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Bulletin: Western Michigan University Undergraduate Catalog 1965-1966

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Undergraduate CATALOG

1965 1966

WESTERN MICHIGAN UNIVERSITY

KALAMAZOO

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

DIRECTIONS FOR CORRESPONDENCE

Director of Admissions
  Admissions, University literature, Credits, Provisional and Permanent certificates and Transcripts

Comptroller
  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
  Professional courses

Dean of the School of Graduate Studies
  Graduate offerings

Dean of the School of Liberal Arts and Sciences

Dean of Men or Dean of Women
  Student housing and part-time employment

Director of Counseling
  Counseling and guidance

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

Director of the Summer Session
  Summer session offerings

Director of Honors
  Honors program

Director of Scholarships
  Scholarships and Loan Information

Bulletin

WESTERN MICHIGAN UNIVERSITY

KALAMAZOO, MICHIGAN

UNDERGRADUATE CATALOG

1965-1966

VOL. 60, NO. 4 **APRIL 1965**

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

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UNIVERSITY CALENDAR 1965-66

FALL SEMESTER

August 28, Saturday	Final Registration
August 30, Monday	Orientation
August 31, Tuesday	Classes Begin
September 6, Monday	Labor Day Recess
October 16, Saturday	Homecoming
November 24, Wednesday (12:00 noon)	Thanksgiving Recess Begins
November 29, Monday	Classes Resume
December 18, Saturday	Semester Ends
December 18, Saturday (3:00 p.m.)	Commencement

WINTER SEMESTER

January 3, Monday	Final Registration
January 4, Tuesday	Classes Begin
April 16, Saturday	Semester Ends
April 16, Saturday (3:00 p.m.)	Commencement

SPRING SESSION

April 23, Saturday	Final Registration
April 25, Monday	Classes Begin
May 30, Monday	Memorial Day Recess
June 15, Wednesday	Session Ends

SUMMER SESSION

June 21, Tuesday	Registration
June 22, Wednesday	Classes Begin
July 4, Monday	Independence Day Recess
August 12, Friday	Session Ends
August 12, Friday (6:00 p.m.)	Commencement

BOARD OF TRUSTEES

	Term Expires
Dr. Julius Franks, Jr., Grand Rapids	December 31, 1966
Philip N. Watterson, Plainwell	December 31, 1966
Mildred Swanson Johnson, Muskegon	December 31, 1968
Dwight L. Stocker, Kalamazoo	December 31, 1968
Fred W. Adams, Grosse Pointe	December 31, 1970
Alfred B. Connable, Kalamazoo	December 31, 1970
Dorothy Upjohn Dalton, Kalamazoo	December 31, 1972
John R. Dykema, Grosse Pointe Farms	December 31, 1972

James W. Miller, *Ex-Officio*, Chairman
Alfred B. Connable, Vice Chairman
John J. Pruis, 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

L. Dale Faunce, Ed.D., Vice President for Student Services

Robert B. Wetnight, M.B.A., C.P.A., Comptroller

John A. Goldsworth, Director of Physical Plant

Leonard Gernant, M.A., Director of Academic Services and Summer Session

Paul L. Griffeth, Ph.D., Dean of Students

James H. Griggs, Ed.D., Dean, School of Education

George E. Kohrman, Ed.D., Dean, School of Applied Arts and Sciences

Robert M. Limpus, Ph.D., Dean, General Studies

Cornelius Loew, Ph.D., Associate 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., Registrar and Director of Admissions

Arthur J. O'Connor, B.S., Director of University Information

Gerald Osborn, Ph.D., Dean, School of Liberal Arts and Sciences

John J. Pruis, Ph.D., Administrative Assistant to the President

Arnold E. Schneider, Ph.D., Dean, School of Business

Donald N. Scott, M.A., Director of University Student Center and Residence Halls

J. Towner Smith, M.A., Dean of Men

Marie L. Stevens, M.A., Associate Dean of Students

Leo C. Stine, Ph.D., Assistant Dean, School of Graduate Studies

Katharine M. Stokes, Ph.D., Director of Libraries

Roland S. Strolle, Ed.D., Assistant Dean, School of Education

Otto Yntema, M.A., Director of 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, Comptroller, Registrar, Director of Field Services, Director of Placement, Dean of Students, Director of Summer Session, Director of General Studies, Administrative Assistant to the President, President of the Faculty Senate, Director of University Information 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.

Its officers for 1964-65 are:

Jean Lowrie	President
Betty Taylor	Vice President
James McIntyre	Treasurer
Marvin DeBoer	Recording Secretary
Ernst Breisach	Corresponding Secretary

UNIVERSITY COUNCILS, 1964-65

The University councils are composed of members elected by the Senate for three-year terms and others who are members by reason of the office they occupy. The terms of elected members expire in June of the year indicated.

Educational Policies Council

Ex Officio	Elected	
Russell H. Seibert, Chairman	Anne V. Fuller	1965
James H. Griggs, Dean	Haym Kruglak	1965
George E. Kohrman, Dean	Leo C. Stine	1965
George G. Mallinson, Dean	Philip S. Denenfeld	1966
Gerald Osborn, Dean	Roy Olton	1966
Arnold E. Schneider, Dean	Lloyd J. Schmaltz	1966
Katharine M. Stokes, Librarian	Albert Jackman	1967
Clayton J. Maus, Registrar	Otto Grundler	1967
	Robert Maher	1967

Graduate Studies Council

George G. Mallinson, Dean, Chairman	John A. Copps	1965
James H. Griggs, Dean	Leo Niemi	1965
George E. Kohrman, Dean	Oscar H. Horst	1966
Gerald Osborn, Dean	Betty Taylor	1966
Arnold E. Schneider, Dean	Milton Greenberg	1967
Russell H. Seibert, Vice President	Joe McCully	1967

Research Policy Council

Don C. Iffland, Chairman	1965	Chris Koronakos	1966
Charles T. Brown	1965	Claude S. Phillips	1966
Jerome G. Manis	1965	Frances Hardin	1967
Albert H. Jackman	1966	Ray Janes	1967
		William Viall	1967

Russell H. Seibert, Vice President, Ex Officio
George G. Mallinson, Dean, Ex Officio

Student Services Council

Dale Faunce, Vice President, Chairman	William Emblom	1965
Paul Griffeth, Dean of Students	Joseph Hoy	1965
Towner Smith, Dean of Men	William Wichers	1965
Elizabeth Lichty, Dean of Women	E. Jack Asher	1966
Richard Proos, Director of Student Health	Isabel Beeler	1966
Vern Mabie, Director of Placement	Charles Starring	1966
Donald Davis, Director of Counseling	Yousef Alavi	1967
Harry Lawson, Dean of Chapel	Keith D. Bailey	1967
	Neil Lamper	1967

Field Services Council

Otto Yntema, Director, Chairman	Raymond Dannenberg	1965
Leo Stine, Graduate Studies	William Rosegrant	1965
Robert Dye, Director of Broadcasting	Jack Plano	1966
Thomas Coyne, Alumni Director	William Morrison	1966
	Chris Koronakos	1967
	Myron Ross	1967

THE ATHLETIC BOARD OF CONTROL

Albert J. Becker, Professor of Speech, Faculty Representative in Mid-American Conference, chairman; L. Dale Faunce, Vice President; Mitchell J. Gary, Director of Athletics; Clayton J. Maus, Registrar; Robert B. Wetnight, Comptroller; Robert B. Trader; Leo C. VanderBeek, secretary; John W. Gill; William F. Morrison, appointed by President; President of the W Club; President of the Student Association.

Western Michigan University

Western Michigan University, founded in 1903, has an enrollment of nearly 14,000, making it the state's fourth largest university in terms of students, complexity and diversity of academic programs. It is dedicated to serving the educational, cultural and intellectual needs of the citizens of Michigan, particularly its youth.

The education of young men and women to become teachers, the purpose for which the University was created, continues to be one of Western Michigan's primary concerns. The University provides opportunities for teachers to continue their education and offers means for them to keep abreast of advances in their profession. Western Michigan University ranks second in the state in the number of certified teachers educated. School of Education graduates have served in every state and in many foreign countries.

The School of Liberal Arts and Sciences, with its sixteen departments, has the largest enrollments. Students enrolled in one of the Liberal Arts major in one of the sciences, social sciences, humanities or arts or in a pre-professional curriculum. The School of Business offers courses to qualify young men and women for positions of responsibility in business and industry and prepares teachers of business subjects. The School of Applied Arts and Sciences offers opportunity for specialization in agriculture, distributive education, engineering and technology, home economics, industrial education, occupational therapy, paper technology and work in R. O. T. C.

The Graduate School offers work leading to the degrees of Master of Arts, Master of Music and Master of Business Administration and the sixth year Specialist in Education diploma.

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

Western Michigan University is under control of an eight-member Board of Trustees appointed by the Governor. The University has been fortunate in the wisdom, vigor and continuity of its leadership. Dwight B. Waldo, pioneering first president, served from 1903 to 1936 and laid firm foundations upon which his successor, Paul V. Sangren, 1936 to 1960, ably and courageously built. James W. Miller, who took office in January, 1961, after rich years of academic and fiscal experience in higher education and state government, continues the tradition of far-sighted leadership.

Since the spring of 1960, the influence of Western Michigan University has extended to Nigeria, one of the leading countries in West Africa, where it is assisting in the establishment of a Technical College at Ibadan. The impact of the newer nations of the world is felt on our campus through activities of the Institute International and Area Studies, which has been particularly concerned with the development of studies on the Non-Western World, and by the presence of many foreign students.

PROGRAM OF STUDY

The program of study for the first and second 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 the Division of 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 Science
Bachelor of Science in Engineering
Bachelor of Music
Bachelor of Business Administration

Western Michigan also conducts graduate programs leading to the Master of Arts, Master of Business Administration and Master of Music degrees. The School of Education offers sixth year programs leading to the Specialist in Education degree.

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.

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.

Admission, Degrees and Certificates

ADMISSION

Qualified students will be admitted at the opening of any semester or session after their applications have been approved.

As the training of the mind is the first function of the University, the applicant's most important qualification is the intellectual capacity to carry college work successfully. The best evidence of this capacity is a superior academic record attained in previous high school or college attendance.

Beyond this first requirement, the applicant's character, promise, special abilities and readiness will be considered by the Committee on Admissions. The University will arrange testing and personal interviews whenever they are deemed desirable.

Admission to the University is a privilege that carries with it certain responsibilities. The University reserves the right to cancel matriculation and to require withdrawal whenever it becomes evident that the student is not conforming to the University's standards of scholarship and conduct.

To prepare for study at the University, a high school student should carry a good proportion of academic courses (language, mathematics, science, social science) and should do a good quality of work in them. He should carry the high school prerequisites to his intended curriculum as they are made known to him in consultation with his principal or counselor. Although he may be admitted to the University without these prerequisites, he will be required to prepare adequately before he can proceed in his chosen curriculum.

METHODS OF ADMISSION

Students may be admitted in any one of 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 credits 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 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 on 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.

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.
4. A prospective student desiring admission as a "guest" student should have the Dean of his college approve his program and recommend the student to the Director of Admissions. An application for admission as a "guest" student may be secured from the Director of Admissions of any Michigan college or university.

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, awarding college credit for all 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.

College Ability Tests

All students are requested to participate in an appropriate testing program as a part of regular orientation. The results of these tests are of service in advising students regarding their scholastic 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 in the Divisions 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 as outlined in this catalog.

BACHELOR OF SCIENCE

The student who regularly completes a curriculum conforming to the degree requirements and embracing 38 hours or more in the Division of General Studies, Language and Literature, Science, and Social Science is eligible for the degree of Bachelor of Science.

BACHELOR OF SCIENCE IN ENGINEERING

A student who regularly completes required work in science and mathematics, humanities, and engineering may qualify for the Bachelor of Science in Engineering degree in the field of Industrial Engineering.

