Other programs leading to the Master of Arts degree are offered in Anthropology, Art, Biology, Chemistry, Earth Science, Economics, English, Geography, History, Home Economics, International and Area Studies, Language, Mathematics, Medieval Studies, Occupational Therapy, Physics, Political Science, Psychology, Sociology, and Speech Pathology and Audiology. The University offers the Master of Science degree in Accountancy, Librarianship, Paper Technology, and in Technology. The Master of Business Administration, Master of Music, and the Master of Occupational Therapy degrees are also offered.

A Specialist in Education degree is offered upon completion of a sixth-year program in Curriculum, Elementary School Administration, General School Administration, Guidance and Personnel Services, Secondary School Administration, Special Education and School Psychological Examiner. In addition, the University offers a Specialist degree in Business Education, English, History, Librarianship, Mathematics and Science Education.

Programs leading to the Doctor of Philosophy are offered in Chemistry, Mathematics, Sociology, and Science Education. A program leading to the Doctor of Education is offered in Educational Leadership.

ADMISSION

Dates

Admission to the School of Graduate Studies is required for permission to register for graduate classes. Students planning to register for courses taught on campus must apply for admission no later than:

June 15	Fall Semester
November 1	Winter Semester
March 15	Spring Session
May 15	Summer Session

Foreign students must apply for admission by March 15 for the fall semester and September 15 for the winter semester.

Application Fee

All students applying for admission to the School of Graduate Studies except those whose fees are covered by special grants must send ten dollars with their applications.

Types—Master's Level Programs

1. Admission Without Reservation. This type of admission is awarded to the student who has an acceptable academic record, who has passed the required entrance examinations, and who has met the requirements of the program he plans to pursue. Acceptance to a definite program of study leading to a degree is dependent upon the approval of the unit in which the student plans to study. A point-hour ratio of at least 2.6 (A=4) for the credits completed in the last two years of undergraduate study is normally required for admission to a Master's degree program. Students with an M.A. degree who wish to study in a second field for a second M.A. degree will ordinarily be admitted without reservation and without requiring an English examination. All other students must pass an English examination if they desire admission without reservation.

2. Tentative Admission Pending Receipt of the Bachelor's Degree. A student may receive tentative admission during the final semester or session of his undergraduate work if his academic record is satisfactory. Final admission will be determined when a transcript is submitted giving evidence of the Bachelor's degree. Such admission requires the completion of the English examination.

3. Dual Enrollment Admission. Senior students at Western Michigan University, who need no more than six hours to complete the requirements for the Bachelor's degree, may seek admission to the School of Graduate Studies for the semester prior to graduation. If admission is granted, the student may elect graduate courses, in addition to those required at the undergraduate level to complete the Bachelor's degree, to encompass a full academic program. Such dual enrollment is permitted for one semester only. Graduate credit thus earned may not be used to meet undergraduate requirements.

4. Admission to Non-Degree Status. Students who are eligible for admission to a degree program but who do not wish to pursue one or students whose point-hour ratio ranges from 2.30 to 2.59 in the final two years of undergraduate study may seek admission to non-degree status. Students admitted to non-degree status because of their low academic record may establish eligibility for admission to a degree program by securing no grades below "B" in any credits earned, by securing satisfactory scores on the Graduate Record Examination, and by passing the English entrance requirement. Students admitted on a non-degree basis are not permitted to include more than nine hours of credit earned as a non-degree student in a degree program. At least six of these nine credits must be taken on the campus of Western Michigan University. No assurance can be given non-degree students that the credits earned will be accepted in a degree program or used to meet the requirements for graduation.

5. Admission to the Professional Improvement Program. Students whose point-hour ratio is below 2.30 in the final two years of their undergradu-

ate program are not eligible for admission to a degree program in the School of Graduate Studies. Such students cannot establish eligibility by studying on a non-degree basis. They may, however, secure admission to an organized Professional Improvement Program. Credits earned by students thus enrolled may be submitted for professional certification but will not lead to a degree.

6. **Admission from a Non-Accredited College.** A student who has received a Bachelor's degree from a non-accredited college, but who otherwise meets all the requirements for admission may be permitted to elect nine hours of graduate work with the stipulation that his admission will be reviewed after the completion of the nine hours. This admission will also require an English entrance examination.

7. **Admission as Guest Matriculant.** A student who is already enrolled in the Graduate School of another college or university may enroll for courses at Western Michigan University as a Guest Matriculant. Application forms for such admission are available at the Graduate Office.

Procedures

Admission to the School of Graduate Studies is secured through the following steps:

1. Request the School of Graduate Studies to send an Application for Permission to Enroll. In your request indicate the degree level for which an application is desired: Masters, Specialist, Doctors.

2. Determine from Section I of the Bulletin the type of admission that is desired.

3. Select from Section II or III of the Bulletin the program of study that will be pursued.

4. Return the Application for Permission to Enroll before the published deadlines for admission.

5. Request the Registrar of all colleges previously attended, except Western Michigan University, to send transcripts of credits to the School of Graduate Studies, Western Michigan University. Transcripts are also due before the dates established as deadlines for admission.

6. Take the English entrance exam at the time specified by the School of Graduate Studies after applying for admission.

7. Check the calendar of events listed in the Bulletin for the registration days of each semester or session.

Grading System

Grades are indicated by letters, to each of which is assigned a certain value in honor points per hour of credit, as shown in the table below:

Grade	Significance	Honor Points Per Hour Credit
A	Above Average	4
B	Average	3
C	Below Average	2
E	Failure	0
I	Incomplete	
W	Withdrawn	
CR	Credit	
NC	No Credit	

"E"—Failure—Students admitted to a degree program must secure three hours of "A" to offset each hour of "E" in their graduate record.

"I"—Incomplete—This is a temporary grade given for work which is passing in quality but lacking in quantity to meet course objectives. It is assigned when illness or necessary absence for other reasons satisfactory to the instructor prevent completion of the course requirements. A grade of "I" must be removed within one calendar year of the date it was assigned or a grade of "E" will be recorded for the courses. The one-year limitation does not apply to the thesis, project, or dissertation.

"W"—Withdrawn—A grade of "W" is given in a course when a student officially withdraws from that course or from the University before the mid-point of the semester or session.

"CR" or "NC"—Credit or No Credit—The pass-fail system will be used in Graduate Studies 712, Professional Field Experience. Accordingly, the permanent record will indicate "CR" when the course is passed and "NC" when the course is failed.

Honor Points

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the number of honor points per hour of credit corresponding to the letter grade received, as shown in the preceding table. For example, a grade of "B" in a four-hour course gives 4 x 3, or 12 honor points. Honor points are not involved in courses in which the pass-fail grading system is used.

Re-entry

Ordinarily students who have once been admitted to the School of Graduate Studies need not file for re-entry except for the following reasons:

1. They have taken only extension classes.
2. They have not taken a class on campus within the past two calendar years.
3. They have completed a degree and received a diploma.

If re-entry is necessary, a student must notify the Graduate Office no later than two weeks before the beginning of the registration period in which the student intends to register.

GENERAL REQUIREMENTS FOR A MASTER'S DEGREE

1. **Admission**—(See Calendar of Events for application deadline)
   a. Bachelor's degree.
   b. Transcripts of all courses taken beyond high school.
   c. An average grade of at least 2.6 (A=4) in the credits completed in the last two years of undergraduate work.
   d. Approval of Application for Permission to Enroll.
   e. Acceptance by a unit for a definite program of study.
   f. Passing of the English entrance exam. A non-credit English course must be passed by students failing the English entrance exam.

2. **Candidacy**—(See Calendar of Events for application deadline.)
   a. An application for Candidacy for the Master's degree is required during the semester in which the ninth hour of graduate credit at Western Michigan University is being completed. Candidacy boards meet the third week of each semester or session.
   b. Deficiencies indicated at the time of admission must be removed within the first ten hours of graduate study.
   c. An average grade of at least 3.0 (A=4) must be secured in all courses taken on campus. A 3.0 overall average is also required.

   Honor point deficiences acquired in on-campus credits cannot be made up by credits earned at another university or by extension.

3. **Graduation**—(See Calendar of Events for application deadline.)

a. Diploma Application

A diploma application must be submitted no later than three months prior to Commencement.

b. Minimum Credit Hours

Completion of a program of study outlined by an advisor including a minimum of 30 hours of graduate credit. Only courses numbered 500 and above are acceptable for graduate credit. One-half of the credits earned must be in courses numbered 600 or above.

c. Residence Credit

Completion of a minimum of one full time session (5 semester hours minimum) or one semester (nine semester hours minimum or its equivalent) of residence on campus is required. Students who are employed on a twelve-month basis may register for four consecutive semesters of work on campus in lieu of the five or nine hour requirement. Of the total of 30 semester hours, a minimum of 18 hours must be taken on the campus of Western Michigan University except for those students who study in an approved residence center of Western Michigan University. Such students may offer a maximum of 20 hours of off-campus

work. Work transferred from other institutions must be included within the 12 hours maximum off-campus work permitted, or in the case of the student studying in a residence center within the 20 hours of off-campus work permitted.

d. Grade Point Average

A 3.0 average (A=4) is required for courses taken on campus as well as an overall 3.0 average. To maintain a B average each hour of C must be offset by an hour of A and each hour of E must be offset by three hours of A. Grades of Incomplete will become E unless completed within one calendar year. Students who seek an extension of time must notify the Graduate Office within the year indicating the circumstances that warrant such consideration. This ruling does not apply to the course, Thesis 700.

e. Hours After Candidacy

The election and completion of at least six hours is required after being approved for Candidacy.

f. Transfer Credit

Six hours of graduate credit may be transferred from other schools provided:

1) The credits were earned in institutions accredited for graduate study and are of B grade or better. The student's average for all graduate work taken at another institution must also be "B" or better.

2) The School of Graduate Studies approves the credits for transfer.

3) The student's adviser verifies that the credits contribute to the student's program of study.

g. Time Limit

All work accepted for the degree program must be elected within six years preceding the date on which the graduate degree is conferred.

h. Thesis

Students writing a thesis should consult the most recent edition of *Specifications for Master's Theses, Specialist in Education Projects, and Doctor's Dissertations,* available in the campus bookstore.