BACHELOR OF MUSIC

This degree will be conferred upon the completion of the music curricula as outlined. Specific details are outlined in the Music Supplement catalog.

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 education, Blind Rehabilitation, biology, chemistry, economics, English, history, librarianship, mathematics, music, occupational therapy, physics, political science, psychology, sociology and speech pathology. For information request the Graduate School bulletin.

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.

SPECIALIST IN EDUCATION DEGREE

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

DEGREE REQUIREMENTS

Any curriculum leading to a bachelor's degree consists of at least 124 hours of credit including only four hours of general physical education. The student must meet the following requirements or their equivalent:

GENERAL REQUIREMENTS

a. All students must take three semester hours of government.

b. Each student must complete four semester hours of general physical education. Persons 40 years of age or older are not bound by this requirement, however. 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 (ROTC). See page 171, General Physical Education Requirements.

c. At least two-thirds of the work beyond the second year must be in courses not open to first-year students, except where curricular requirements demand otherwise.

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

e. The student must complete a major with a minimum of 24 hours and a minor with a minimum of 15 hours (18 hours in secondary education). In elementary education the student may complete three minors.

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

g. 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.

h. 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 (g) or (h).

i. A student enrolling for credit in correspondence courses after December 31, 1951, may apply a maximum of 15 semester hours of such credit to a degree program.

j. 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).

GENERAL STUDIES PROGRAM

Beginning in the Fall of 1965, the following General Studies program takes the place of the former Basic Studies program.

I. **Freshman-Sophomore Level**	
Both	
College Writing 116	**4 hrs.**
Freshman Reading 140	**2 hrs.**
Either	
Early Western Civilization 100 (Greeks to 17th Century)	**4 hrs.**
OR	
Modern Western Civilization 101 (17th Century to Present)	**4 hrs.**
One course from the following:	
Man and Society 202	**4 hrs.**
Social Bases for Human Behavior 203	**4 hrs.**
Institutions and Ideologies 204	**4 hrs.**
Two courses from the following:	
Physical Geography 105	**4 hrs.**
Biological Sceince 107	**4 hrs.**
Physical Science 108	**4 hrs.**
Aims and Achievements of Science 110	**4 hrs.**
Geological Science 112	**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.**
One broad, inter-disciplinary course to be selected from the following courses:	
Human Communication 400	4 hrs.
Science in Intellectual History 401	4 hrs.
American Culture 402	4 hrs.
Criticism of Mass Media 403	4 hrs.
Conceptual Foundations of Business 404	4 hrs.
Molders of Thought 405	4 hrs.
III. Additional work to be elected from non-professional liberal arts courses. 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.

On October 22, 1964, the Educational Policies Council approved the following statements:

1. "The Educational Policies Council proposes that the Director 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 programs 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 Director of General Studies shall be requested to consider:
    1. The high school record of the student;
    2. Any college entrance examinations that he has taken or is required to take;
    3. 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 Director of General Studies include 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 agreement between the Director of the General Studies program, 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. A student must present at least 5.5 semester credits in a freshman writing or communication course for a full waiver.
    - b. If he presents less than 2.5 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 2.5 semester credits but less than 4, he will be required to take College Writing.
    - d. If he presents a minimum of 3.5 semester credits but less than 6, 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 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 General Studies requirements 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 (aside from the State-required course in government)

   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
      Religion (non-doctrinal)
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 pages 20 of this 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 the General Studies areas are available for well-prepared students. Information about them can be obtained from the office of the Director 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.

MAJOR AND MINOR REQUIREMENTS

A major is a sequence of courses totaling a minimum of 24 hours; a minor is a sequence of courses totaling a minimum of 15 hours (18 hours in Secondary Education). Under certain conditions students may elect beyond this minimum up to a maximum of 40 hours offered by any department.

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 in the 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, three minors for a minimum of 15 hours each.
5. In certain cases "group" majors totaling a minimum of 30 hours and "group" minors totaling a minimum of 20 hours are permitted. 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. 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.

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 in any public school in Michigan. The candidate must meet the requirements for a degree as defined above.
2. State Secondary Provisional
   This certificate qualifies the holder to teach for a period of five years in the secondary grades in any public school in Michigan, in subject or subject fields indicated on the certificate. The candidate must meet the requirements for a degree as defined above.

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

Teaching certificates will be granted only to persons who are citizens of the United States or who have declared their intention of becoming citizens.

A candidate presenting credits as a graduate of a Michigan county normal school will be granted a maximum of 25 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 reintstatement 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

Per Semester

Semester Hours	Resident Students	Non-Resident Students
1 – 2	$ 44.00	$ 88.00
3 – 4	67.00	134.00
5 – 6	90.00	180.00
7 – 8	112.00	224.00
9 – 10	136.00	272.00
11 or more	150.00	300.00

For the Spring and Summer Sessions, the above schedule applies up to a maximum of $75 per session for resident students and $150 for non-residents.

Student fees must be paid at the time of registration. Partial payments will not be accepted.

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.

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.

PILOT TRAINING FEE: A special fee of $320.00 is payable, with the written consent of the Department Head, at the Business Office prior to registration for the Pilot Training course.

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: Students who desire to enroll after the last established registration day must obtain permission from the registrar. An additional fee of $5.00 will be charged for enrollment after the last registration date. Checks refused by the bank constitute late registration and are subject to the late enrollment fee of $5.00.

ROOM AND BOARD: The residence halls, with the exception of Vandercook Hall, furnish board and room at $385.00 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 $126.00 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. All applications for resident housing must be accompanied by a $20.00 room deposit. Make check payable to Western Michigan University.

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 below) of the total paid—subject to the following conditions:

1. A refund will not be granted for reducing the credit hour load after the final day for adding a course as established by the Registrar.

2. A refund will not be given for withdrawal from the University after the 49th calendar day after the last established registration day.

REFUND SCHEDULE:

1. After registration and less than 8 calendar days after the last established registration day—90% of total.

2. More than 7 and less than 22 calendar days after the last established registration day—60% of total.

3. More than 21 and less than 36 calendar days after the last established registration day—40% of total.

4. More than 35 and less than 50 calendar days after the last established registration day—20% of total.

Note: The refund date will be determined by the date that the Registrar receives a completed Withdrawal Request card or Application For Change In Enrollment form. The last day of class attendance or date of approval by the department head for reducing credit hours does not determine the refund date under the above refund conditions and schedule.

FLIGHT TRAINING FEES: Refund of flight training fees will be made in accordance with the policy established by the Comptroller 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 on May 15, 1964, 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 registered as a resident of this state on the basis of having a resident of this state as a guardian except on permission of the Board of 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 residents 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 COMPTROLLER 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.

SCHOLARSHIP INDEX

The general quality of a student's work in the university is revealed by the grades he receives in courses, the number of honor points he earns, or by his point-hour ratio.

MARKING 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	
W	Withdrawn	

"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. When the "I" is removed, a permanent grade will be recorded in its place.

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.

"W" WITHDRAWN

A grade of "W" is given in a course when a student officially withdraws from that course or from the university preceding the established date for withdrawing from courses without penalty.

> "WP" is given to indicate that a student has officially withdrawn from a course after the penalty date and was doing passing work in that course when he withdrew.
>
> "WE" is given to indicate that a student has withdrawn from a course after the penalty date and was doing failing work when he withdrew.

REPEATED COURSES

Any course in which a student may have been enrolled a second time is considered a repeated course. A grade must be presented for each course. The credit earned the second time in the course will count toward curricular or degree requirements and will cancel the previous grade and/or credit earned in all curricula except teacher education. In curricula for which a student earns a teaching certificate, all credits must be counted even though they may have been repeated.

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.

POINT-HOUR RATIO

A point-hour ratio 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 point-hour ratio 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 point hour ratio of at least 3.50 for the semester.

LOW SCHOLARSHIP

1. Any student who receives grades of E in 75 per cent or more of the work for which he is officially enrolled at the end of any semester (or its equivalent) will be dismissed from the university.

2. FRESHMEN. Any freshman not on probation whose point-hour ratio for any semester falls below 1.50 will be placed on probation for his next semester in attendance.
   Any freshman currently on probation whose point-hour ratio for the semester falls below 1.70 will be dismissed from the university. He may apply for readmission; if accepted, he will be placed on probation for another semester.

3. UPPERCLASSMEN. Any student classified above freshman and not on probation whose point-hour ratio for any semester falls below 1.80 will be placed on probation for his next semester in attendance, unless he is disqualified under Rule 4, below. Any student classified above freshman and currently on probation whose point-hour ratio falls below 2.00 will be dismissed from the university. He may apply for readmission, unless he is disqualified under Rule 4, below. If accepted, he will be placed on probation for another semester.

4. No student will be granted academic probation more than three times. If he fails to raise his scholastic record above the probation level within these periods he will be dismissed from the university.

5. Rules 2, 3 and 4 will be applied to students who transfer to Western from other colleges. The scholarship level of a transfer student will be determined from his record. Transfer students may, however, be placed on probation as a condition of admission if the admission office considers this action advisable.

6. A student will not be placed on or removed from low scholarship status as a result of work taken during a Summer Session.

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 student may not enroll for more than eighteen hours of work, during any semester, except by special permission, unless curriculum requirements indicate otherwise. (This is considered to be a "normal load.") 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.

A student may make application for "extra hours" by securing approval from his counselor. The maximum load for a given student is regulated on the basis of apparent ability and other pertinent factors.

A student in his first semester at Western is seldom permitted to carry "extra hours."

The normal maximum load for summer session students is seven hours for six weeks or nine hours for eight weeks.

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.

By special permission, a student who received a point-hour ratio of three or more in the preceding semester and who had no "incompletes," may carry a program rising to a maximum of 19 semester hours.

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

CHANGING COURSES

Students may not be permitted to enroll in any course after the first six full days of classes including Saturday.

Students may be permitted to drop courses without grades only within the first four weeks of any semester.

Students may be permitted to drop courses with a grade of WP or WE until the end of the week following the mid-point of the semester. The specific date will be determined each semester by the Registrar and announced in the Class Schedule.

A grade of WE only will be given to students withdrawing from courses after the above time limit.

A grade of E will be given if a course is dropped without written permission. Exceptions to the above will be made only in cases of extreme hardship as determined by the Registrar and the appropriate Dean.

WITHDRAWAL FROM THE UNIVERSITY

Any student who wishes to withdraw from the University is expected to initiate this withdrawal with the personnel dean immediately. The amount of tuition and fee refund will be determined by the date at which the student completes his withdrawal. Withdrawal is expected to be made in person, except where there are extenuating circumstances. Failure to withdraw from the University automatically assigns failing grades for courses in which the student may be enrolled.

CLASSIFICATION

Students at Western Michigan University are classified offically 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 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 in accordance with the official schedules issued each semester. No examination may be held except as announced in this schedule, and no date of examination may be changed without special permission of the Examination Schedule Committee.

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 an honor-point ratio 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 also 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.

HONORS IN COURSE

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 point-hour ratio is 3.50 to 3.69, inclusive.

Magna cum laude—when their point-hour ratio is 3.70 to 3.89, inclusive

Summa cum laude—when their point-hour ratio is 3.90 to 4.00 inclusive

In computing point-hour ratios 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.

THE HONORS COLLEGE

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 lasting one year each: 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: Biology, Chemistry, Economics, English, Geography and Geology, History, Language, Mathematics, Physics, Political Science, and Sociology and Anthropology.

Distinguished University Professor

This new classification denotes a professor with a distinguished career who is recognized for his academic achievements. A Distinguished University Professor is given maximum freedom to pursue teaching and research in his specialized fields in the several segments of Western Michigan University. He is assigned no administrative duties. This classification will be offered, as resources permit, to distinguished members of our faculty.

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 sub-divisions 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 College 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**

A 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 causal 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 can be had from the Director of Honors, Room 333, Administration Building.