GENERAL REQUIREMENTS FOR A SPECIALIST DEGREE

1. **Admission**
   a. See specific program description to determine the minimal entrance requirements. The requirements range from a Bashelor's degree to a Master's degree.
   b. Transcripts of all courses beyond high school.

c. An average grade of at least 2.6 (A=4) in the last two years of undergraduate work for all programs permitting entrance with Bachelor's degree. An average grade of at least 3.25 for all work undertaken beyond the Bachelor's degree.

d. Personal interviews with representatives of the School of Graduate Studies and the unit in which the student desires to study.

e. Approval of both the School of Graduate Studies and the unit.

f. Attainment of satisfactory scores on the English entrance examination and the verbal and quantitative sections of the Graduate Record Examination or a prescribed substitute.

2. Candidacy

a. An application for Candidacy for a Specialist Degree must be filed during the semester in which the student completes his first 9 hours after admission.

b. A grade point average of at least 3.25 must be secured in all graduate work taken.

3. Residence Requirement

a. One semester on the campus of Western Michigan University—or

b. Students studying for Specialist in Education may substitute two consecutive summer sessions and participation in a prescribed seminar or project during the intervening period.

4. Grade Point Average

a. A grade point average of 3.25 is required for all work taken on the campus at Western Michigan University as well as all work taken for the degree.

5. Transfer Credit

Students who have taken all of the credits for their M.A. degree at Western Michigan University may be permitted to transfer a maximum of twelve credits from another institution in a Specialist degree program.

Students who have already transferred six credits in their M.A. degree program at Western may transfer a maximum of six additional credits in a Specialist degree program.

Students who have secured their M.A. degree at an institution other than Western may include a maximum of thirty credits in a Specialist degree program. Units offering Specialist degrees are expected to give credit to transfer work only when the work is applicable and when it meets the same standards required for work completed at Western.

6. Extension Credit

Credit for work done in residence centers may be offered up to a maximum of 26 hours. This maximum must be reduced by the amount of transfer credit accepted. Students entering with a Master's degree may include a maximum of 6 credit hours of extension or residence center credit in addition to work completed as a part of their Master's degree.

No more than 18 hours of extension credit earned may be included if any of these credits are earned in other than residence centers.

7. Time Limit

All work accepted for the degree program must be elected within six years prior to the date of receipt of the Specialist degree. Exception may be made for work completed as part of a Master's degree earned prior to admission Students entering with a Master's degree will be permitted a maximum of five years instead of six.

8. Thesis or Graduate Paper

All students completing the Specialist degree must present a thesis or major project paper in a form acceptable to the unit and the School of Graduate Studies. In writing their paper, students should consult *Specifications for Masters' Theses, Specialist in Education Projects, and Doctors' Dissertations,* available in the Campus Bookstore.

9. Minimum Credit Hours

The Specialist degree requires the completion of 60 hours of acceptable work beyond the Bachelor's degree.

10. Diploma Application

A diploma application must be submitted no later than three months prior to Commencement.

GENERAL REQUIREMENTS FOR A DOCTORAL DEGREE

Admission Requirements

A. Admission to the School of Graduate Studies.

1. For students with a Bachelor's degree and not exceeding 20 hours of graduate study.
   a. An overall 3.0 point-hour ration in undergraduate work and 3.25 for graduate work completed.
   b. Satisfactory completion of the English test administered by the School of Graduate Studies.
   c. A satisfactory score on the Aptitude and Advanced Tests of the Graduate Record Examination or an examination of similar nature approved by the Graduate Studies Council.
2. For students seeking admission to take graduate work toward the doctoral degree with at least 20 hours of graduate work completed.
   a. All of the above except a.
   b. A 3.25 point-hour ratio for all graduate work completed.

B. Admission to a Doctoral Degree Program.

Having attained admission to the School of Graduate Studies, the student will be expected to meet the admission requirements established by the unit for the doctoral program itself.

Status as an Applicant

1. Students admitted with less than 20 hours of graduate study must request status as applicants after completing two full semesters of graduate work on campus or 18 semester hours of graduate work beyond those accumulated at the time of admission, whichever comes first.

2. Students admitted with more than 20 hours of graduate study must request status as an applicant after completing one full semester of graduate work on campus or 39 semester hours of graduate work completed, whichever comes first.

Criteria for being awarded status as an applicant include:

a. An overall point-hour ratio of 3.25 in all graduate work completed.

b. Commitment to a specific degree program.

c. Appointment of a five-man doctoral committee.

d. A decision by the unit that the student should be permitted to continue his study toward a doctoral degree.

Status as a Candidate

All students who are official applicants for a doctoral degree must seek candidacy no later than the end of the second calendar year or its equivalent and meet the following requirements:

1. An overall point-hour ratio of 3.25 in all graduate work completed.

2. Successful completion of the comprehensive examinations established for the program.

3. Completion of the research tool and/or language requirements.

4. Endorsement by the Doctoral Advisory Committee of the plan for the student's dissertation.

5. Completion of all basic course requirements.

6. Completion of all approved unit requirements.

Approval for Graduation

1. Completion of a minimum of 90 hours of courses, seminars, research, and other requirements with an overall point-hour ratio of 3.25. (The dissertation will not be graded.)

2. Three years of study of which at least one complete year must be spent in full-time study on the campus.

3. Students will be allowed a period of seven years from the date of admission to complete all the requirements for the degree. Under extenuating circumstances, additional time may be allowed by the School of Graduate Studies.

4. Approval of the dissertation by three members of the Doctoral Advisory Committee selected to review the dissertation.

5. Satisfactory performance on the doctoral examination.

REGISTRATION

Registration will be held on the dates listed in the Schedule of Classes, which is published prior to each semester and session. This Schedule will be sent upon request and should be consulted for details regarding the time and place of graduate classes. Students who are permitted because of extraordinary circumstances to enroll after the final day scheduled for registration are required to pay a late enrollment fee of $5.00.

Changes in Enrollment: Any classes added to the student's schedule must be added by the end of the first complete week of each semester and session. A student may drop graduate courses through the midpoint of each semester and session. The definite dates and procedures for making changes of enrollment will be announced in the Schedule of Classes.

STUDENT LOAD

The load for graduate students is governed by the following regulations:

1. The normal load for a graduate student devoting full time to graduate study is ten semester hours each semester. The maximum load is thirteen semester hours.
2. The maximum load for graduate students is seven semester hours during the spring and summer sessions.
3. Part-time graduate students, if employed full time in a field of education during the fall and winter semester may elect graduate courses granting not in excess of four hours of credit in a semester or one course during the spring session. An exception to this rule is made with the course, Thesis 700, which the student may elect during one semester for six hours of credit. Students employed full time in other fields may elect a maximum of six hours of graduate credit.
4. With permission of the Dean, a student employed full time in a field of education may elect graduate courses granting five hours of credit in a semester provided such credit shall not involve more than two graduate courses. Such an exception may be granted *only once* during the work for the Master's degree. These restrictions apply to all graduate courses a student may elect during a semester whether taken on campus, in extension and/or at some other institution.

FELLOWSHIPS, AWARDS AND LOANS

Graduate Fellowships: Fellowships valued at $2,600 will be made available to selected students holding bachelor's degrees from accredited colleges and universities. These fellowships are granted on the basis of

merit to persons planning to pursue full-time work on the campus leading to advanced degrees. Such persons must possess a combination of qualities indicating potential leadership in their respective fields with specific emphasis on high scholarship and desirable personal attributes. Fellows are required to pay all fees normally required of other graduate students. Application forms may be secured from the Graduate Office. All applications, transcripts, and letters of recommendation must be submitted by February 15.

Graduate Associateships: Associateships carrying a somewhat greater stipend than the Fellowships will be offered to a limited number of graduate students who have completed a Master's degree and are registering for work on an advanced degree. Students interested in such assistance should request application forms from the Graduate Office.

Graduate Assistantships: Many of the departments provide graduate assistantships with stipends of approximately $2,400 to promising students. Students receiving an assistantship are expected to participate in approximately fifteen hours per week in professional service in the department and to adjust their academic load accordingly.

Loans: Graduate students who enroll for a minimum of nine hours of on campus credit in a semester may qualify for some type of student loan. Students desiring information regarding a student loan should contact the office of Student Financial Aid.

Graduate Awards: Each calendar year an outstanding graduate student pursuing a Master's degree is selected for a graduate award from each of the five schools of the University. In making the selection, the schools will seek to identify the top scholar in their Master's degree program. Ordinarily, the students who qualify will have a record of all "A's", have a high degree of professional integrity as revealed in their relationships with faculty and colleagues, and have the ability to communicate their ideas in an effective manner. The students will be selected from among those who were graduated in the three commencements immediately preceding the Spring Honors Convocation.

The awards will be designated as follows:

1. Elmer H. Wild's Scholar in the School of Education
2. Alice Louise LeFevre Award in the School of Graduate Studies
3. School of Business Graduate Faculty Award
4. School of Applied Arts Graduate Faculty Award
5. James O. Knauss Award in the School of Liberal Arts

Librarianship

Jean Lowrie, Head

Marguerite Baechtold
Martin Cohen
Ardith Embs
Mary Gillham
Laurel Grotzinger
Mildred Hedrick
LeRoy Lebbin
Donald Lehnus
Eleanor McKinney
Marilyn Miller
William K. Smith

The undergraduate curriculum in librarianship offers preparation for the teacher-librarian or for the student who expects to enter the graduate program in library science either at Western Michigan University or at some other library school. Starred courses are open to prospective teachers or others who desire a wider acquaintance with books and library materials and methods.

Students in the elementary or secondary curricula may meet certification requirements for teacher-librarianship by taking the undergraduate minor in library science and a subject-matter major. The Librarianship minor consists of the following courses: 100, 230, 510, 512, 530 or 531 and 542 or 546 and 516 if the candidate is in the elementary curriculum. The Field Assignment Seminar (520) is also required. A portion of the Directed Teaching period is spent in one of the cooperating school libraries.

The program for the Pre-professional Minor consists of 230, 510, 512, 520, 530, and 542. Each candidate will be assigned to one of the cooperating libraries for experience in the area of library science of special interest to him, and for which he is qualified. The Field Assignment course is to be taken during the last year of work. A course in audiovisual media is highly recommended.