INSTITUTE OF INTERNATIONAL AND AREA STUDIES

The Institute of International and Area Studies, formerly the Institute of Regional Studies, was established by the University to assist in developing programs on various regions of the world. It cooperates with the Division 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 Division 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.**

This course is 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 wih 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

Eugene C. Kirchherr. Chairman

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

Geography	516	**Middle East and North Africa**	3 hrs.
	517	**Middle and South Africa**	4 hrs.
History	588	**African History in the 20th Century**	3 hrs.
Philosophy and Religion	302	**Religions of Africa**	3 hrs.
Political Science	342	**Politics of Developing Areas—Africa**	3 hrs.
Sociology and Anthropology	334	**Peoples and Cultures of North Africa and Middle East**	3 hrs.
	335	**Peoples and Cultures of Sub-Saharan Africa**	3 hrs.
	533	**Changing Social Systems—Sub-Saharan Africa**	3 hrs.

Cognate Courses

Economics	588	**Economic Development**	3 hrs.
Geography	244	**Economic Geography**	4 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 Commonwealth**	3 hrs.
Philosophy and Religion	301	**Primitive Religions**	3 hrs.
Political Science	250	**International Relations**	4 hrs.
Sociology and Anthropology	537	**Politics in Primitive Societies**	3 hrs.
	538	**Law in Primitive Societies**	3 hrs.
	558	**Social Forces in Underdeveloped Areas**	2 hrs.

Asian Studies Program

Students may minor in this program provided they elect 20 credit hours drawn from the following list and provided 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

Economics	587	**Studies in Asian Economics**	3 hrs.
English	519	**Chinese Literature in Translation**	3 hrs.
Geography	315	**Geography of Asia**	4 hrs.
	515	**Monsoon Asia**	4 hrs.
	516	**Middle East and North Africa**	3 hrs.
History	380	**Early Far East**	3 hrs.
	381	**The Modern Far East**	3 hrs.
	580	**China Since 1912**	3 hrs.
	581	**Modern Japan**	3 hrs.
Language	150, 151	**Basic Chinese**	8 hrs.
Philosophy and Religion	303	**Religions of India**	3 hrs.
	304	**Religions of China and Japan**	3 hrs.
	366	**Asian Thought: China**	3 hrs.
	501	**Hinduism and Buddhism**	3 hrs.
Political Science	342	**Political Systems of Developing Areas: Asia**	3 hrs.
Sociology and Anthropology	336	**Peoples and Cultures of Asia**	3 hrs.
	579	**Social Structure and Social Change in Japan**	3 hrs.

Cognate Courses

Economics	480	**International Economics**	2 hrs.
	584	**Comparative Economic Systems**	2 hrs.
	588	**Economic Development**	3 hrs.
Geography	244	**Economic Geography**	4 hrs.
	540	**Political Geography**	3 hrs.
	541	**Geographic Foundations of National Power**	3 hrs.
History	518	**United States Foreign Policy**	3 hrs.
Philosophy and Religion	301	**Primitive Religions**	3 hrs.
Political Science	250	**International Relations**	3 hrs.
	350	**American Foreign Policy**	3 hrs.
	598	**Readings in Political Science**	1-3 hrs.
Sociology and Anthropology	314	**Race Relations**	2 hrs.
	330	**Cultural Anthropology**	3 hrs.
	554	**Population Problems**	3 hrs.
	558	**Social Forces in Underdeveloped Areas**	2 hrs.

Latin American Studies Program

Students seeking a minor in the Latin American program must take 20 semester hours from the offerings listed below. Students must complete eight hours in Spanish or Portuguese or their equivalent and are encouraged to take further work in Spanish or Portuguese at the 200 level or above.

Normally no more than eight hours beyond the basic language requirement of eight hours can be counted toward the 20 semester hours.

A course program of distinctively inter-disciplinary character is required.

Course Offerings

Economics	588	**Economic Development**	4 hrs.
Geography	511	**South America**	3 hrs.
	512	**Middle America**	3 hrs.
History	370	**Colonial Latin America**	3 hrs.
	371	**Latin American Republics**	3 hrs.
	571	**History of Mexico**	3 hrs.
Political Science	342	**Political Systems of Developing Areas**	5 hrs.
	540	**Problems of Foreign Political Systems**	3-4 hrs.
	598	**Studies in Political Science**	1-4 hrs.
Sociology and Anthropology	337	**Indian Cultures of Mexico, Central and South America**	3 hrs.
	534	**Peasant Societies in Cross-Cultural Perspective**	3 hrs.
	558	**Social Forces in Underdeveloped Areas**	3 hrs.
Spanish	100	**Basic Spanish**	4 hrs.
	101	**Basic Spanish**	4 hrs.
	200	**Intermediate Spanish**	4 hrs.
	201	**Intermediate Spanish**	4 hrs.
	316	**Spanish Composition**	2 hrs.
	317	**Spanish Conversation**	2 hrs.
	329	**Introduction to Spanish-American Literature**	3 hrs.
	550	**Independent Studies in Spanish**	1-3 hrs.
	560	**Studies in Spanish Literature:**	
		Spanish-American Short Story	3 hrs.
		Contemporary Spanish-American Novel	3 hrs.

Slavic Studies Program

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.

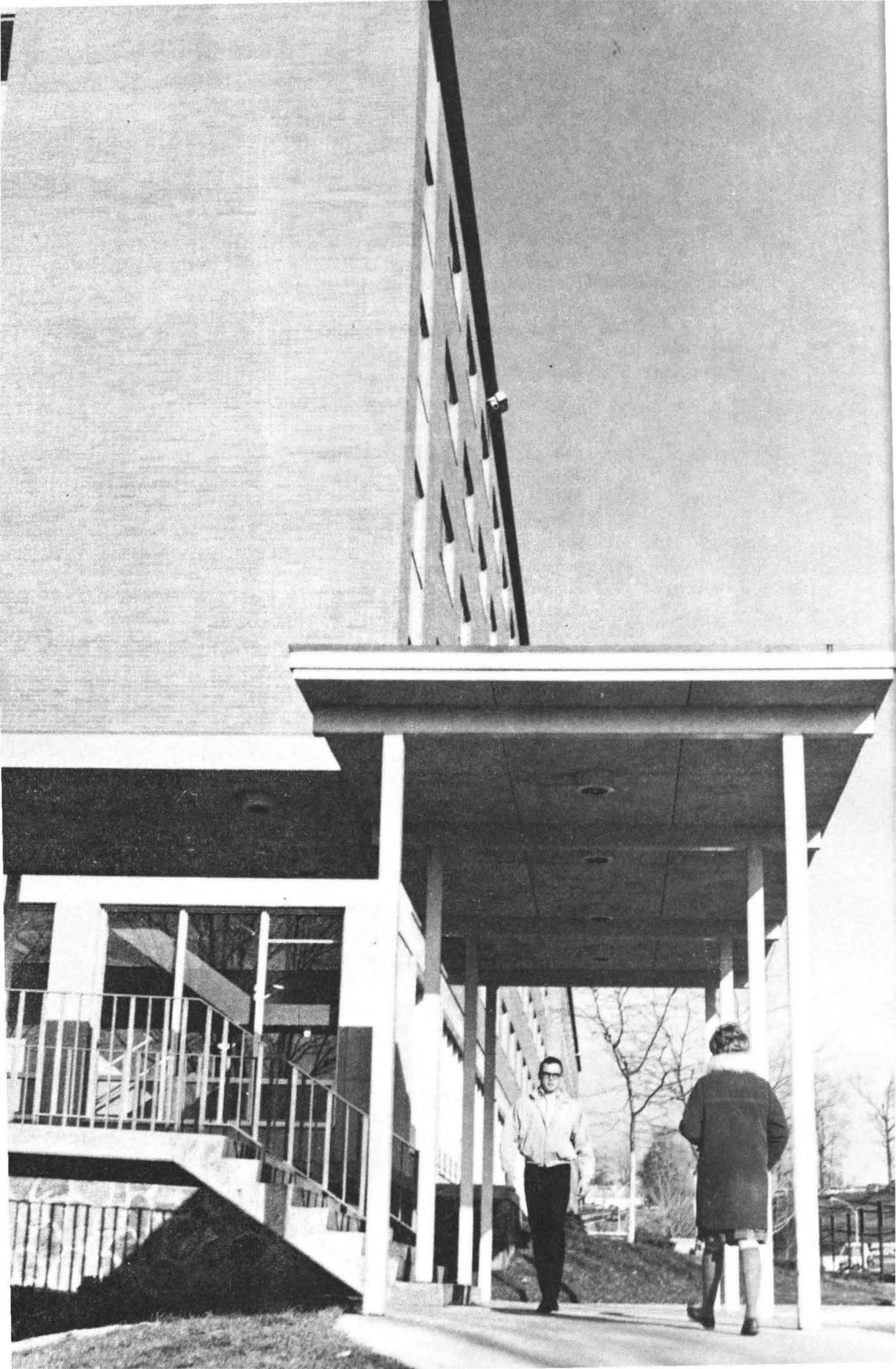
Core Courses

Economics	586	**Economics of the Soviet Union and Eastern Europe**	3 hrs.
Geography	514	**USSR and Eastern Europe**	4 hrs.
History	340	**Russia to 1917**	3 hrs.
	341	**Union of Soviet Socialist Republics**	3 hrs.
	344	**Eastern Europe**	3 hrs.
	345	**Baltic Region**	3 hrs.
	470	**Independent Research in History**	2-3 hrs.
	541	**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	546	**Governments of the Soviet Union and Eastern Europe**	2-3 hrs.
	562	**Communist Political Thought**	2 hrs.
Sociology and Anthropology	578	**Social Structures of the Soviet Union**	3 hrs.

Cognate Courses

Economics	584	**Comparative Economic Systems**	2 hrs.
	588	**Economic Development**	3 hrs.
Geography	540	**Political Geography**	3 hrs.
	541	**Geographic Foundations of National Power**	3 hrs.
Language	160, 161	**Elementary Russian**	8 hrs.
	260, 261	**Intermediate Russian**	8 hrs.
Political Science	250	**International Relations**	3 hrs.
	340	**Comparative Governments of Europe**	3 hrs.
	362	**Contemporary Political Thought**	3 hrs.
	598	**Readings in Political Science**	1-3 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

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 and Paper 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 by completing the requirements for the General Curriculum on page 187, of this bulletin.

Agriculture

GENERAL AGRICULTURE

B.S. Degree

The Agriculture and Distributive Education Departments jointly offer a four year program leading to a degree for students who are interested in the distribution of agricultural products and the technical services rendered to farmers by the many agriculturally related industries. A degree may also be earned in the field of general agriculture.

The primary differences in the two programs are that the general agriculture program requires a total of 30 semester hours of agriculture for a major and 18 hours for a minor. Coordinated Industry Practice is not required in the general program as it is in the Distribution program.

Students majoring in Agriculture may complete the B.S. Degree at Western Michigan University or arrange to 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 advisor. 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. Course Requirements

1. General Studies requirements as described in the catalog must be met	40 hrs.
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. Consumer Psychology 541	3 hrs.
c. Economic Geography 244	4 hrs.
d. Science Electives	8–16 hrs.
4. Social Sciences	
a. American Government 200	3 hrs.
b. Principles of Economics 200	5 hrs.
c. Principles of Sociology 200	4 hrs.
5. Agriculture	
a. Animal Industry 110	5 hrs.
b. Agronomy 220	5 hrs.
c. Introduction to Soils 320	4 hrs.
d. Agriculture Electives	6 hrs.
6. Distributive Education	
a. Coordinated Industry Practice 202	6 hrs.
b. Coordinated Industry Practice 302	0–6 hrs.
7. Business	
a. Marketing 240	3 hrs.
b. Business Law 340	3 hrs.
8. Physical Education	
a. Military Science	4 or 8 hrs.

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

C. Total hours required for this curriculum	125 hrs.

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*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 and related subjects teachers in the following fields: distributive, office and sectional cooperative (i.e., combined office, distributive and industrial).