The Campus School Library and other selected school libraries in the Kalamazoo area serve as centers for field work for those preparing for school library service, and selected cooperating libraries throughout the state serve for field assignments in other areas of librarianship. A departmental laboratory containing books and other materials in library science and related fields is provided in the Department of Librarianship in the Dwight B. Waldo Library.

PRE-PROFESSIONAL CURRICULUM

B.A. or B.S. Degree

Candidates in the School of Liberal Arts who enroll in the Librarianship Curriculum must fulfill the requirements for the B.A. or the B.S.

degree including: (1) general studies; (2) a major in one of the subject fields in the humanities, sciences or the arts; and (3) a minor in librarianship.

A typical pre-professional library science program of studies follows:

COURSE REQUIREMENTS:

Total hours required for this curriculum ..... 124 hours

1. General Studies requirements
2. Language and Literature, Speech, Philosophy and Religion
   - Modern Language 8
   - English 282 4
   - English elective 4
   - Speech 100 3
3. Science, Mathematics and Psychology
   - Psychology 150 3
4. Social Sciences
   - Government Elective 3
   - History electives 6
   - Sociology 200 4
5. Librarianship
   - Introduction to Librarianship 100 2
   - Fundamentals of Library Organization 230 3
   - Selection of Books and Related Materials 510 3
   - Reference Service 512 3
   - Introduction to Classification and Cataloging 530 4
   - Field Assignment Seminar 520 2
   - Reading Interests of Young Adults 542 3
6. Physical Education or Military Science
7. Electives and Departmental Requirements for Subject Major

DESCRIPTION OF COURSES

Undergraduate

***100 Introduction to Librarianship** **2 hrs. Fall, Winter**

An introductory survey to acquaint students with the various types of services offered in the modern library as a social, cultural and educational institution. Students will have opportunity to observe, and in some cases, to participate in the work performed in school, public, county or regional, college and special libraries. Open to freshmen and sophomores who may wish to explore the profession of librarianship as a career.

230 Fundamentals of Library Organization **3 hrs. Fall, Winter**

A study of the practical methods for acquisition, processing and circulation of books and other materials and the maintenance of essential business records. Emphasis on simple organization of library materials for effective use in schools and small public libraries.

Upperclassmen and Graduate Students

506 Introduction to Computer I **1 hr.**

Historical Background. Flow charts and concepts of programming, including use of an Automatic Programming System with application to selected problems to be run on the IBM 1620. Prerequisite: 1½ years of high school algebra or Math 100.

510 Selection of Books and Related Materials **3 hrs. Fall, Winter**

Principles of selection and evaluation of books and non-book materials. Appraisal of printed aids, book reviewing media and other sources of information used in building the library collection. Opportunity given for developing competence in writing annotations and book reviews.

512 Reference Service **3 hrs. Fall, Winter**

Study and evaluation of basic reference and bibliographic sources. Critical examination of the publications of governmental agencies, societies and institutions especially as reference sources. Attention given to organization and methods of reference services in the library.

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*Courses open to students in other departments.

***516 Elementary School Library Materials** **3 hrs. Winter**

Problems in the evaluation, selection and utilization of print and non-print materials with special emphasis on the content areas in the elementary school curriculum. Prerequisite: Children's Literature. Open to students outside the department.

520 Field Assignment and Seminar **2 hrs. Fall, Winter**

A work assignment in selected cooperating libraries for the purpose of giving the student experience in the organizational and administrative activities of specific types of libraries. Seminars for the discussion of problems are held throughout the term. Additional term project required of graduate students. (This must precede the undergraduate Directed Teaching program.)

530 Introduction to Classification and Cataloging **4 hrs. Fall**

Introduction to the principles of cataloging and classifying the book collection. Includes study and practice in making the dictionary catalog and in classifying according to the Dewey Decimal Classification scheme. Students are taught to use the unit card system and are given practice in adapting Library of Congress and Wilson printed catalog cards, in assigning subject heading and in cataloging non-book materials.

531 Technical Processes: School Media Center **4 hrs. Fall**

An introductory course in classification and cataloging in which emphasis is placed on organizing materials for the school media center. Includes processing of print and non-print materials both for individual schools and for systems with centralized processing. Laboratory experiences.

***542 Reading Interests of Young Adults** **3 hrs. Winter**

Study of the fields of literature suited to the interests of young people. Students are given opportunity through wide reading to develop principles and standards for the selection of the book collection. Includes an introduction to methods of stimulating broader reading interests and conducting group book discussions with young people. Open to students outside the department.

***546 Storytelling** **3 hrs. Fall**

Underlying principles of the art of storytelling; techniques; content and sources of materials. Practice in telling stories before groups of children is provided. Planning the story hour program for various ages as a means of developing appreciation of literature and stimulating an interest in reading.

598 Readings in Librarianship **1-3 hrs. Fall, Winter**

Offers a program for the advanced student for independent study in a special area of interest; arranged in consultation with the graduate adviser.

*Courses open to students in other departments.

Faculty

DISTINGUISHED UNIVERSITY PROFESSORS

Robert M. W. Travers, Ph.D., School of Education
Charles VanRiper, Ph.D., Department of Speech Pathology and Audiology

1967-1968

Adams, David W., 1956-63; 1964, Professor of Teacher Education
B.A., Ohio Wesleyan; M.A., Ed.D., New York

Adams, Ethel G., 1946, Professor of Music
B.A., Ball State; M.A., Columbia

Adams, Phillip D., 1964, Assistant Professor of English
B.A., Western Michigan; M.A., Ohio

Adams, Richard T., 1965, Professor of General Business
B.S., Ph.D., Purdue

Adams, Sam B., 1946, Associate Professor of Music
B.A., Kentucky; M.A., Columbia

Ajango, Helle, 1966, Instructor in German
B.A., Indiana; M.A., Middlebury

Alavi, Yousef, 1958, Professor of Mathematics
B.S., M.S., Ph.D., Michigan State

Alberro, Charles, 1967, Instructor in Spanish
B.A., River Platte; M.A., Andrews

Albert, Elaine A., 1965, Instructor in English
B.A., Western College for Women; M.A., Middlebury

Allen, Francis W., 1953, Assistant Director for Services and Associate Professor, Library
B.S., Colby; B.A.L.S., M.A.L.S., Michigan

Alvarez, Elsa, 1964, Assistant Professor of Spanish
MA., Iowa; Ph.D., Havana

Amundson, Martin E., 1966, Physician, Health Service
B.S., M.D., Michigan

Anderson, Robert H., 1957, Associate Professor of Chemistry
B.A., Baker; M.A., Ph.D., Columbia

Anderson, Ronald D., 1967, Assistant Professor of General Business
B.B.A., M.A., Iowa

Anger, Douglas, 1967, Associate Professor of Psychology
B.A., Colgate; Ph.D., Harvard

Ansel, James O., 1949, Director of Rural Education and Professor of Teacher Education
B.A., Western Michigan; M.A., Northwestern; Ed.D., Columbia

Appel, William C., 1965, Assistant Professor of Music
B.S., State Teachers of Indiana (Pa.); M.Mus., Indiana

Appel, Loyal E., 1966, Lecturer in Blind Rehabilitation
B.A., William Jewell

Archer, Hugh G., 1939, Associate Professor of Teacher Education
B.A., Central Michigan; M.A., Michigan

Argyropoulos, Triantafilos, 1964, Assistant Professor of Art
B.S., M.F.A., Michigan

Asher, Eston J,, Jr., 1954, Director of Institutional Research and Professor of Psychology
B.S., Kentucky; M.S., Ph.D., Purdue

Asmus, Karl H., 1967, Instructor in Economics
B.S., Illinois; M.A., Michigan State

Auer, Nancy E., 1966, Assistant Professor of Religion
B.A., Cedar Crest; M.A., Chicago

Ault, Richard, 1967, Instructor in Teacher Education
B.S., M.A., Central Michigan

Austin, Douglas V., 1967, Associate Professor of General Business
B.A., Ohio Wesleyan; M.A., Ph.D., Indiana

Bach, Shirley, 1964, Research Associate in Chemistry
B.S., Queens; Ph.D., Wisconsin

Baechtold, Marguerite, 1967, Assistant Professor of Librarianship
B.A., Montclair; B.S.L.S., Columbia

Bahlke, Harold O., 1962, Area Chairman, General Studies, Humanities and Professor of Humanities
B.Ed., Wisconsin State; M.A., Ph.D., Minnesota

Bailey, Keith D., 1955, Assistant Professor, Campus School
B.S., M.A., Western Michigan

Baker, Lee O., 1954, Head and Professor, Department of Agriculture
B.S., Wisconsin State; Platteville; M.S., Wisconsin; Ed.D., Michigan State

Baldwin, Elizabeth E., 1964, Associate Professor of Anthropology
B.A., Wellesley; M.A., Radcliffe; Ph.D., Harvard

Bank, Theodore P. II, 1967, Assistant Professor of Social Science
B.S., M.S., Michigan

Barkey, John W., 1964, Assistant Professor of Sociology
B.A., Nebraska; M.A., Northwestern

Barstow, Robert H., 1965, Associate Professor of Social Work
B.A., Western Michigan; M.S.W., Michigan

Bartley, Lynwood, 1963, Assistant Professor of Broadcasting
B.S., Eastern Michigan; M.A., Western Michigan

Barton, Lt. Col. Stephen F., 1965, Assistant Professor of Military Science
B.S.E.T., Utah State; B.S.C.E., Missouri School of Mines and Metallurgy

Bartoo, Harriette V., 1948, Professor of Biology
B.A., Hiram; Ph.D., Chicago

Bate, Harold L., 1964, Associate Professor of Speech Pathology and Audiology
B.A., Butler; M.A., Florida; Ph.D., Wisconsin

Batson, Robert J., 1957, Associate Professor of Political Science
B.A., Princeton; M.A., Ph.D., Chicago

Beck, Roy A., 1967, Assistant Professor of Speech
B.S., Southeast Missouri State; M.S., Southern Illinois

Becker, Albert B., 1937, Professor of Speech
B.A., Western Michigan; M.A., Michigan; Ph.D., Northwestern

Beech, Beatrice, 1967, Instructor, Assistant Catalog Librarian, Library
B.A., Michigan State; M.S.L.S., Western Michigan

Beech, George T., 1960-64; 1965; Professor of History
B.A., Michigan State College; Ph.D., Johns Hopkins

Beeler, Fred A., 1946, Professor of Mathematics, Chief of Party, WMU-Aid Project, Technical College, Ibadan, Nigeria (Leave 1966-1968)
B.S., Alaska; M.A., Indiana; Ph.D., Michigan

Beeler, Isabel, 1946, Associate Professor, Counseling Center
R.N., Ford Hospital; B.S., M.A., Michigan (Leave 1966-1968)

Behm, Harley D., 1967, Chairman and Associate Professor, Department of Transportation Technology
B.S., Northern Montana; M.Ed., Ed.D., Missouri

Beinhauer, Myrtle T., 1957, Associate Professor of Economics
B.A., M.A., Drake; Ph.D., Minnesota

Beloof, Elmer R., 1946, Professor of Music
B.Mus., B.S., Illinois; M.A., Ed.D., Columbia

Beloof, Margaret Felts, 1946, Professor of Music
B.M., Oberlin; M.A., Minnesota

Bendix, John L., 1955, Professor of Industrial Education
B.S., Stout State; M.A., Minnesota; Ed.D., Indiana

Benne, Max E., 1964, Assistant Professor of Teacher Education
B.S., M.S., Ed.D., Michigan State

Bennett, Roger A., 1965, Assistant Professor of Engineering and Technology
B.S.E. (EE), Michigan

Benson, Jozette W., 1966, Instructor in History
B.A., Wittenberg; M.A., Chicago

Bergeson, John B., 1966, Associate Professor of Teacher Education
B.A., Knox; M.S., Ed.D., Northern Illinois

Berkey, Ada E., 1947, Music Librarian, Associate Professor, Library
B.A., Mount Holyoke; B.A.L.S., Michigan; M.A., Iowa

Berkhof, William B., 1967, Instructor, Reference Assistant, Library
B.A., Calvin; M.A., Western Michigan; Adv. Certificate, Illinois

Berndt, Donald C., 1962, Associate Professor of Chemistry
B.S., Ph.D., Ohio State

Berneis, Regina F., 1965, Assistant Professor, Department of Librarianship, Laboratory Librarian, Library
B.A., Wayne State; M.A., Western Michigan

Betz, Robert L., 1961-62; 1963; Associate Professor of School Services
B.A., Albion; M.S., Illinois; Ph.D., Michigan State

Beukema, Henry J., 1943, Professor of Engineering and Technology
B.S., Western Michigan; M.A., Michigan

Bibza, Irene S., 1965, Assistant Professor of Home Economics
B.S., Carnegie Institute of Technology; M.S., Auburn

Bidelman, Patrick K., 1964, Instructor in History
B.S., M.A., Western Michigan

Bischoff, Guntram G., 1965, Assistant Professor of Religion
University of Bonn, University of Gottingen; B.D., Princeton Theological Seminary

Black, Donald J., 1952, Assistant Professor of Engineering and Technology
B.A., Kalamazoo; B.S., Valparaiso Technical Institute; M.A., Western Michigan

Blagdon, Charles A., 1957, Assistant Professor of General Business
B.A., Kalamazoo; M.A., Michigan State

Blasch, Donald, 1961, Director, Blind Rehabilitation Program and Associate Professor of Special Education
B.E., Northern Illinois; M.A., Chicago

Bodine, Gerald L., 1957, Assistant Professor of Teacher Education
B.S., Wisconsin State, Milwaukee; M.A., Northwestern

Body, Alexander, 1966, Assistant Professor, Assistant Documents Librarian, Library
Doctor of Laws, Hungaricae Elisabethiane University; M.S.L.S., Western Michigan

Boles, Harold W., 1961, Head and Professor, Department of School Services
B.S., Indiana State; M.A., Ph.D., Ohio State

Booker, Gene S., 1960, Professor of Management
B.S., Ball State; M.A., Ph.D., Indiana

Borr, Earl, 1957, Assistant Professor of Teacher Education
B.S., M.A., Western Michigan

Bosco, James J., 1965, Associate Professor of Teacher Education
B.Ed., Duquesne; M.Ed., Pittsburgh

Boucher, Joan Ann, 1966, Assistant Professor of Music
B.M., M.M., Chicago Musical College; Ph.D., Boston

Boughner, Robert, 1967, Instructor in Engineering and Technology
B.S.I.E., Wayne State

Bouma, Donald H., 1960, Professor of Sociology
B.A., Calvin; M.A., Michigan; Ph.D., Michigan State

Bournazos, Kimon, 1965, Associate Professor of Business Education
B.S., M.S., Ph.D., Michigan State

Bourziel, Esther M., 1966, Intern Coordinator, Teacher Education
B.A., Wayne State; M.A., Michigan State

Boven, Donald E., 1953, Associate Professor of Physical Education, Men
B.S., M.A., Western Michigan

Bowers, Robert S., 1937, Head and Professor, Department of Economics
B.A., Kansas Wesleyan; M.A., American; Ph.D., Wisconsin

Bowman, Lloyd E., 1966, Assistant Professor of Management
B.A., Eastern Michigan; M.B.A., Western Michigan

Bradley, George E., 1951, Head and Professor, Department of Physics
B.A., Miami; M.S., Ph.D., Michigan

Bradley, Hugh, 1967, Adjunct Associate Professor of Management
B.S., M.S., M.I.T., Ph.D., Johns Hopkins

Brail, Frederick R., 1958, Assistant Professor of Teacher Education
B.S., Central Michigan; M.A., Ohio State

Brawer, Milton J., 1960, Associate Professor of Sociology
B.A., Harvard; Ph.D., Columbia

Breed, Sterling L., 1956, Associate Professor, Counseling Center
B.S., M.A., Western Michigan

Breisach, Ernst A., 1957, Chairman and Professor, Department of History
Matura, Realgymnasium Knittelfeld and Vienna VII; Ph.D., Vienna; Dr. rer. oec., Hochschule fuer Welthandel

Breisach, Herma, 1967, Instructor, Catalog Assistant, Library
Matura, Oberschule fuer Maedchen, Vienna IV; M.L.S., Western Michigan; Ph.D., Vienna

Brennan, Margaret Jane, 1965, Professor of Home Economics
B.S., Western Michigan; M.A., Columbia; Ed.D., Pennsylvania State

Brewer, Richard D., 1959, Director, C.C. Adams Center for Ecological Studies and Associate Professor of Biology
B.A., Southern Illinois; M.S., Ph.D., Illinois

Brink, Lawrence J., 1940, Associate Professor of Industrial Education
B.A., Western Michigan; M.A., Michigan

Brown, Alan S., 1955, Professor of History
B.A., M.A., Ph.D., Michigan

Brown, Charles T., 1948, Chairman and Professor, Department of Speech and Director, Center for Communication Research
B.A., Westminster; M.A., Ph.D., Wisconsin

Brown, Donald J., 1960, Assistant Professor of Chemistry
B.S., Ph.D., Syracuse

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B.A., Calvin; M.A., Ph.D., Michigan

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B.D., M.A., Ph.D., Chicago

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Green, Paul F., 1967, Assistant Professor of Sociology
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B.A., M.A., Illinois; M.S., Columbia

Harrison, Carole, 1960, Associate Professor of Art
B.F.A., M.F.A., Cranbrook Academy of Art

Hart, Harmon G., 1967, Instructor in Geography
B.S., Mansfield State

Hartenstein, Fred V., 1959, Associate Dean, School of Business and Professor of Management
B.A., M.A., Ph.D., Pittsburgh

Hartwell, James G., 1966, Instructor, Periodicals Librarian, Library
B.A., Andrews; M.S.L., Western Michigan

Hause, James B., 1958, Associate Professor of Music
B.M., M.M., Michigan

Hausenfluck, Lyda J., 1966, Instructor in Speech
B.F.A., Texas; M.A., Washington

Hawkins, Robert P., 1966, Assistant Professor of Psychology
B.S., Lewis and Clark; M.S., Ph.D., Pittsburgh

Hawks, Graham P., 1960, Associate Professor of History
B.A., Rochester; M.S., Ph.D. Wisconsin

Haynes, Jack A., 1964, Associate Professor of Engineering and Technology
B.S.E.E., Purdue; M.E.A., Washington

Haynes, William O., 1959, Associate Professor of Distributive Education
B.S., M.A., Western Michigan

Healey, John B., 1947, Associate Professor of General Business
B.C.S., Ph.B., J.D., DePaul

Healy, Helen J., 1965, Assistant Professor Curriculum Librarian, Educational Resources Center
B.A., M.A., Western Michigan

Hedrick, Mildred, 1964, Lecturer in Librarianship
B.S., South Dakota State; B.S.L.S., Illinois

Heersma, H. Sidney, 1967, Adjunct Associate Professor of Occupational Therapy
B.A., Hope; M.D., Rush Medical College

Hefner, Harry S., 1940, Professor of Art
B.A., Western Michigan; M.A., Columbia

Heger, Frank E., 1963, Associate Professor of Special Education
B.A., Eastern Michigan; M.A., Ph.D., Michigan

Heiles, William H., 1964, Assistant Professor of Music
B.M., Oberlin Conservatory of Music; M.M., D.M.A., Illinois

Heim, Marilynn Y., 1965, Assistant Professor of Music
B.M., Michigan State; M.A., Western Michigan

Heinig, Ruth M., 1964, Assistant Professor of Speech
B.A., Valparaiso; M.A., Pittsburgh

Helgesen, Charles, 1955, Professor of Speech
B.S., St. Cloud; M.A., Ph.D., Denver

Heller, Charles F., 1961, Associate Professor of Geography
B.A., M.A., Kansas; Ph.D., Illinois

Henderson, Jon Michael, 1964, Assistant Professor of Art
B.F.A., M.F.A., Kansas

Hendriksen, Daniel P., 1966, Assistant Professor of English
B.A., Calvin; M.A., Ph.D., Michigan

Henry, Major Paul W., 1965, Assistant Professor of Military Science
B.S., Hampton Institute