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 Coordinator's Certificate and Secondary Provisional Teaching Certificate.

A. Course Requirements

1. General Studies requirements as described in the catalog must be met		40 Hours
2. Social Sciences		3–8 Hours
American Government 200	3	
Principles of Economics 200 (Options A and B)	5	
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	
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 or Marketing 240	3	

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 or Office Management 556	3	
Option C—Sectional 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	0–3 Hours

B. Degree (See adviser)

The major consists of one of three options:

A. Distributive Education
B. Office Education
C. Sectional Cooperative

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

C. Total hours required for this curriculum ....124–130 Hours

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*Dependent upon amounts of previous acceptable work experience.

Engineering and 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. It is intended specifically to equip students with the necessary background to become Service Salesmen, Service Managers, Parts Managers, Automotive Salesmen or Automotive Business Managers. Option II is structured for positions in such areas as Manufacturing, Engineering, Production, Testing, Service Engineering and Proving Ground Work.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Industrial Calculators 150	1
Automotive Engines 124	3
Automotive Chassis 125	5
Physical Education or R.O.T.C.	2-4
Major Option including mathematics requirement	17
	34-36

Second Year	S.H.
Western Civilization 100 or 101	4
Introduction to Computers 106	1
Technical Drafting 132 or Engineering Drafting 230	2
Fuels and Lubricants 222	2
Automotive Engine Analysis 224	4
Physical Education or R.O.T.C.	2-4
Major Option including science requirement	19
	34-36

Third Year	S.H.
Economics 200	5
American Government 200	3
Automotive Testing 325	4
Arts and Ideas 222	4
Major Option	18
	34

Fourth Year	S.H.
Non-Western World 304	4
Industrial Sociology 575	3
Automotive Design Analysis 422	4
Major Option	23
	34

OPTION I— MANAGEMENT AND SERVICE

	S.H.
Mathematics 100, 200	8
Business and Professional Speech 104	3
General Physics 110	4
General Chemistry 100	4
Industrial Processes 152, 153	6
Accounting 210, 211	6
Marketing 240	3
Business Communication 242	3
Business Statistics 244	3
Supervision and Safety 302	4
Quality Control 308	3
Management Principles 354	3
Advertising 374	3
Conference Leadership 406	3
Electives	21
	—
	77

OPTION II— PRODUCTION AND TESTING

	S.H.
Mathematics I, II (122, 123)	8
Chemistry 100 or 102	4
College Physics 210, 211 or 110, 111	8
Machining Metals 151	3
Electrical Circuits 240	3
Electronic Circuits 241	3
Electromagnetic Devices 242	3
Metallurgy 252	3
Statics 256	3
Machine Design 330	3
Thermodynamics 352	4
Strength of Materials 353	2
Testing of Materials 354	3
Dynamics 355	3
Fluid Mechanics 356	3
Electives	21
	—
	77

RECOMMENDED ELECTIVES

Mathematics III, IV (222, 223)
General Chemistry 109
General Psychology 200
Descriptive Geometry 231
Motion and Time Study 304
Labor Management Relations 500
Industrial Welding 251
Metallurgy 351
Air Conditioning 450
Business Law 340, 341
Sales Management 376
Heat Transfer 451
Metal Casting 254
Control Systems 360
Mechanical Analysis 332
Production Drafting 331
Independent Research and Development 490

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.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Industrial Calculators 150	1
Introduction to Aviation 110	3
Powerplants 112	5
Airframes 113	4
Electrical Circuits 240	3
Technical Drafting 132 or Engineering Drafting 230	2
Physical Education or R.O.T.C.	2-4
Mathematics (see Major Option)	8
	34-36

Second Year	S.H.
Western Civilization 100	4
Introduction to Computers 106	1
Powerplants 212	3
Powerplants 215	4
Airframes 216	5
Physical Education or R.O.T.C.	2-4
Major Option including Science requirement	15
	34-36

Third Year	S.H.
American Government 200	3
Economics 200	5
Arts and Ideas 222	4
Metallurgy 252	3
Major Option	19
	34

Fourth Year	S.H.
Non-Western World 304	4
Industrial Sociology 575	3
Major Option	27
	34

OPTION I — MANAGEMENT AND TRANSPORTATION

	S.H.
Mathematics 100, 200	8
General Chemistry 100, or 102	4
General Physics 110	4
Accounting 210, 211	6
Industrial Processes 152, 153	6
Marketing 240	3
Business Statistics 244	3
Management Principles 354	3
Quality Control 308	3
Production Control 306	3
Supervision and Safety 302	4
Electives	22
	—
	69

OPTION II — PRODUCTION AND TESTING

	S.H.
Mathematics I, II (122, 123)	8
Physics 110, 111, or 210, 211	8
General Chemistry 100 or 102	4
Machining of Metals 151	3
Statics 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	19
	—
	69

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

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

RECOMMENDED ELECTIVES

- Pilot Training 118
- Chemistry 109
- Mathematics 222, 223 (III, IV)
- Psychology 200
- Descriptive Geometry 231
- Motion and Time Study 304
- Labor Management Relations 500
- Business Law 340
- Sales Management 376
- Heat Transfer 451
- Metal Casting 254
- Control Systems 360
- Mechanical Analysis 332
- Production Drafting 331
- Industrial Design 430
- Metallurgy 351
- Independent Research and Development 490

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 254	3
General Chemistry 100 or 102	4
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

Third Year	S.H.
Thermodynamics 352	4
Arts and Ideas 222	4
Economics 200	5
Mechanical Analysis 332	3
Strength of Materials 353	2
Testing of Materials 354	3
American Government 200	3
Fluid Mechanics 356	3
Control Systems 360	3
Electives	4
	34

Fourth Year	S.H.
Non-Western World 304	4
Metallurgy 351	3
Pressworking of Metals 350	3
Air Conditioning 450	3
Industrial Sociology 575	3
Heat Transfer 451	4
Electives	14
	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
Supervision and Safety 302
Labor Management Relations 500
Production Control 306
Business and Professional Speech 104
Business Statistics 244
Marketing 240
Advertising 374
Accounting 210, 211
Independent Research and Development 490

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
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
Modern Civilization 100 or 101	4
Statics 256	3
Metallurgy 252	3
Electromagnetic Devices 242	3
Electronic Devices 340	5
Physical Education or R.O.T.C.	2-4
Electives	4
	33-35

Third Year	S.H.
Non-Western World 304	4
Economics 200	5
American Government 200	3
Dynamics 355	3
Thermodynamics 356	4
Fluid Mechanics 356	3
Communication Electronics 441	4
Industrial Electronics 341	4
Control Systems 360	3
Strength of Materials 353	2
	35

Fourth Year	S.H.
Arts and Ideas 222	4
Industrial Sociology 575	3
Measurements and Instrumentation 440	4
Servomechanisms 442	4
Electives	20
	35

RECOMMENDED ELECTIVES

Mathematics III, IV (222, 223)
Business and Professional Speech 104
Statistical Methods for Industry 360
Chemistry 109
Physics 212
Programming Computers 506
Supervision and Safety 302
Production Control 306
Quality Control 308
Conference Leadership 406
Accounting 210, 211
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

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
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
American Government 200	3
Metallurgy 252	3
Statics 256	3
Electrical Circuits 240	3
Electronic Circuits 241	3
Physical Education or R.O.T.C.	2-4
	37-39

Third Year	S.H.
Accounting 210	3
Economics 200	5
Statistical Method for Industry 360	4
Strength of Materials 353	2
Non-Western World 304	4
Motion and Time Study 304	5
Dynamics 355	3
Supervision and Safety 302	4
Fluid Mechanics 356	3
Electives	3
	36

Fourth Year	S.H.
Industrial Sociology 575	3
Thermodynamics 352	4
Production Control 306	3
Arts and Ideas 222	4
Material Handling and Layout 404	5
Product Engineering 550	3
Labor Management Relations 500	4
Electives	10
	36

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 or I and II	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
Electrical Circuits 240	3
Technical Drafting 132 or Engineering Drafting 230	2
Psychology 200	3
Business Statistics 244	3
Introduction to Computers 106	1
American Government 200	3
Physical Education or R.O.T.C.	2-4
Electives	3
	32-34

Third Year	S.H.
Non-Western World 304	4
Economics 200	5
Accounting 200, 201	6
Supervision and Safety 302	4
Production Control 306	3
Quality Control 308	3
Motion and Time Study 304	5
Business Law 340	3
	33

Fourth Year	S.H.
Management Problems 550	3
Layout and Materials Handling 404	5
Conference Leadership 406	3
Labor Management Relations 500	4
Industrial Sociology 575	3
Arts and Ideas 222	4
Electives	11
	33

Summer	S.H.
Modern Industrial Practices 400	6

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

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 Amercan 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.

Recommended minors: Chemistry and Combined Social Science.

B.S. Degree

First Year	S.H.
Food Preparation and Meal Planning 114	5
Individual and Family Relationships 150	4
Chemistry 100 or 102, and 120	8–9
Textiles and Clothing 200	5
College Writing 116	4
Independent Reading 140	2
Physical Education	2
	30–31

Second Year	S.H.
Nutrition 210	3
Organic Chemistry 265	4
Western Civilization 100	4
Economics 200	3
Sociology 200	4
Psychology 200	3
Accounting 210	3
General Biology 100	4
Arts and Ideas 222	4
Physical Education	2
	34

Third Year	S.H.
Housing and Home Furnishings 350	3
Quantity Foods 312	3
Mammalian Body 210	4
American Government 200	3
Microbiology 412	3
Psychological Aspects of Business 341	3
Non-Western World 304	4
Diet and Disease 410	2
Advanced Nutrition 510	3
	28

Fourth Year	S.H.
Home Management and Consumer Buying 352	4
Biochemistry 551	2
Home Economics Education 340	4
General Education	6
Advanced and Experimental Foods 518	4
Institutional Management 512	3
Food Technology 514	2
Electives	7–8
	32–33

HOME ECONOMICS IN BUSINESS

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 Social Science (of 20 hours). In addition, the student may also complete the Education courses and receive a teaching certificate.

B.S. Degree

First Year	S.H.
Individual and Family Relationships 150	4
Food Preparation and Meal Planning 114	5
College Writing 116	4
Independent Reading 140	2
Introduction to Education 100	2
Design 114	2
Textiles and Clothing 200	5
Mod. Western World 101	4
Physical Education	2
	30

Second Year	S.H.
Selection and Design of Clothing 304	4
Nutrition 210	3
Science	8–9
Early Western Civilization 100	4
Man and Society 202	4
Human Growth 254	4
Arts and Ideas 222	4
Physical Education	2
	33-34

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
American Government 200	3
Principles of Economics 200	5
Electives (Minor)	6
General Studies	6
Electives	2
	30

HOME ECONOMICS EDUCATION

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.

B. S. Degree

First Year	S.H.	Second Year	S.H.
Individual and Family Relationships 150	4	Selection and Design of Clothing 304	4
Food Preparation and Meal Planning 114	5	Nutrition 210	3
College Writing 116	4	Science	8–9
Arts and Ideas 222	4	Early Western Civilization 100	4
Introduction to Education 100	2	Human Growth 254	4
Design 114	2	Man and Society 202	4
Textiles and Clothing 200	5	Arts and Ideas 222	4
Independent Reading 140	2	Physical Education	2
Physical Education	2		
	30		33–34

Third Year	S.H.	Fourth Year	S.H.
Home Management and Consumer Buying 352	4	Directed Teaching:	
Housing and Home Furnishings 350	4	School and Society 450	3
Home Management Residence 354	3	Seminar 410	2
Home Economics Education 340	4	Teaching 471	9
Non-Western World 304	4	American Government 200	3
Teaching and Learning in Junior-Senior High School 300	3	Equipment and Demonstration Techniques 520	4
Electives	9	Electives	9
	31		30

HOME ECONOMICS — GENERAL CURRICULUM

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, Social Science, Science.