Herald, Eunice E., 1955, Head and Professor, Department of Home Economics
B.S., Michigan State; M.A., Ph.D., Michigan

Herman, Deldee M., 1947, Associate Professor of Speech
B.A., Western Michigan; M.A., Michigan

Herman, John E., 1966, Assistant Professor of Physics
B.S.E., M.S.E., M.S., Ph.D., Michigan

Hesselberth, Cassius A., 1963, Associate Professor of Engineering and Technology
B.S.E.E., M.S.E.E., Ph. D. (E.E.), Illinois

Hetherington, Elisabeth, 1963, Associate Professor of Physical Education, Women
B.S., Miami; M.A., Ohio State; Ed.D., Colorado State

Hessler, David W., 1967, Assistant Professor of Teacher Education
B.A., M.A., Michigan

Hinds, Frank J., 1935, Professor of Biology
B.A., Western Michigan; M.A., Michigan

Ho, Alfred K., 1967, Associate Professor of Economics
B.A., Yenching (China); M.A., California (L.A.); Ph.D., Princeton

Ho, Marjorie Kao, 1967, Instructor, Catalog Assistant, Library
B.A., Sarah Lawrence; M.L.S., University of California

Hobbs, George W., 1965, Instructor in Physical Education, Men
B.A., Michigan State; M.A., Michigan

Holladay, Clayton A., 1956, Director of Scholarship and Loans and Professor of English
B.A., Miami; M.A., Western Reserve; Ph.D., Indiana

Holden, Joanne, 1967, Assistant Professor, Counseling Center
B.A., Colorado; M.A., Chicago

Holkeboer, Paul E., 1955, Coordinator of Science Education Ph.D. Program and Associate Professor of Chemistry
B.A., Hope; M.S., Ph.D., Purdue

Holmes, Robert, 1966, Head and Professor, Department of Music
B.Mus., M.A., Ph.D., Boston

Holt, Donald R., Jr., 1967, Instructor in Political Science
B.A., Williams; B.D., San Francisco Theological Seminary; M.A., Western Michigan

Holt, Imy V., 1961, Associate Professor of Biology
B.S., New Mexico State; M.S., Ph.D., Iowa State

Horning, Donald N.M., 1966, Associate Professor of Sociology
B.A., Kalamazoo; M.A., Ph.D., Indiana

Horst, Oscar H., 1956, Professor of Geography
B.S., M.A., Ph.D., Ohio State

Horton, Paul B., 1945, Professor of Sociology
B.A., Kent; Ph.D., Ohio State

Householder, Frank C., 1934, Associate Professor of English
B.A., Western Michigan; M.A., Michigan

Houser, Thomas, 1964, Associate Professor of Chemistry
B.S., Illinois Institute of Technology; M.S., Ph.D., Michigan

Houston, Charles O., Jr., 1965, Associate Professor, Institute of International and Area Studies
B.A., Miami (Ohio); Ph.D., Columbia

Howell, James A., 1964, Assistant Professor of Chemistry
B.A., Southern Illinois; M.S., Illinois; Ph.D., Wayne State

Hoy, Joseph T., 1952, Director and Head, Department of Physical Education, Men and Professor of Physical Education, Men
B.S., Western Michigan; M.A., Michigan; Ed.D., Indiana

Hoyer, Gustav, 1963, Assistant Professor of Physics
B.A., Augustana

Hsieh, Philip P., 1964, Associate Professor of Mathematics
B.S., National Taiwan (Formosa); M.S., Ph.D., Minnesota

Hudson, John S., 1967, Instructor in Accounting
B.A., M.A., Michigan State

Hughes, Robert D., 1964, Assistant Professor of Teacher Education
B.S., M.A., Western Michigan

Hughes, Theone, 1965, Instructor in English
B.A., Kalamazoo; M.A., Western Michigan

Humiston, Robert, 1961-62; 1964; Assistant Professor of Music
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Hunt, Chester L., 1948, Professor of Sociology
B.A., Nebraska Wesleyan; M.A., Washington; Ph.D., Nebraska

Hunt, Mary Ida, 1966, Assistant Professor of Speech Pathology and Audiology
B.S., M.A., Western Michigan

Hutchings, Gilbert R., 1955, Associate Professor of Industrial Education
B.S., Western Michigan; M.A., Michigan

Hutchins, Forrest O., 1966, Instructor in Transportation Technology
B.S., Southeastern Louisiana College

Hutchinson, Ronald R., 1966, Associate Professor of Psychology
M.A., Southern Illinois; M.S., Ph.D., Yale

Iffland, Don C., 1956, Chairman and Professor of Chemistry
B.S., Adrian; M.S., Ph.D., Purdue

Inselberg, Edgar, 1966, Associate Professor of Biology
B.S., Cornell; M.S., Ph.D., Illinois

Inselberg, Rachel M., 1966, Associate Professor of Teacher Education
B.S., Philippine Women's University; M.S., Illinois; Ph.D., Ohio State

Isaak, Alan C., 1966, Assistant Professor of Political Science
B.A., Western Reserve; M.A., Ph.D., Indiana

Jackman, Albert H., 1959, Head and Professor, Department of Geography
B.S., Princeton; Ph.D., Clark

Jaksa, James A., 1967, Associate Professor of Speech
B.A., Central Michigan; M.A., Michigan; Ph.D., Wayne State

Jamison, Frank R., 1967, Assistant Professor of Broadcasting
B.A., Missouri; M.S., Syracuse; Ed.S., Colorado State

Janes, Raymond L., 1957-60; 1963; Head and Professor, Department of Paper Technology
B.S., Western Michigan; M.S., Institute of Paper Chemistry (Lawrence)

Japinga, William H., 1965, Assistant Professor of Marketing
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Jefferies, John H., Jr., 1966, Instructor in History
B.A., Hope; M.A., Michigan State

Jennings, Helen, 1960, Assistant Professor of Teacher Education
B.S., M.A., Ed.S., Western Michigan

Jevert, Joseph A., 1962, Associate Professor of Physical Education, Men
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Johnson, A. Elizabeth, 1949, Associate Professor of Teacher Education
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Johnson, G. Stewart, 1960, Associate Professor of Engineering and Technology
B.S.E. (M.E.), Michigan; M.S., (M.E.), Michigan State

Johnson, Gordon O., 1960, Administrative Assistant, School of Applied Arts and Sciences and Associate Professor of Industrial Education
B.S., Northeast Missouri State; M.Edu., Missouri; Ed.D., Indiana

Johnson, Wallace H., 1965, Instructor in English
B.A., Duke; M.A., North Carolina

Johnston, Robert P., 1967, Associate Professor of Art
B.A., M.A., Pennsylvania State; M.A., Wyoming

Johnston, William A., 1966, Assistant Professor of English
Ph.B., Wayne State; M.A., Delaware

Jones, Darrell G., 1962, Head and Associate Professor, Department of Business Education
B.S., M.A., State College of Iowa; Ph.D., Michigan State

Jones, Herb B., 1948, Associate Professor of Spanish
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Jones, Jack D., 1956, Assistant Professor of Physical Education, Men
B.S., Texas; M.A., Western Michigan

Junker, Louis J., 1961, Professor of Economics
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Juul, Kristen D., 1960, Professor of Teacher Education
B.S., Western Michigan; M.A., Ed.D., Wayne State

Kaarlela, Ruth, 1963, Assistant Professor of Special Education
B.A., M.S.W., Wayne State

Kana'an, Adli S., 1965, Assistant Professor of Chemistry
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Kanamueller, Joseph M., 1966, Assistant Professor of Chemistry
B.S., St. Joseph; Ph.D., Minnesota

Kanzler, William H., 1961, Associate Professor of Teacher Education
B.S., U.S. Naval Academy; M.A., Columbia; Ed.D., Wayne State

Kapoor, Shachichand F., 1967, Assistant Professor of Mathematics
B.S., M.S., B.L., Bombay (Wilson College); Ph.D., Michigan State

Karl, Mary S., 1964, Instructor, Catalog Assistant, Library
B.A., Akron; M.S.L.S., Western Reserve

Karsten, David, 1967, Assistant Professor of Speech
B.A., Hope; M.A., Northwestern

Kaufman, Maynard, 1963, Associate Professor of Religion
B.A., Bethel; M.A., Chicago

Kaufman, Robert W., 1959, Associate Professor of Political Science
B.S., Wisconsin; M.A., Ph.D., American

Kaul, Ronald D., 1957, Associate Professor of Physics
B.S., Ph.D., Case Institute

Kavanaugh, Alice M., 1966, Assistant Professor of Home Economics
B.S., M.A., Western Michigan

Keary, John P., 1967, Instructor in Broadcasting
B.F.A., M.F.A., Michigan State

Keenan, J. Michael, 1962-64; 1968; Chairman and Professor of Management
B.A., M.S., Colorado; Ph.D., Ohio State

Keller, Paul W., 1967, Visiting Professor of Speech
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Kemper, John G., 1942, Professor of Art
B.F.A., Ohio State; M.A., Columbia

Kent, Louise M., 1967, Adjunct Assistant Professor of Psychology
B.A., M.A., Indiana; Ph.D., Iowa

Kent, Neil D., 1965, Professor of Psychology
B.A., M.A., Baylor; Ph.D., Indiana

Kercher, Dorotha, 1966, Instructor, Order Assistant, Library
B.A., M.A., Western Michigan

Kercher, Leonard C., 1928, Head and Professor, Department of Sociology
B.A., M.A., Ph.D., Michigan

Khaled, Chafic, 1966, Instructor in History
B.A., Berea; M.A., Denver

Kilpatrick, G. Wayne, 1965, Instructor in English
B.A., Reed College; M.A., Chicago

Kim, C. I. Eugene, 1961, Associate Professor of Political Science
B.A., King College; M.A., Vanderbilt; Ph.D., Stanford

King, Dale D., 1957, Associate Professor of Engineering and Technology
B.S., M.A., Western Michigan

King, Donald E., 1966, Instructor in Art
B.F.A., California College of Arts and Crafts; M.F.A., Mills

King, Ruby, 1967, Instructor, Campus School
B.A., Michigan State

Kiraldi, Louis, 1960, Associate Professor, Documents Librarian, Library
M.A., Western Michigan; Dr. of Laws, Royal Pazmany University of Budapest