B. S. Degree

First Year	S.H.
Individual and Family Relationships 150	4
Food Preparation and Meal Planning 114	5
College Writing 116	4
Independent Reading 140	2
Introduction to Education 100	2
Elementary Design 114	2
Textiles and Clothing 200	5
Arts and Ideas 222	4
Physical Education	2
	30

Second Year	S.H.
Selection and Design of Clothing 304	4
Nutrition 210	3
Science	8–9
Early Western Civilization 100	4
Man and Society 202	4
Human Growth 254	4
Arts and Ideas 222	4
Physical Education	2
	33-34

Third Year	S.H.
Home Management and Consumer Buying 352	4
Pattern Design and Tailoring 306	4
Housing and Home Furnishings 350	4
American Government 200	3
Elective (Home Economics)	4
Electives (Minor)	10
	29

Fourth Year	S.H.
Equipment and Demonstration Techniques 520	4
Home Economics Education 340	4
Home Management Residence 354	3
Electives (Minor)	10
General Studies	4
Electives	6
	31

Industrial Education

These curricula meet the needs of students specializing in the fields of Industrial Arts, Printing Management, Vocational-Industrial Education, Technical Education or Manual Arts Therapy, who wish a broad industrial background to enter business, industry or teaching.

INDUSTRIAL ARTS

The Industrial Arts student is preparing for teaching at the junior or senior high school level, and will acquire basic competence in, and an understanding of, the various areas encompassed by the broad field of the industrial arts. In addition, he must achieve a superior competence through a concentration in two of these areas. To achieve this dual objective, a minimum of 45 semester hours is necessary. The student will major in industrial arts, and minor in any two of the following areas: Drawing, Electricity, Graphic Arts, Metalwork, Power-auto Mechanics or Woodwork.

A. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.		40 hours
2. Industrial Education Requirements		45 hours
Woods 100	2 hrs.	
Graphic Communication 120	3 hrs.	
General Metals 130	3 hrs.	
Graphic Arts 150	4 hrs.	
Power Mechanics 180	2 hrs.	
Machine Woodworking 205	3 hrs.	
Graphics 226	3 hrs.	
Machine Shop 234	3 hrs.	
Electricity and Electronics 265	5 hrs.	
Industrial Arts Design 276	2 hrs.	
General Shop 370	3 hrs.	
Industrial Education Electives*	12 hrs.	
3. Mathematics		3 hours
4. American Government 200		3 hours

Drawing 120, 226, 227, 326, 524

Metalwork 130, 234, 235, 333, 336, 338

Woodwork 100, 204, 205, 304, 306

Graphic Arts, Electricity and Power Mechanics—
See Departmental Adviser

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*A concentration of 20 hours in two of the following industrial arts areas is to be completed by electing courses in terms of the student's interest:

5. Education		
a. See page 151 of this catalog for requirements for secondary school certificate		21 hours
b. Teaching of Industrial Education 344	3 hrs.	
c. Plan and Organization of School Shop 345	2 hrs.	
d. Course Planning and Construction 542	2 hrs.	
6. Physical Education or R.O.T.C.		4 hours

B. Degree requirements must be met.

C. Total hours required for curriculum	126 hours

VOCATIONAL-TECHNICAL EDUCATION

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. At the beginning of the second year, each student, in consultation with his major adviser, will work out a forty-five 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. Course Requirements

1. General Studies requirements outlined on page 20 of this catalog must be met.		40 hours
2. American Government 200		3 hours
3. Mathematics		8 hours
4. Basic Technical Core Areas		21 hours
Metals	5 hrs.	
Electricity-Electronics	5 hrs.	
Drafting	5 hrs.	
Wood Technology	3 hrs.	
Power Technology	3 hrs.	
5. Teaching Major		24 hours

6. Vocational Education Option Leading to Secondary Teaching Certificate		30 hours
a. Education requirements page 151 of this catalog.	21 hrs.	
b. Plan & Org. of School Shop 345	2 hrs.	
c. Teaching of Ind. Edu. 344	3 hrs.	
d. Course Construction 542	2 hrs.	
e. Vocational-Technical Edu. 200	2 hrs.	
7. Industrial Cooperative Education Option II Leading to Secondary Teaching Certificate		30 hours
a. Education requirements page 151 of this catalog.	21 hrs.	
b. Teaching Techniques in Coop. Edu. 572	2 hrs.	
c. Coordination Techniques in Coop. Edu. 573	2 hrs.	
d. Teaching of Ind. Edu. 344	3 hrs.	
e. Vocational-Technical Edu. 200	2 hrs.	
8. Technical Education Option III (Without Teaching Certificate)		30 hours
a. Vocational-Technical Edu. 200	2 hrs.	
b. Psychology	3 hrs.	
c. Technical Edu. Methods 340	3 hrs.	
d. Conference Leadership 406	3 hrs.	
e. Industrial Sociology 575	3 hrs.	
f. Electives	16 hrs.	
9. Physical Education or R.O.T.C.		4 hours

B. Degree

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

C. Total Hours Required for Graduation	130 hours

PRINTING MANAGEMENT CURRICULUM

A. Course Requirements

1.	General Studies requirements as described on page 20 of the catalog must be met.		40 hours
2.	American Government 200	3 hrs.	
3.	Printing Courses		31 hours
	Graphic Arts 150	4 hrs.	
	Presswork 152	3 hrs.	
	Typography 250	5 hrs.	
	Machine Composition 254	4 hrs.	
	Offset Camera & Platemaking 351	4 hrs.	
	Offset Presswork 353	3 hrs.	
	Advanced Presswork 450	3 hrs.	
	Estimating 452	3 hrs.	
	Printing Production Control 453	2 hrs.	
4.	Industrial Supervision		18 hours
	Machine Metals 151 or Industrial Processes 152	3 hrs.	
	Supervision & Safety 302	4 hrs.	
	Production Control 306	3 hrs.	
	Motion & Time Study 304	5 hrs.	
	Labor Mgmt. Relations 500	3 hrs.	
5.	Business		15 hours
	A selection of courses must be made from those suggested for the General Business minor on page 121 of the catalog.		
6.	Physical Education or Military Science		4 or 8 hours

B. Degree requirements must be met.

C. Total hours required for this curriculum	124 hours

Military Science

OPTION I

NATIONAL AFFAIRS CURRICULUM

B.S. or B.A. Degree

This curriculum is designed to provide an education for men enrolled in the Advanced R.O.T.C. Program who desire careers in governmental activities or related civil pursuits. It is also designed for students who wish to combine a major interest with a specialization in some foreign region or activity.

The integration of Basic Studies, Military Science, Major Courses and Electives provides an opportunity for the student to combine industrial, agricultural, scientific or military specialization with competence in ,a foreign area and also obtain a commission in the Organized Reserves or the Regular Army. Flight training may be elected in the advanced course. Although not required, students are encouraged to elect a foreign language.

A. Course Requirements

1. General Studies requirements as described on page 20 of this catalog must be met.

2. Military Science		40 Hours
100	2	
101	2	
200	2	
201	2	
300	3	
301	2	
400	2	
401	3	
		18
3. Psychology 200	3	
Psychology 220	3	
		6
4. American Government 200	3	
Political Science 350	4	
History of U.S. Foreign Relations 518	3	
		10
5. Geographic Foundations of National Power 541	3	
		3

Courses	Hours
6. Major Courses*	24
*Major area to be chosen by student and must meet the requirements of the department concerned. 24 semester hours is the minimum required unless a "group" major is elected, then a minimum of 36 semester hours is required.	
7. Military Science Group Minor**	10
**10 semester hours in addition to MS 300, 301, 400 and 401. See Military Science Group Minor requirements listed below.	
8. Electives	17
B. Degree requirements must be met	
C. Total hours required for this curriculum	128

Summer

Attendance at R.O.T.C. Summer Camp for six weeks at the end of third year is part of the required course.

OPTION II

B.A. or B.S. Degree

Students who wish to combine study under some other school or curriculum with those studies required to obtain a commission in the Organized Reserve or the Regular Army may do so under the following plan:

First Year	S.H.	Second Year	S.H.
Military Science 100, 101	4	Military Science 200, 201	4
Third Year	**S.H.**	**Fourth Year**	**S.H.**
*Military Science 300, 301	8	*Military Science 400, 401	8

SUMMER CAMP

Attendance at R.O.T.C. Summer Camp for six weeks at end of third year is part of the required course.

ADVANCED COURSE

The Advanced Military Science Course (third and fourth years) combines courses taught by the Military Science Department with courses taught by members of other departments as follows:

	S.H.
1. MS 300, 301, 400, 401 & (118**)	10
2. Psychology 200	3
3. A course or courses of the 200, 300, 400, or 500 series, in communications, science, or social science, exclusive of basic studies	3
TOTAL	16

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*Note: Five hours of R.O.T.C. taught subjects and three hours of approved university taught academic subjects. (See below).

**Flight training—For details, see Page 110.

MILITARY SCIENCE GROUP MINOR

A Group Minor in Military Science consisting of at least 20 semester hours may be chosen from the subject matter areas outlined below. All science, social science or language courses selected for the Minor must have the approval of the Professor of Military Science.

1. Advanced courses in Military Science (MS 300, 301, 400, 401)	10
2. Psychology 200	3
3. Seven semester hours in a single science, social science, or modern language, exclusive of basic studies	7
TOTAL	20

OPTION III

B.A. or B.S. Degree

Transfer students and other students who have not taken the basic R.O.T.C. course may qualify for the advanced R.O.T.C. program by attending a six week R.O.T.C. basic summer camp course under the following plan:

1. Basic Summer Camp

Attendance at a six week R.O.T.C. basic summer camp prior to entry into the Advanced Military Science Program. See the Professor of Military Science for details concerning this program. Transportation to and from camp will be paid and students will be fed, clothed, housed and paid at the rate of approximately $78.00 per month while at camp.

2.

Third Year	S.H.	Fourth Year	S.H.
*Military Science 300, 301	8	*Military Science 400, 401	8

SUMMER CAMP

See Option II

ADVANCED COURSE

See Option II

MILITARY SCIENCE GROUP MINOR

See Option II

Contact the Professor of Military Science for full details of this Option.

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*Five hours of R.O.T.C. taught subjects and three hours of university academic subjects.

Occupational Therapy

The curriculum is designed to prepare students to treat patients in various disability areas and to complete requirements established by the American Medical Association in cooperation with the American Occupational Therapy Association. Each student must complete 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 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.

A minimum of 25 semester hours of selected activity courses are required by the American Occupational Therapy Association for registration.

1. General Studies:		40 hours
General studies requirements as described on page 20 of the catalog must be met.	40 hrs.	
2. Science and Psychology:		18 hours
*Biology 100	4 hrs.	
Mammalian Anatomy 210	4 hrs.	
Systemic Physiology 219	4 hrs.	
General Psychology 200	3 hrs.	
Developmental Psychology 270	3 hrs.	
3. Social Science:		3 hours
American Government	3 hrs.	
4. Occupational Therapy		61 hours
General Crafts 110	5 hrs.	
**Occupational Therapy Orientation 130	1 hr.	
Elementary Design 200	3 hrs.	
Ceramics 203	3 hrs.	
Weaving 300	3 hrs.	
Therapeutic Techniques 310	4 hrs.	
Gross Human Anatomy and Neuroanatomy 321	5 hrs.	
Psychiatric and Neurological Conditions 322	4 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.	

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*Substitute for 4 hours of General Studies Science requirement.

**Not required but recommended for transfer and change of curriculum students.

5. Physical Education:		4 hours
Physical Education	4 hrs.	
6. Electives:		10 hours
***Electives	10 hrs.	
****Independent Study in Occupational Therapy	2–4 hrs.	

Total hours for graduation 130

***See counselor for selected list of electives.
****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 ten per cent 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	4	Coating, Printing & Converting 142	3
Mathematics I 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	Freshman Reading 140	2
	—	Arts & Ideas 222	4
	18	Phys. Ed. or R.O.T.C.	1-2
			18-19

Summer Mill Practice*

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*One summer of mill practice without credit will be required following the first or second year of school work.