Kirchherr, Eugene C., 1957, Professor of Geography
B.Ed., Chicago State College; M.S., Ph.D., Northwestern

Kiss, Rosalia A., 1952, Head and Professor, Department of Occupational Therapy
B.S., Wayne State; B.S., O.T. Certificate, Eastern Michigan; M.A., Western Michigan; Ph.D., Michigan

Klammer, Opal, 1962, Instructor in Physical Education
B.A., St. Olaf College; M.A., Western Michigan

Klammer, Waldemar E., 1956, Associate Professor of Industrial Education
B.A., Mankato State; M.S., Stout State

Klatt, Lawrence A., 1965, Associate Professor of Management
B.S., M.B.A., Detroit; Ph.D., Missouri

Klein, George, 1958, Associate Professor of Political Science
B.A., M.A., Ph.D., Illinois

Klein, Patricia, 1967, Instructor in Social Science, General Studies
B.A., M.A., Illinois

Klein, Roy S., 1967, Assistant Professor of Engineering and Technology
B.S.M.E., Drexel Institute of Technology; M.S.M.E., Newark College of Engineering

Klich, Beatriz de M, 1968, Lecturer in Blind Rehabilitation Lyceum Studies (Portugal, Brazil, Goa, England, France) M.A., Ph.D., Loyola

Kline, James E., 1963, Assistant Professor of Paper Technology
B.S., M.S., Western Michigan

Klingenberg, Allen J., 1965, Associate Professor of Teacher Education
B.A., M.A., Michigan; Ph.D., Michigan State

Knoska, Karen S., 1967, Instructor in Speech Pathology and Audiology
B.A., Western Michigan; M.A., Northwestern

Kohrman, George E., 1951, Dean, School of Applied Arts and Sciences and Professor of Industrial Education
B.S., M.A., Ed.D., Missouri

Kokales, Evan P., 1967, Physician, Health Service
B.A., M.D., Michigan

Kopke, Kenneth W., 1967, Instructor in Physical Education, Men
B.E., University of Toledo; M.E., Bowling Green State

Koronakos, Chris, 1960, Professor of Psychology
B.A., Colorado; M.A., Ph.D., Nebraska

Kotecki, Robert G., 1962, Assistant Professor of Teacher Education
B.A., Western Michigan; M.A., Michigan

Krawutschke, Peter W., 1967, Lecturer in German
B.A., Western Michigan

Krieger, LaVerne, 1964, Assistant Professor of Transportation Technology
B.S., Western Michigan; B.S.M.E., Michigan; M.S.A.E., Chrysler Institute

Kronk, Hudson V., 1967, Visiting Assistant Professor of Mathematics
B.S., Renselaer Polytechnic Institute; M.S., Ph.D., Michigan State

Kroon, Lambert, 1966, Assistant Professor of Music
State Conservatory of Music, Netherlands

Kruglak, Haym, 1954, Professor of Physics
B.A., M.A., Wisconsin; Ph.D., Minnesota

Kuenzi, W. David, 1964, Assistant Professor of Geology
B.S., Washington State; M.S., Ph.D., Montana

Kuffel, Stanley, 1952, Professor of Psychology
B.A., St. Thomas; M.A., Minnesota; Ed.D., Western Reserve

Kukolich, Stephen I., 1965, Associate Professor of Paper Technology
B.S., Grinnel College; M.S., Ph.D., Lawrence

Kusmiss, John H., 1965, Assistant Professor of Physics
B.S., Massachusetts Institute of Technology; Ph.D., University of North Carolina

Kuykendall, Radford B., 1957, Associate Professor of Speech
B.A., B.Ed., Washington State; Ph.D., Northwestern

Kyser, Daniel A., 1947, Associate Professor of Music
B.S.M., Oberlin; M.M.E., Michigan

LaDuke, Robert O., 1966, Instructor in Special Education
B.S., M.A., Western Michigan

Lafter, Mary, 1964, Assistant Professor, Campus School
B.A., Michigan; M.A., Cornell

Lambe, Cameron W., 1962, Associate Professor of Teacher Education
B.S., M.Ed., Ed.D., Wayne State

Lambert, Robert G., 1964, Instructor in English
B.A., Rutgers; M.A., New York

Lambright, Robert W., 1967, Visiting Associate Professor of Marketing
B.S., M.B.A., D.B.A., Washington

Lamper, Neil, 1959, Associate Professor of School Services
B.A., Calvin; M.A., Michigan; Ph.D., Michigan State

Lander, Dorothy E., 1963, Assistant Professor, Reserve Book Librarian, Library
B.A., M.A., Western Michigan

Lane, Ross G., 1967, Instructor, Counseling Center
B.A., M.A., Ed.S., Western Michigan

Large, Margaret S., 1949, Professor of Physical Education, Women
B.A., Toronto; M.A., Wayne State; Ph.D., Michigan

Large, Wilda, 1964, Assistant Professor of Teacher Education
B.A., M.A., Western Michigan

LaRue, Robert, 1964, Assistant Professor of English
B.A., Occidental College; M.F.A., Oregon

Lawrence, Jean McVey, 1959, Associate Professor of Biology
B.A., Yankton; M.A., Wellesley; Ph.D., Northwestern

Lawson, E. Thomas, 1961, Head and Professor, Department of Religion
B.D., M.A., Ph.D., Chicago

Lawson, John W., 1967, Instructor in French
B.A., Brown; M.A., Ohio State

Leader, Alan H., 1963, Associate Professor of Management
B.S., M.S., Rochester; D.B.A., Indiana

Lebbin, LeRoy J., 1957, Instructor in Librarianship
B.A., Hope; M.A., Michigan; M.S.L.S., Western Reserve

LeBonte, George, 1966, Instructor, Social Science Area, General Studies
B.B.A., M.P.A., Kansas City

Ledig, Hans-Manfred, 1967, Visiting Professor of German and Teacher Education
Diplom in Psychology, Free University in Berlin

Lehnus, Donald J., 1967, Assistant Professor of Librarianship
B.A., Kansas; M.L.S., California

Leisenring, James J., 1966, Assistant Professor of Accounting
B.A., Albion; M.B.A., Western Michigan; C.P.A., State of Michigan

Leja, Stanislaw, 1957, Professor of Mathematics
M.A., University of Lwow; Ph.D., Cornell

Lemanski, Patricia A., 1966, Assistant Professor of Physical Education, Women
B.S., Illinois State Normal; M.A., Colorado State

Leonardelli, D. B., 1951, Assistant Director, Division of Field Services and Assistant Professor of Education
B.A., Northern Michigan; M.S., Michigan

Lewis, Alice E., 1956, Associate Professor of Occupational Therapy
B.A., Mount Holyoke; M.A., Southern California; O.T. Certificate, Western Michigan University

Lewis, David, 1962, Associate Professor of Sociology
B.A., M.A., Maryland; Ph.D., Michigan State

Lewis, Helenan S., 1963, Assistant Professor of Sociology
B.A., M.A., Ph.D., Michigan State

Lick, Don R., 1965, Associate Professor of Mathematics
B.S., M.S., Ph.D., Michigan State

Limpus, Robert M., 1947, Dean, School of General Studies and Professor of English
B.A., Northwestern; M.A., Ph.D., Chicago

Lindbeck, John R., 1957, Professor of Industrial Education
B.S., M.A., Ph.D., Minnesota

Lindstrom, Carl A., 1959, Assistant Professor of Teacher Education
B.A., Western Michigan; M.A., Michigan

Littna, Francis M., 1965, Associate Professor of Humanities
Doctor's Degree in Law and Economics (Prague)

Livingston, William, 1964, Assistant Professor of Speech
B.A., Humboldt State; M.A., Illinois

Lloyd, Bruce A., 1967, Associate Professor of Teacher Education
B.S., M.Ed., Ph.D., Ohio

Lloyd, Gerald J., 1966, Assistant Professor of Music
B.M., M.M., College-Conservatory of Music; Ph.D., Rochester

Loew, Cornelius, 1956, Dean, School of Liberal Arts and Sciences and Professor of Religion
B.A., Elmhurst; G.D., S.T.M., Union Seminary; Ph.D., Columbia

Löffler, Reinhold, 1967, Assistant Professor of Anthropology
B.A., Innsbruck Teacher Training College; Ph.D., University of Mainz (West Germany)

Long, Jerome H., 1964, Assistant Professor of Religion
B.A., Knox; B.D., M.A., University of Chicago Divinity School

Lowder, Dwayne M., 1966, Assistant Professor of Art
B.A., M.A., North Carolina

Lowe, James J., 1965, Associate Professor, Counseling Center
B.A., Indiana; M.A., Western Michigan

Lowrie, Jean E., 1951-57; 1958; Head and Professor, Department of Librarianship
B.A., Keuka; B.S.L.S., Western Reserve; M.A., Western Michigan; Ph.D., Western Reserve

Lyon, David O., 1963, Associate Professor of Psychology
B.A., Hamilton; Ph.D., Indiana

Mabie, Vern E., 1930-32; 1948; Director of Placement
B.A., Western Michigan; M.A., Michigan

MacDonald, Richard R., 1967, Assistant Professor of Sociology
B.A., Michigan State; M.A., Ph.D., Missouri

MacKenzie, Janet A., 1965, Instructor in English
B.A., Carleton College; M.A., Western Michigan

Macleod, Garrard D., 1959, Assistant Professor of Broadcasting
B.A., M.A., Western Michigan

Macmillan, Margaret B., 1920-34; 1944; Professor of History
B.A., M.A., Michigan; Ph.D., Columbia

MacQueen, Charles B., 1966, Instructor, Counseling Center
B.S., M.A., Western Michigan

Macrorie, Joyce, 1967, Adjunct Assistant Professor of Humanities Area
B.A., Kalamazoo; M.F.A., Cranbrook Academy of Art

Macrorie, Ken, 1961, Professor of English
B.A., Oberlin; M.A., North Carolina; Ph.D., Columbia

Madigan, Raymond F., 1967, Coordinator of Student Teaching (Detroit)
B.S., M.Ed., Detroit

Maher, Charles H., 1925, Professor of Physical Education, Men
B.S., Western Michigan; M.S., West Virginia

Maher, Robert F., 1957, Chairman and Professor, Department of Anthropology
B.S., M.S., Ph.D., Wisconsin

Maier, Anne M., 1965, Instructor in German
B.A., New York; M.A., Illinois

Maier, Paul L., 1959, Professor of History
B.A., B.D., Concordia Seminary; M.A., Harvard; B.D., Concordia Seminary; Ph.D., Basel

Malamazian, John D., 1966, Lecturer in Blind Rehabilitation
B.S., Illinois

Mallinson, George G., 1948, Dean, School of Graduate Studies and Professor of Science Education
B.S., M.A., New York State; Ph.D., Michigan

Mallinson, Jacqueline, 1967, Adjunct Associate Professor of Science Education
B.A., Kalamazoo; M.A., Michigan

Malmstrom, Jean G., 1948, Professor of English
B.A., M.A., Washington; Ph.D., Minnesota

Maloney, Harold J., 1968, Lecturer in Blind Rehabilitation
B.A., Northwestern

Malott, Richard W., 1966, Associate Professor of Psychology
B.A., Indiana; Ph.D., Columbia

Mange, A. Edythe, 1949, Professor of History
B.A., Greenville; M.A., Ph.D., Illinois

Manis, Jerome G., 1952, Director, Center for Sociological Research and Professor of Sociology
B.A., Wayne State; M.A., Chicago; Ph.D., Columbia

Manske, Arthur J., 1943, Professor of School Services
B.A., Wayne State; M.A., Ph.D., Columbia

Maples, William R., 1966, Assistant Professor of Anthropology
B.A., M.A., Ph.D., Texas

Marietta, E. L., 1962, Professor of Business Education
B.Ed., Southern Illinois; M.A., Ph.D., Iowa

Martin, Gerald C., 1959, Associate Professor of Teacher Education
B.A., Ed.S., Western Michigan; M.A., Michigan; Ed.D., Michigan State

Martin, Kenneth E., 1966, Assistant Professor of Business Education
M.S., Kansas State

Martinkosky, Stanley J., 1967, Instructor in Speech Pathology and Audiology
B.S., Ohio; M.A., Western Michigan

Marvin, F. Theodore, 1962, Administrative Assistant, General Studies, and Instructor in English
B.A., Western Michigan

Matthews, Holon, 1948, Professor of Music
B.M., M.M., College Conservatory-Cincinnati; Ph.D., Rochester

Maus, Clayton J., 1942, Dean of Records and Admissions
B.S., Ashland; M.S., Wisconsin

Mazer, Gilbert E., 1965, Associate Professor of School Services
B.A., Michigan; M.A., Western Reserve; Ph.D., Arizona State

Mazur, Major Mitchell E., 1965, Assistant Professor of Military Science
B.S., Wisconsin

McAnaw, Richard L., 1964, Associate Professor of Political Science
B.S., State Teachers College, Missouri; M.A., Missouri; Ph.D., University of Iowa

McBeth, John H., 1955, Assistant Professor of Business Education
B.S., Indiana; M.A., Alabama

McCowen, Emeline J., 1946, Associate Professor, Campus School
B.A., National College of Education; M.A., Columbia

McCully, Joseph C., 1956, Professor of Mathematics
B.A., Western Michigan; M.A., Ph.D., Michigan

McCuskey, Dorothy, 1957, Professor of School Services
B.A., Wooster; M.A., Radcliffe; Ph.D., Yale

McDaniel, Wayne L., 1967, Visiting Assistant Professor of Mathematics
B.A., Northwest Missouri State; M.A., Missouri (Columbia); Ph.D., St. Louis

McFee, Wilhelmina D., 1964, Assistant Professor of Physical Education, Women
B.S., Boston University Sargent; M.S., Smith College

McGehee, Richard V., 1963-66; 1967; Associate Professor of Geology
B.S., Texas; M.S., Yale; Ph.D., Texas

McGinnis, Dorothy J., 1941, Director of Psycho-Educational Clinic and Professor of Education
B.S., Western Michigan; M.A., Ohio State; Ph.D., Michigan State

McIntire, Warren W., Jr., 1966, Instructor in Management
B.S.C., Ohio; M.B.A., Western Michigan

McIntyre, James W., 1959, Associate Professor of Speech
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McKeag, Dorinne, 1962, Assistant Professor, Counseling Center
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McKinney, Eleanor, 1967, Assistant Professor of Librarianship
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McKitrick, Max O., 1964, Associate Professor of Business Education
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Meagher, Jack R., 1949, Director of Computer Center and Associate Professor of Mathematics
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Means, Clarence T., 1966, Associate Professor of Physical Education, Men
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Mehoke, Barbara Ann, 1966, Coordinator of Student Teaching (Detroit) and Instructor in Teacher Education
B.A., Michigan State; M.A., Michigan

Mellander, David S., 1966, Instructor in Geography
B.A., Augustana; M.A., Western Michigan

Meretta, Leonard V., 1945, Professor of Music
B.M., M.M., Michigan

Mergen, Paul S., 1965, Assistant Professor of Art
B.S., M.S., Wisconsin

Metheany, John M. III, 1964, Assistant Professor of Art
M.A., B.F.A., M.F.A., Michigan State

Meyer, Charles E., 1966, Chairman and Professor, Department of Art
B.F.A., M.A., Wayne State

Meyer, Ruth Ann, 1965, Assistant Professor of Physical Education, Women
B.A., Iowa State Teachers College; M.A., Colorado State

Michael, John L., 1967, Professor of Psychology
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Middleton, Owen B., 1964, Associate Professor of Teacher Education
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Miller, Genevieve N., 1966, Lecturer in Blind Rehabilitation
B.S., Iowa

Miller, George S., 1964, Director, Campus School and Associate Professor of Teacher Education
B.A., Michigan; M.A., Ed.D., Wayne State

Miller, James W., 1961, President, Western Michigan University
B.A., Amherst; M.A., Ph.D., Minnesota; LL.D., Michigan Technological University; LL.D., Olivet

Miller, John T., 1963, Assistant Professor of Physical Education, Men
B.S., Western Michigan

Miller, Marilyn Lea, 1966, Assistant Professor of Librarianship
B.S., Kansas; M.A.L.S., Michigan

Miller, Ralph N., 1946, Professor of English
B.A., Wayne State; M.A., Michigan; Ph.D., Northwestern

Miller, Robert B., 1956, Associate Professor of Physics
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Milton, Donald, 1965, Assistant Professor of Philosophy
B.A., Gustavus Adolphus; M.A., Minnesota

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B.S., Western Illinois; M.S., Wisconsin

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Mitchell, LTC George W., 1966, Assistant Professor of Military Science

Mitchell, James L., Jr., 1964, Associate Professor of Accounting
B.A., M.B.A., D.B.A., Michigan State

Mitias, Ragy G., 1967, Assistant Professor, Science Area, General Studies
B.S., Cairo Teachers College; M.A., Ph.D., Ohio State

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Mohr, Mary J., 1966, Instructor in Audio-Visual
B.S., M.A., Western Michigan

Monroe, Lois B., 1950, Assistant Professor of Spanish
B.A., Western Michigan; M.A., Michigan

Moore, Daniel, 1963, Director of Educational Resources Center and Professor of Education
B.A., M.A., Peabody; Ph.D., Michigan

Moore, Elizabeth, 1965, Instructor in English
B.A., Texas Christian; M.A.T., Harvard Graduate School of Education

Moore, F. Stanley, 1958, Associate Professor of Geography
B.A., Kansas City; M.A., Kansas; Ph.D., Washington

Morgan, Gary R., 1965, Instructor in English
B.A., Washington State; M.A., Purdue

Morgan, Kenyon, 1964, Assistant Professor, Counseling Center
B.M., Western Michigan; M.A., Michigan

Morell, Gilbert W., 1956, Assistant Professor of History
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Morris, William C., 1961, Assistant Professor of Accounting
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Morrison, William F., 1959, Professor of General Business
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Mortimore, Frederic J., 1967, Assistant Professor of International and Area Studies and Teacher Education
B.A., M.A., Michigan State

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Moulton, Helmi K., 1960, Associate Professor of Art
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Moyer, Jack C., 1967, Instructor in English
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Muendel, John E., 1966, Instructor in History
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Murphy, John M., 1962, Assistant Professor of English
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B.A., M.A., M.A.L.S., Michigan

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B.A., M.A., Pittsburgh

Nagler, Robert C., 1956, Associate Professor of Chemistry
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Nahm, Andrew C., 1960, Associate Professor of History
B.A., Andrews; M.A., Northwestern; Ph.D., Stanford

Nangle, John E., 1964, Assistant Director of Institutional Research and Associate Professor of Psychology
B.S., Northwestern; M.A., Bradley; Ph.D., Michigan State

Nantz, Don W., 1952, Professor of Engineering and Technology
B.S., M.S., Stout State; Ed.D., Bradley

Neill, J. Donald, 1959, Associate Professor, Counseling Center
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Nelson, Arnold G., 1954, Professor of English
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Neschich, Richard, 1964, Assistant Professor of Distributive Education
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Nichols, Nathan L., 1955, Professor of Physics
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B.S., M.A., Western Michigan; Ph.D., Ohio State

Niles, Virginia, 1962, Special Lecturer, Occupational Therapy
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Nisbet, Stephen R., 1966, Director, Benton Harbor Division of Field Services and Assistant Professor of Teacher Education
B.A., Alma; M.A., Michigan

Nobes, Leon D., 1966, Instructor in Speech
B.A., M.A., Western Michigan

Noble, Frances E., 1931, Professor of French
B.A., M.A., Ph.D., Northwestern

Nodel, Emanuel, 1961, Associate Professor of History
B.A., Brooklyn College; M.A., Ph.D., Indiana

Noecker, Norbert L., 1965, Assistant Professor of Agriculture
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Null, Thomas W., 1945, Associate Professor of Business Education
B.A., Ottawa; M.A., Iowa

Nutting, Hartley, 1965, Instructor in General Business
B.S., Pennsylvania; I.A., M.B.A., Harvard Business School; B.D., Oberlin College

O'Connor, Arthur J., 1964, Director of University Information
B.S., Detroit

Olenchak, Frank R., 1966, Assistant Professor, Campus School
B.M., Madison; M.Ed., Pennsylvania State; C.A.S.E., Johns Hopkins