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	Non-Western World 304	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	5
Quantitative Analysis 222	4	Am. Government 200	3
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
Seminar, Chemistry	0	Seminar, Chemistry	0
Phys. Ed. or R.O.T.C.	1-2	Statistical Methods for Ind. 360	4
	16-17		19

Summer Mill Practice 310, 2 S.H.

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	**Electives, Technical	3
**Electives, Technical	4-7	Industrial Sociology 575	3
Elective, General Studies	3	Electives, General Studies	4
Current Topics in Paper & Pulp 440	1	Current Topics in Paper & Pulp 440	1
Seminar, Chemistry	0	Seminar, Chemistry	0
	16-19		17

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*One summer of mill practice without credit will be required following the first or second year of school work.

**Suggested electives are: Programming for Computers, 406; Advanced Analyt. Chem. 520; Engineering Problems 580. Other technical electives must be approved by the Department Head.

II. TWO YEAR CURRICULA

Distributive Education

FOOD DISTRIBUTION

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

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. Course Requirements		
1. General Studies		14 Hours
College Writing 116	4	
Independent Reading 140	2	
Early Western Civilization 100 or alternatives	4	
Man and Society 202 or alternatives	4	
2. Language & Literature, Speech and Philosophy & Religion		3 Hours
Business and Professional Speech 104	3	
3. Science, Mathematics & Psychology		3 Hours
General Psychology 200	3	
4. Social Science		5 Hours
Principles of Economics 200	5	
5. Applied Arts & 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 Practice 202	6	
6. Business		6 Hours
Accounting 210	3	
Marketing 240	3	
7. Physical Education		2 Hours
8. Electives		6 Hours
B. Total hours required for this curriculum		64 Hours

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*Home Economics.

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 peroleum 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.

CERTIFICATE

A. Course Requirements

1. General Studies		22 Hours
College Writing 116	4	
Independent Reading 140	2	
Early Western Civilization 100 or alternative	4	
Physical Science 107	4	
Man and Society 202 or alternatives	4	
Arts and Ideas 222 or alternatives	4	
2. Language & Literature, Speech and Philosophy and Religion		3 Hours
Business and Professional Speech 104	3	
3. Science, Mathematics & 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 Distributive Practices 202	6	
8. Business		6 Hours
Accounting 210	3	
Accounting 211	3	
9. Physical Education		2 Hours
10. Electives		5 Hours
D. Total hours required for this curriculum		64 Hours

Engineering and Technology

AIRCRAFT TECHNOLOGY

FAA Approved Technical School No. 3304
FAA Approved Airman Agency No. 3-08-1

The Aircraft Technology curriculum is intended for students who wish to qualify for the Federal Aviation Agency Airframe and Powerplant License. This two-year curriculum may be applied toward meeting the requirements of the four-year Aviation Engineering Technology degree curriculum.

First Year	S.H.
Introduction to Aviation 110	3
Industrial Processes 152, 153	6
Mathematics 100	4
Airframes 113	4
Powerplants 112	5
Fuels and Lubricants 222	2
Electrical Circuits 240	3
General Chemistry 100 or 102	4
Physical Education	2
	33

Second Year	S.H.
General Physics 110	4
College Writing 116	4
Freshman Reading 140	2
Metallurgy 252	3
Powerplants 212	3
Powerplants 215	4
Airframes 216	5
Technical Drafting 132	2
FAA Maintenance Regulations 219	2
*Technical Elective	2
	31

Summer	S.H.
Aircraft Servicing 218	4
Aircraft Welding 214	2
	6

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*Recommended elective—Pilot Training 118.

AUTOMOTIVE TECHNOLOGY

The two-year Automotive Technology curriculum consists of practical work experience in inspecting, testing, servicing and repairing automobiles, and a study of related technical subjects that will qualify a student to work as a Technician in Automotive and related industries. The two-year curriculum may be applied toward meeting the requirements of the four-year Automotive Engineering Technology degree curriculum.

First Year	S.H.	Second Year	S.H.
Mathematics 100	4	College Writing 116	4
General Chemistry 100 or 102	4	Freshman Reading 140	2
General Physics 110	4	Supervision and Safety 302	4
Industrial Calculators 150	1	Fuels and Lubrication 222	2
Industrial Processes 152, 153	6	Automotive Engine Analysis 224	4
Automotive Engines 124	3	Automotive Testing 325	4
Automotive Chassis 125	5	Electrical Circuits 240	3
Technical Drafting 132 or Engineering Drafting 230	2	Electromagnetic Devices 242	3
Physical Education	2	Technical Electives	5
	31		31

DRAFTING AND DESIGN TECHNOLOGY

This curriculum is designed specifically to prepare men and women for positions in the field of Industrial Drafting & Design. All practical work experience in layout, detailing and design is in accordance with standard practices recommended by the American Society of Mechanical Engineers, the Society of Automotive Engineers and other recognized standardizing agencies. Upon completing the Drafting and Design Technology program, a student may enroll in the Mechanical Engineering Technology Curriculum for a B.S. degree.

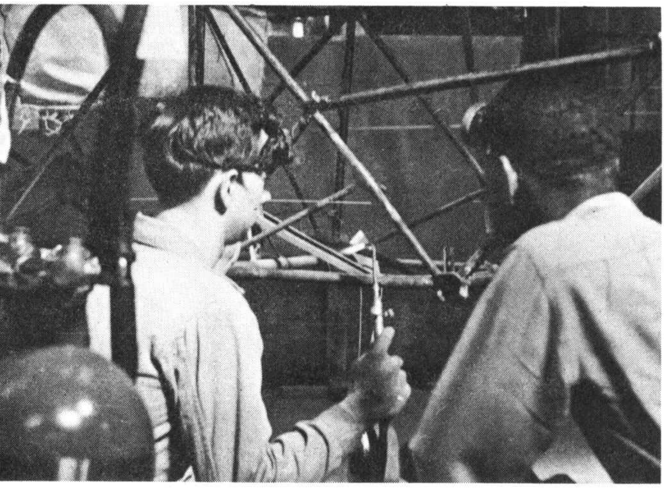
First Year	S.H.	Second Year	S.H.
College Writing 116	4	Freshman Reading 140	2
Mathematics 100	4	Machine Drafting 330	3
General Chemistry 100 or 102	4	Production Drafting 331	5
General Physics 110	4	Metallurgy 252	3
Industrial Processes 152, 153	6	Electrical Circuits 240	3
Engineering Drafting 230	3	Electromagnetic Devices 242	3
Descriptive Geometry 231	3	Production Tooling 250	3
Industrial Calculators 150	1	Office Machines 281	3
Physical Education	2	Technical Electives	6
	31		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. Upon completing the two year Electronics curriculum a student may enroll in the Electrical Engineering Technology curriculum for a B.S. degree.

First Year	S.H.
College Writing 116	4
Freshman Reading 140	2
Mathematics 100 or 122	4
Industrial Calculators 150	1
Technical Drafting 132 or Engineering Drafting 230	2
Industrial Processes 152	3
Machining Metals 151	3
Electrical Circuits 240	3
Electromagnetic Devices 242	3
Physical Education	2
Electives—Technical or Mathematics	4
	31

Second Year	S.H.
Physics 110 or 210	4
General Chemistry 100 or 102	4
Machine Drawing 330	3
Introduction to Computers 106	1
Supervision and Safety 302	4
Electronic Circuits 241	3
Electronic Devices 340	5
Industrial Electronics 341	4
Electives	3
	31



III. DESCRIPTION OF COURSES

VOCATIONAL DIVISION

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

A cooperative education program involving a minimum of eight weeks full-time planned and supervised work experience in industry during the summer or equivalent on a part-time basis during the semester. 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.

Agriculture

Lee O. Baker, Head
Norbert L. Noecker
Robert O'Boyle

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 Basic Agriculture **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, sheep, swine, horses, and poultry.

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.

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 stages 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.

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)

Distributive Education

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

The Department provides a varity 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 a Coordinator and/or Related Subjects Teacher for Cooperative Occupational Education programs in the secondary schools.

SERVICES

The Department provides secondary schools having cooperative occupational 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 Curriculum—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 $10.00 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 terms for a total of six term 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 terms for a total of six term 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 overall 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 overall 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 hours**

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 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. **4 hours**

A comprehensive study of the properties of petroleum products such as fuels, lubricants, greases, napthas, 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 hours**

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 hours**

A course dealing with the financial structure of petroleum businesses, including retail outlets, jobber operations, and major oil companies. Such topics as proper capital investment, securing capital, interest, insurance and analysis of financial 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 hours**

A course covering the wholesale and retail distribution channels used by independent and major companies and the work of the various kinds of sales representatives. The operation of bulk plants including safety, product accounting, inventories, warehousing and the economics of plant location in relationship to the market is considered.

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

Joseph W. Giachino, Head

Henry J. Beukema
Donald Black
Joseph Brinkmann
Elmer J. Brune
John Cummings
Herbert E. Ellinger
Roy Groulx
Jack Haynes
Cassius Hesselberth
G. Stewart Johnson
Dale King
Laverne Krieger
Richard Murray
Don W. Nantz
Pat Schiffer
William Schreiber
Frank Scott
Clarence VanDeventer
Booth Watmough
William Weeks
William Wichers
Glade Wilcox
Lester Zinser

The Department of Engineering and Technology is concerned primarily with preparing personnel for industry. It offers the following types of programs:

Four Year Curricula—B.S. Degree

1. Automotive Engineering Technology
2. Aviation Engineering Technology
3. Electrical Engineering Technology
4. Industrial Engineering
5. Industrial Supervision
6. Mechanical Engineering Technology

Two Year Curricula—Certificate

1. Aircraft Technology
2. Automotive Technology
3. Drafting and Design Technology
4. 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, as assist in supervision. The student's cooperative program is closely supervised by a University Coordinator.

AUTOMOTIVE

124 Automotive Engines 3 hrs. Fall, Winter

A study of the design, operation 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.

125 Automotive Chassis 5 hrs. Fall, Winter

A study of the design, operation and basic service techniques of the suspension system, steering geometry, brakes, tires and wheels, transmissions, rear axles, automatic and power assist units. Theory is supplemented with laboratory work involving disassembly, visual and mechanical inspection of parts, making adjustments to specifications, and performing service operations.

222 Fuels and Lubricants 2 hrs. Fall, Winter

A study of petroleum products and their application to the fuel and lubricant requirements of automotive and aircraft. Laboratory tests are conducted to ascertain octane requirements, viscosity, volitility, flash and fire point, carbon residue, API degree, and dropping point of grease.

224 Automotive Engine Analysis 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.

325 Automotive Testing 4 hrs. Fall

Standard tests of automotive components are run on engine dynamometers, chassis dynamometer, transmission test bench, and wheel aligner. Graphs and charts of operational characteristics are prepared, results analyzed, and technical reports written. Prerequisite: ET 124, ET 222, ET 224.

422 Automotive Design Analysis **4 hrs. Winter**

Design elements of automotive components are studied in terms of operational efficiency, safety, and serviceability. Attention is given to such features as sound and vibration, body leaks, malfunction of accessories, and air conditioning. Laboratory work is provided and technical reports of the test results are required. Prerequisite: ET 125, ET 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 **5 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.

118 Pilot Training (A, B, C, D) **2-8 hrs. Fall, Winter, Summer**

A. A course leading to a private pilot flight certificate. Consists of 40 hours of flight training, ground school for FAA examination, and Link instruction.

B. C. D. These units are planned for students who have a private pilots certificate and wish to secure their commercial certificate, instrument rating, and instructor's certificate.

(Course 118A meets the requirements of the Army Flight Training Program offered to advanced course R.O.T.C. students.)

212 Powerplants **3 hrs. Fall, Winter**

Theory and laboratory work covering ignition systems, testing, trouble diagnoses, and operation of aircraft engines. Prerequisite: ET 112.

214 Aircraft Welding **2 hrs. Fall, Winter**

Theory and practices governing FAA aircraft welding techniques. Prerequisite: ET 152.

215 Powerplants **4 hrs. Winter**

A study of aircraft propellers, jet propulsion powerplants, jet aircraft systems, and their operation.

216 Airframes **5 hrs. Fall, Winter**

Theory and laboratory practice covering weight and balance, controls, rigging, inspections, hydraulic systems, and electrical systems. Prerequisite: ET 110, ET 240.

218 Aircraft Servicing **4 hrs. 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 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: ET 218.

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.

ELECTRICAL

240 Electrical Circuits **3 hrs. Fall, Winter**

Analysis of direct and alternating current circuits using Kirchhoff's laws, net-work theorems, and mechanical and nodal equations. Phasors, expressed as complex numbers, are used in analyzing steady-state alternating current circuits.

241 Electronic Systems **3 hrs. Fall, Winter**

Introduction to electronic systems with block diagrams, component identification, and analysis of basic electronic tube and semiconductor circuits including wave shape studies. Prerequisite: ET 240.

242 Electromagnetic Devices **3 hrs. Fall, Winter**

A study of nonradiating electro-magnetic circuits and devices such as transformers, motors, generators, and controls. Prerequisite: ET 240.

340 Electronic Devices **5 hrs. Fall**

Circuit models of electronic devices. Linear and nonlinear analysis and design of electronic circuits with emphasis on the use of semiconductors. Prerequisite: ET 241, Math 123.

341 Industrial Electronics **4 hrs. Winter**

Analysis and basic design of electronic controlled power sources used in industry with emphasis on silicon controlled rectifiers. Prerequisites: ET 242 and ET 340.

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 study of communication and navigation systems including receivers, transmitters, transmission lines and antennas at frequencies up to 500 mc. Prerequisite: ET 340.

442 Servomechanisms **3 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. Prerequisite: ET 341, ET 360.

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 oxyacetyline, 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

Practical problems are assigned in the machining of various metals using production 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, inert-gas-shielded (Mig, Tig), and other special welding processes.

252 Metallurgy 3 hrs. Fall, Winter

The student is given the opportunity to become familiar with the properties of metals, working of metals into various forms and shapes, thermal treatments, phase diagrams, and methods of securing desirable physical properties. Prerequisite: Chem. 100 or 102.

254 Metal Casting 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.

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.

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. 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.

351 Metallurgy **3 hrs. Fall, Winter**

An advanced study of the effects of alloying elements upon the microstructure and mechanical properties of metals, principles of alloying and melting, equilibrium and non-equilibrium phase changes, deformation of metals, surface hardening, and powder metallurgy. Prerequisite: ET 252.

352 Thermodynamics **4 hr. Fall, Winter**

A comprehensive course dealing with the fundamental laws of thermodynamics, including gas and vapor processes, both non-flow and steady-flow, and thermodynamic cycles. Study is made of pressure-volume, temperature-entropy, temperature-enthalopy relationships, steam table, psychrometric charts, and atmospheric air. Prerequisite: Math 123.

353 Strength of Materials **2 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. 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 fiixed 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**

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, mongray 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**

A program of independent study involving problems in engineering research and development which is pursued under the supervision of some member of the department. Open only to juniors and seniors having special approval of the department head and instructor involved.

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.

INDUSTRIAL SUPERVISION

302 Supervision and Safety **4 hrs. Fall, Winter**

A course dealing with the organizational structure of industries with emphasis on the techniques of supervising personnel as well as the duties and responsibilities of the industrial technician, supervisor, and engineer.

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. 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.

Home Economics

Eunice E. Herald, Head

Margery L. Bessom
Barbara Chapman
Gladys L. Rowe
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 undergraduate 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 and American Government, 3 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 and Clothing Construction	5
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 and Clothing Construction 5 hrs. Fall, Winter
(formerly 100, 202 — 6 hrs)

Textiles is studied from the consumer point of view. Some testing of fabrics is included. Basic principles of clothing construction, including pattern alteration and fitting, are applied in the construction of garments. Prerequisite: Art 114.

201 Clothing and Textiles 4 hrs. Fall, Winter
(formerly 100, 200 — 5 hrs.)

Basic principles of clothing construction are applied to the construction and fitting of garments. Textiles is studied from the consumer point of view. Elective.

304 Selection and Design of Clothing 4 hrs. Fall, Winter
(formerly 204, 306 — 4 hrs.)

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
(formerly 304, 308 — 4 hrs.)

A study of the basic principles of pattern designing and fitting applied to tailored garments such as coats and suits. Prerequisite: Art, HE 200 or 201.

500 Advanced Textiles 2 hrs. Winter

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.

FAMILY RELATIONSHIPS, CHILD DEVELOPMENT, AND HOME MANAGEMENT

150 Individual and Family Relationships 4 hrs. Fall, Winter
(formerly 150, 252, 354 — 6 hrs.)

The contributions and concerns of personal and family adjustments in planning for careers and marriage. Elective. Freshmen.

152 Personality Development **2 hrs. Fall, Winter**

Social usage and personality development are considered. Elective, Nonmajors, Freshmen.

254 Human Growth and Development **4 hrs. Fall, Winter**
(formerly 254 — 3 hrs.)

This course involves study of the physical, social, emotional, and intellectual growth and development of children and adolescents. Elective. Substitute for ED 250.

350 Housing and Home Furnishings **4 hrs. Fall, Winter**
(formerly 554, 250 — 4 hrs.)

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. Preprequisite: Art.

352 Home Management and Consumer Buying **4 hrs. Fall, Winter**
(formerly 350, 516 — 4 hrs.)

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, Summer**
(formerly 352)

Students live in family size groups. There is opportunity for the application of principles from all areas of Home Economics. Prerequisite: HE 352 or former 350.

520 Equipment and Demonstration Techniques **4 hrs. Winter**
(formerly 520, 516 — 4 hrs.)

A study of principles of equipment and demonstration as applied to the areas of Home Economics. Prerequisites: 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**
(formerly 114, 214 — 7 hrs.)

Basic principles of food preparation. Planning, preparing, and serving of meals with emphasis on management.

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. Prerequisites: Chemistry 100 or 102, and 105 or 120.

212 Foods and Nutrition **4 hrs. Fall, Winter**
(formerly 116, 212 — 4 hrs.)

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. Fall**

Study of the dietetic treatment of impaired digestive and metabolic condition. Planning of diets and reports of current research. Prerequisite: Organic Chemistry 360.

510 Advanced Nutrition **3 hrs.**

Study of recent developments in nutrition through readings and experiences. Prerequisite: Nutrition and Meal Planning and Food Preservation.

512 Institutional Management **3 hrs. Winter**

Study of institutional administration, job analysis, labor policies, personnel problems and cost control in different types of food-service institutions. Prerequisite: Meal Planning and Food Preservation.

514 Food Technology **2 hrs.**

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 opportunity for individual studies. Prerequisite: HE 210.

Industrial Education

John L. Feirer, Head

John L. Bendix
Lawrence J. Brink
Phillip L. Bruce
Arvon D. Byle
Lindsay G. Farnan
Rex E. Hall
Gilbert R. Hutchings
Gordon O. Johnson
Waldemar E. Klammer
John R. Lindbeck
Charles G. Risher
George K. Stegman
James L. Ulmer
Theo C. Zimmerman

INDUSTRIAL EDUCATION COURSES

The Industrial Education Department offers shop and professional courses for four 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 trade and industrial subjects in the secondary schools, or community colleges; (c) to educate students who wish a broad background in industrial subjects; and (d) to educate students in Printing Management.

Industrial Arts Teaching—A student who plans to qualify as an industrials Arts teacher in both general and unit shops must take a minimum of 45 hours of technical work.

A group minor of twenty hours in two areas is required for an Industrial Arts Major.

For students not majoring in Industrial Education, one of the following minors can be selected:

1. A group minor consisting of the following courses: 100, 205, 120, 226, 130, 234, 265, plus the professional course Teaching of Industrial Education.

2. A student may also take a 15 hour minor in any course sequence such as woods, metals, drawing, electricity, or graphic arts, plus the professional course Teaching of Industrial Education.

Industrial Education General Degree—Students wishing to secure a broad general industrial background can major in Industrial Education. A total of 45 hours in shop and drawing areas is required. The exact combination of courses will be determined by the needs of the student.

Vocational-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

Printing Management—Students must pursue a major sequence of courses in Printing and Graphic Arts and a minor sequence in Business.

Manual 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

120 Graphic Communication 3 hrs. Fall, Winter

A survey course in general drafting predicated on man's ability to symbolize graphically in life and industry. Emphasis is placed primarily on the underlying concepts involved in freehand pseudo-perspective, elementary shading, technical sketching, multiview drawing, sectional views, size description, pictorial drawing and basic graphic analysis.

226 Graphics 3 hrs. Fall, Winter

An extension of Graphic Communication, IE 120, emphasizing standardized and industrial graphic practices. Course content encompasses view analysis by direct and orthogonal methods, sections, primary and secondary auxiliaries, precision dimensioning, threads and fasteners, pictorials, surface development, schematics, motion diagrams, and basic principles of descriptive geometry. Problems, methods and techniques of teaching drafting are presented relative to each area. New developments and studies in graphics are presented as they relate to industry. Drawings and intermediates will be reproduced on white print equipment. Prerequisite: IE 120 or equivalent.

227 Freehand Drawing 3 hrs.

A course designed to improve freehand and rendering skills. Emphasis is placed on principles of parallel, angular and oblique perspective sketching and rendering in different media and technical illustrating. Selected problems in chalkboard practice, still life, and industrial work. Prerequisite: IE 120 or equivalent or consent of instructor.

326 Advanced Graphics 3 hrs.

Advanced technical work for the specialist in the graphics field. Included are theory application, recent developments in graphics, experimental design research problems, graphic analysis, and checking. Prerequisite: IE 120, 226, or the equivalent.

524 Architectural Graphics 4 hrs. Fall

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, and FHA standards, state and local codes. Each student is required to design a single family dwelling including preliminary drawings, elevations, details, plot plan and rendered perspective. Methods of estimating, heating, and financing are included. Drawings will be reproduced on white print equipment. Prerequisites: IE 120 and 226 or equivalent.

ELECTRICAL

265 Fundamentals of Electricity and Electronics 5 hrs. Fall, Winter

This course provides both theoretical and practical applications of basic electrical principles. A study of A.C. and D.C. fundamentals, electrical measuring instruments, wiring circuits, etc. leads to theories and applications of electronics. Practical experience will include experimentation, appliance repair, and building of projects and/or teaching aids—both electrical and electronic in nature.

560 Basic Electricity and Electronics 2 hrs. Summer

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.

GENERAL SHOP

174 Industrial Arts for Elementary Teachers 3 hrs. Fall, Winter

This course is planned for prospective elementary school teachers and will include a study of Industrial Arts for grades one through six. Construction techniques in the field of woods, metals, leather, and plastics will be included. An understanding of our industrial life in our modern society will be emphasized. Special Education students may take this course for four semester hours of credit.

177 O.T. General Shop 3 hrs. Fall, Winter

A course designed exclusively for individuals training for occupational therapy. This course will cover the fundamentals of drawing, sketching, plastics, cold metals, copper work, and elementary electricity.

272 Related Arts and Crafts 3 hrs. (Extension only)

A general course in arts and crafts including work in thin metals, plastics, leather, elementary wood, and other related craft activities.

273 Related Arts and Crafts 3 hrs. (Extension only)

Advanced work in arts and crafts including advanced art metal, plastics, and other crafts not previously included.

274 Industrial Crafts 5 hrs. Winter

An introductory course for Industrial Arts teachers in the craft areas, including ceramics, jewelry, art metal, leather, and plastics. Industrial applications and procedures will be stressed.