Olson, Wendy Lee, 1967, Instructor, Physical Education, Women
B.S., Michigan

Olton, Roy, 1957, Professor of Political Science
B.A., Ohio Wesleyan; M.A., Ph.D., Fletcher School of Law and Diplomacy

Oppliger, Larry, 1963, Associate Professor of Physics
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Orlofsky, Fred C., 1966, Instructor in Physical Education, Men
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Orr, John B., 1955, Associate Professor of English
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Osborn, Gerald, 1939, Professor of Chemistry
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Osmun, George F., 1964, Associate Professor of Classics
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Parkes, Olive G., 1965, Assistant Professor of Music
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Pascoe, Truman A., 1964, Assistant Professor of Paper Technology
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Pattison, Dale P., 1963, Assistant Professor of History
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B.S., M.A., Western Michigan

Pearson, Maisie K., 1965, Instructor in English
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Platt, Clarice C., 1967, Associate Professor of Social Work
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Platt, Jay, 1966, Associate Professor of Speech Pathology and Audiology
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Pollatsek, Harriet K., 1967, Instructor in Mathematics
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Powell, James H., 1955, Associate Dean, School of Liberal Arts and Science and Professor of Mathematics
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Pulaski, Richard G., 1966, Assistant Professor of Philosophy
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Quick, David H., 1966, Instructor in Humanities
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Rafferty, B. Robert, 1966, Assistant Professor of Economics
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Raklovits, Richard F., 1957, Assistant Professor of Physical Education, Men
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Rappeport, Phyllis, 1966, Associate Professor of Music
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Raup, Henry A., 1960, Associate Professor of Geography
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Ray, Harold L., 1960, Assistant Director of Physical Education and Professor of Physical Education, Men
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Rayford, Erwin W., 1967, Assistant Professor of Industrial Education
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Rayl, Leo S., Jr., 1965, Associate Professor of Engineering and Technology
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Redente, Anthony, 1967, Instructor in Geography
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Rhines, Mark D., 1966, Instructor in History
B.A., M.A., Michigan State

Rhodes, Curtis A., 1966, Instructor in Art
B.F.A., Kansas; M.F.A., Ohio

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Richards, Evan L., 1966, Visiting Professor of International and Area Studies and Sociology
B.A., M.A., Oxford (England)

Richardson, Geraldine R., 1967, Instructor in Occupational Therapy
B.S., Wisconsin

Richardson, Richard J., 1965, Associate Professor of Political Science
B.S., Harding College; M.A., Ph.D., Tulane

Riggs, Karl A., 1966, Assistant Professor of Geology
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Risher, Charles G., 1958, Professor of Industrial Education
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Ritchie, William A., 1964, Associate Professor of Political Science
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Robertson, Anna M., 1966, Assistant Professor of Physical Education, Women
B.S., Cortland State; M.S., Ithaca

Robertson, Malcolm H., 1961, Professor of Psychology
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Robin, Stanley S., 1965, Associate Professor of Sociology
B.A., M.A., Ohio State; Ph.D., Purdue

Robinson, Frank B., 1966, Head, Department of Speech Pathology and Audiology
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Rogers, Chester B., 1966, Director of Institute of Public Affairs and Assistant Professor of Political Science
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Rogers, Frederick J., 1946, Professor of English
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Roose, Christina, 1967, Instructor, Catalog Assistant, Library
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Ross, Martin H., 1966, Assistant Professor of Sociology
B.S., M.S., Wisconsin

Ross, Myron H., 1961, Professor of Economics
B.S., M.A., Temple; Ph.D., Pennsylvania

Rossi, Ernest E., 1966, Assistant Professor of Political Science
B.A., Duquesne; M.Litt., Ph.D., Pittsburgh

Rossman, Jules, 1966, Assistant Professor of Speech
B.A., New York; M.A., Michigan State

Rothe, Erich, 1965, Visiting Professor of Mathematics
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B.S., M.A., Ph.D., Minnesota

Rowe, Hershel D., 1964, Associate Professor of English
B.A., M.A., Marshall; Ph.D., Florida

Rowekamp, William H., 1957, Assistant Professor of Physical Education, Men
B.S., Missouri; M.A., Western Michigan

Russell, Norman K., 1946, Professor, Counseling Center
B.S., Western Michigan; M.A., Michigan

Russell, Vera J., 1954, Instructor, Campus School
B.S., M.A., Western Michigan

Rutherford, Phoebe, 1964, Assistant Professor of Biology
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Ryan, Alexander Boggs, 1962, Assistant Professor of Music
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B.S., Western Michigan

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Sampson, Albert L., 1960-63; 1964; Assistant Professor of English
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Saunders, Mary M., 1967, Instructor in English
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Savage, Marjorie L., 1958, Professor of Home Economics
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Saylor, R. Gerald, 1967, Assistant Professor of Economics
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B.A., Baker; M.A., Ph.D., Kansas

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Schlack, Lawrence B., 1964, Associate Professor of Teacher Education
B.A., Michigan State; M.A., Ph.D., Michigan

Schlack, Marilyn, 1967, Coordinator of Student Teaching
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Schlosser, Merle J., 1957, Associate Professor of Physical Education, Men
B.S., M.S., Illinois

Schmaltz, Lloyd J., 1959, Head and Professor, Department of Geology
B.A., Augustana; M.A., Ph.D., Missouri

Schmidt, Richard H., 1955, Professor of Psychology
B.S., M.S., Ed.D., Oklahoma State

Schmidt, Wilfred O., 1967, Adjunct Assistant Professor of Economics
B.S., Wayne State; J.D., Georgetown

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B.S., M.B.A., Wayne State; Ph.D., Michigan

Schoenhals, Neil L., 1946, Associate Professor of Teacher Education
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B.A., M.A., Ph.D., Wayne State

Schten, Arnold A., 1965, Assistant Professor of Teacher Education and Director, Grand Rapids Area Office
B.A., M.A., Western Michigan

Schultz, Beth, 1958, Associate Professor of Biology
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B.S., M.S., Michigan

Schut, A. L., 1966, Lecturer in Blind Rehabilitation
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B.S., Illinois; M.A., Columbia

Scott, Frank S., 1956, Professor of Engineering and Technology
B.S., M.S., Purdue; Ed.D., Michigan State

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Seber, Robert C., 1956, Professor of Mathematics
B.A., Coe; M.S., Ph.D., Iowa

Sechler, Robert E., 1959, Assistant Professor of Mathematics
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Seibert, Russell H., 1936, Vice President for Academic Affairs and Professor of History
B.A., Wooster; M.A., Chicago; Ph.D., Ohio State

Sellers, Helen G., 1947, Associate Professor of English
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Shamu, Robert E., 1967, Associate Professor of Physics
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Sharma, Visho B.L., 1967, Visiting Professor of Social Science
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B.A., St. Mary's; M.S., Ph.D., Iowa

Sill, Thomas J., 1967, Assistant Professor of Speech
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Slack, Doris Ann, 1966, Assistant Professor of Occupational Therapy
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Small, Thomas., 1966, Assistant Professor of English
B.A., Pomone College; M.A., Colorado

Smith, Carol P., 1965, Assistant Professor of Teacher Education
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Smith, Charles A., 1935, Associate Professor of English
B.A., Western Michigan; M.A., Michigan

Smith, Dorothy E., 1963, Assistant Professor, Psycho-Educational Clinic
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Smith, Herbert L., 1963, Associate Professor of Sociology
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Smith, Kathleen M., 1966, Associate Professor of English
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Smith, R. Franklin, 1963, Associate Professor of Speech
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Smith, Robert D., 1964, Assistant Professor of Political Science
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Smith, Robert J., 1963, Associate Professor of Anthropology
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Smith, Robert L., 1967, Instructor, Counseling Center
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Smith, Robert L., 1964, Director of University Theatre and Associate Professor of Speech
B.S., M.A., Bowling Green State

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Smutz, M. Elizabeth, 1937, Professor of Art
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Snow, Carl B., 1946, Director, Audiovisual Center and Associate Professor of Teacher Education
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Sohodski, Alexander R., 1966, Instructor in Russian
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Spyers-Duran, Peter, 1967, Associate Professor, Director of Libraries
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Squire, Dana D., 1967, Associate Professor of Management
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Stafford, Norma Mae, 1967, Assistant Professor of Physical Education, Women
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Stahle, Margaret H., 1967, Instructor in Business Education
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Steen, Edwin B., 1941, Professor of Biology
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Stegman, George K., 1962, Associate Professor of Industrial Education
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Stephens, Suzanne A., 1965, Instructor in English
B.S., M.A., Western Michigan

Stephenson, Barbara J., 1960, Assistant Professor of Physical Education, Women
B.S., Western Michigan; M.S., Southern California

Stevens, Fred L., 1946, Associate Professor of Physical Education, Men
B.S., M.A., Western Michigan

Stevens, Marie L., 1957, Associate Dean of Students
B.A., Mills; M.A., Syracuse

Stewart, Larry, 1965, Instructor in Music
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Stewart, Mary Lou, 1959, Associate Professor of Physical Education, Women
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Stiefel, William J. III., 1964, Associate Professor of Engineering and Technology
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Stine, Leo C., 1952, Associate Dean, School of Graduate Studies and Professor of Political Science
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Stoddart, Arthur W.J., 1967, Associate Professor of Mathematics
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Stokes, William T., 1967, Instructor in English
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Stoline, Michael R., 1967, Assistant Professor of Mathematics
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Storoshenko, Irene V., 1964, Lecturer in Russian
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Stroud, Sarah Jane, 1956, Associate Professor of Teacher Education
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Stroupe, John H., 1965, Associate Professor of English
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Strouse, Dorane R., 1967, Adjunct Assistant Professor of Economics
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Sud, Gian Chand, 1966, Associate Professor of Biology
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Suterko, Stanley, 1961, Assistant Professor of Special Education
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Tao, Jing-Shen, 1966, Assistant Professor of History
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Taylor, Betty, 1947, Professor of Home Economics
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Taylor, Mary L., 1963, Assistant Professor, Assistant Circulation Librarian, Library
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Western Michigan University

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