276 Industrial Arts Design 2 hrs. Fall, Winter

A laboratory course dealing with the elements and principles of good design as applied to industrial arts projects. Course emphasis is upon developing design techniques, recording design ideas, and constructing project models.

372 Procedures and Methods in Industry 2 hrs. Fall, Winter

A study of the methods of manufacture and distribution of industrial products. Students will visit industrial plants and write reports on the application of technology to the school shop.

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.

572 Arts and Crafts for Teachers 2 hrs. Summer, Winter

This course will cover 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.

573 Mechanics and Conditioning of Equipment 1-2 hrs. Summer

A study of the cutting mechanics of 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.

METAL WORK

130 General Metals 3 hrs. Fall, Winter

Includes hand tool processes and related information in the areas of forging, bench metal, sheet metal, and art metals to provide metal working experiences suited to junior and senior high school industrial arts classes.

234 Machine Shop 3 hrs. Fall, Winter

Includes the fundamentals of machine tool operations and foundry practices involving drilling, turning, shaping, grinding, and the casting of parts of a selected project to be assembled at the bench.

235 Machine Shop 3 hrs. Winter

An advanced course dealing with foundry practices and with machine tool operation in the casting, the finish machining, and the fabrication of machine parts. Prerequisite: General Metals 130 and Machine Shop 234.

334 Sheetmetal **2 hrs. Fall**

An introduction to the application of hand and machine processes. Cutting, forming, seaming, burring, crimping, notching, and wiring are applied to the fabrication of sheetmetal projects.

336 Metal Fabrication **2 hrs. Fall**

A course in gas and arc welding for beginners. Safety precautions, care and operation of welding equipment, selection of welding rods, and methods of welding will be stressed.

338 Advanced Metals **3 hrs. Winter**

Advanced hand tool and machine processes in the areas of forging, bench metal, sheetmetal, metal fabrication, foundry, art metal, and other areas of metal working used in the school shop situation.

538 Problems in Metal Working **2 hrs. Summer**

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.

POWER AND TRANSPORTATION

180 Power Mechanics **2 hrs.**

A study of basic power machines with principal emphasis on two and four cycle engines such as used on power mowers, and outboard motors.

284 Transportation **5 hrs. Fall**

A survey course dealing with the design, use, and function of all types of power-driven equipment. The emphasis in this course will be placed on power mowers, outboard motors, and automobiles. Advanced work in automobile maintenance and servicing will be given, with special emphasis given the study of testing equipment used in auto mechanics.

582 Aviation for Classroom Teachers **2 hrs. Winter**

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.

588 Advanced Power Laboratory **2 hrs. Summer**

This course is designed to enable teachers to add a power mechanics area to existing Industrial Arts Programs. The course will include a study of internal combustion engine operating principles. Laboratory experiments will be conducted in mechanical and hydraulic power transmission. The teachers will investigate and prepare reports of recent developments in new types of internal and external combustion power units. The school shop organization, equipment and safety requirements unique to this area of instruction will be studied. A course of study including text materials, charts and film will be developed. Instructional materials will be designed illustrating scientific principles.

PRINTING AND GRAPHIC ARTS

150 Survey of Graphic Arts **4 hrs. Fall, Winter**

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, block cutting, silk screen, etc. A thorough study of all graphic arts processes used in industry is undertaken. Letterpress, offset, flexographic and intaglio receive special emphasis. Advantages and best uses as well as disadvantages and limitations are considered for each of the methods of printing.

152 Presswork **3 hrs. Fall, Winter**

This is an introductory course in presswork, which includes lockup, makeready, and feeding of various types of jobs.

156 O.T. Printing **3 hrs. Fall, Spring**

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.

250 Typography **5 hrs. Fall, Winter**

Students will undertake the complete layout, design, and composition of such jobs as tickets, name cards, letterheads, programs, newspaper advertisements, newspaper pages, and covers. Principles of balance, proportion, harmony, art, color, copyfitting, etc., as applied to such jobs will be studied.

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. Fall, Winter**

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.

351 Offset Camera and Platemaking **4 hrs.**

A study of the use of the camera for both line and halftone work, plus stripping, and offset platemaking.

450 Advanced Presswork **3 hrs. Winter**

The use of the various offset presses in order to produce quality printing is studied.

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. Spring**

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.

452 Estimating **3 hrs. Fall**

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.

WOODWORK

100 Basic Woodworking **2 hrs. Fall, Winter**

Survey course that provides experiences in the care, purchase, use of hand tools, and information about production and consumption of wood products. Wood classification, elementary wood finishing, and the operation of wood lathe, drill press, router, and scroll saw.

108 O.T. Special Education Shop **3 hrs. Fall, Winter**

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.

204 Finishing **3 hrs. Winter**

The student will gain practical experience in the application of various finishes on both metal and wood. Related information on color theory and mixing will be included.

205 Machine Woodwork **3 hrs. Fall, Winter**

An introductory course on the use of machine woodworking equipment. The student will receive experience in setting-up, operating, and caring for the more commonly used machines such as circular saw, jointer, shaper, planer, etc. Parts for selected projects will be machined. Prerequisite: 100.

304 General Woodwork **3 hrs. Winter**

Additional machine experience including advanced techniques in wood turning. Methods of upholstery including tools, materials, frames, and upholstery procedure. Prerequisites: 100 and 205.

306 Advanced Woodworking **3 hrs. Fall**

Covers experiences in house construction and wood patternmaking. House construction will cover framing a house. Patternmaking will include building up patterns for school shop use. Prerequisites: 100 and 205.

506 Furniture Construction **2 hrs. Winter**

Emphasizes the design and construction of fine furniture. Includes lamination of plywood. Each student required to design and carry to completion a finished piece of furniture. Prerequisites: 100 and 205.

508 Building Construction Techniques **2 hrs.**

Examines modern construction methods in the area of cement, metal, electricity, wood, glazing, and other related areas as applied to home building. It also studies construction methods both in custom building and in prefabrication.

PROFESSIONAL COURSES IN INDUSTRIAL EDUCATION

170 Introduction to Industrial Education **2 hrs. Fall, Spring**

A course designed to familiarize industrial education students with the basic philosophy of industrial education and its functions in an education program. The many aspects of industrial education are covered including historical background, social implications, Federal and State legislation, teacher qualifications, certificate requirements, and special methods and applications. Introduces related subject matter areas such as drafting, graphic arts, power, wood and metal working, electricity, and craftwork, through field trips, discussions, visual aids, and speakers.

200 Vocational-Technical Education **2 hrs. Fall, Winter**

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. Fall, Winter**

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.

344 Teaching of Industrial Education **3 hrs. Fall, Winter**

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.

345 Plan and Organization of a School Shop **2 hrs. Fall, Winter**

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.

370 General Shop Methods **3 hrs.**

A comprehensive course covering the variety of media used in the general industrial arts field. This course emphasizes methods utilized for teaching in general industrial arts laboratories, and is designed for students who will teach in a general shop organization.

540 Industrial Arts for the Elementary School **2 hrs. Fall**

Deals with the problems of organizing and teaching Industrial Arts for the elementary grades. Course materials, techniques, and materials in the industrial and craft areas will be stressed.

542 Course Planning and Construction **2 hrs. Fall, Winter**

Principles and techniques of selecting and analyzing suitable teaching activities and arranging such material into a functional instructional order. Instructional units prepared will be based on an analysis of a trade, occupation or activity. Opportunity will be provided to prepare a detailed course of study.

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.

598 Special Problems in Industrial Education
1-3 hrs. Summer, Fall, Winter

Designed for qualified individual graduate students wishing to pursue special problems of individual need or interest under the direction of a 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.

Military Science

Colonel James T. Gilbert, Head

Major Russell G. Vermillion
Major Donald J. Ottomeyer
Captain Rocco F. Ventrella
Captain Ronald W. Miller
Captain George T. Sagara
MSgt Kenneth M. Ball
MSgt Lawrence J. Brennan
MSgt Leslie L. Clintsman
SFC Lawrence E. Wilson
SFC Wayne E. Burke
SSgt William R. Pugh

Each male student shall enroll either in R.O.T.C. or general physical education beginning with the first semester of residence. During the first four semesters in which he is enrolled in basic R.O.T.C. he is excused from general physical education. If he completes the basic R.O.T.C. program, the requirement in general physical education for graduation is waived.

The Department offers three options. Option I, The National Affairs Curriculum, (open to students enrolled in the Advanced R.O.T.C. Program) stresses courses that provide a broad base on which the future citizen can develop an understanding of the role of the United States in world affairs or from which he may later make a career in civilian, military or other governmental activities. Option II provides an opportunity for students who wish to combine study under some other school or curriculum with those courses required to obtain a commission in the Army Reserve or the Regular Army. A group minor in Military Science may also be obtained (page 69). Option III provides an opportunity for transfer students from schools which did not offer an R.O.T.C. program and other students who have not taken the basic R.O.T.C. course to qualify for the Advanced R.O.T.C. course.

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 110.) Distinguished Military Students are eligible, upon completion of the prescribed courses, summer camp and requirements for a college degree, to apply for appointment as Second Lieutenants in the Regular Army.

After having completed one semester of R.O.T.C., students who are enrolled in the R.O.T.C. program and maintain satisfactory academic standards may apply for deferment from military service for the purpose of completing college.

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 which 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 into the advanced program. The requirements for enrollment in the Basic Course are as follows: the student must be a citizen of the United States, over 14 and under 23 years of age, physically qualified for military service, regularly enrolled at Western Michigan University, and of good moral character. Students who have had three years of Junior R.O.T.C. work (High School R.O.T.C.) or six months or more of active military service may substitute such Junior R.O.T.C. training or active military 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 into 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 with a view to placing 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; and School of the Soldier and Exercise of Command.

MS 101 Military Science **2 hrs.**

Includes American Military History, Counterinsurgency, 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, and 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 at the rate of approximately $78.00 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 objective of the Advanced Course is concentrated on the development of individual leadership and a sense of responsibility for duty as an officer of the Army of the United States. For admittance to the Advanced Course, a student must have completed the Basic Course, or Basic Summer Camp, be selected by the Professor of Military Science and the President of the university, not be over 25 years of age 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 college 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 approximately $40 each month. Students attending summer camp are fed and quartered at the expense of the Government, paid at the rate of approximately $120 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 the 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 Aviation Technology course No. 118. (See page 87.) Completion of this training qualifies the student for application 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 and 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 demonstrations of and participation in various phases of 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, the Military Team, 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; Counterinsurgency and School of the Soldier and Exercise of Command.

R.O.T.C. SCHOLARSHIPS

A limited number of scholarships are available to qualified students that are enrolled in the R.O.T.C. program. These scholarships will cover tuition, fees, books and related expenses and an additional $50 per month retainer pay. See the Professor of Military Science for details.

Occupational Therapy

Rosalia Kiss, Head

Susan Darling	Alice Lewis	Jane Thomas
Lois Hamlin	Vivian McGinley	Dean Tyndall

The Department offers courses in the following curricula: B.S. degree and a certificate course for college graduates. These curricula are 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 biology.

110 General Crafts **5 hrs. Fall, Winter**

A course planned to cover the application of varied 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 hr. Fall**

A lecture course designed to acquaint the beginning student with the profession.

200 Elementary Design **3 hrs. Fall, Winter**

A general course stressing the basic fundamentals of design as applied to numerous media including two and three dimensional projects. Basic content comprises experience in design as applied to bulletin boards, posters, plastics, wood, and metals. This course is adaptable to the competent level of the individual students; research being available for advanced students. Prerequisite: Occupational Therapy Major.

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.

300 Weaving **3 hrs. Fall, Winter**

Designed to give a working knowledge of hand looms. Includes discussion of looms, functional adaptations for special treatments, reading and drafting patterns, warping and threading looms, and types of weaving. Prerequisites: Occupational Therapy Major.

310 Therapeutic Techniques **4 hrs. Fall, Winter**

A lecture and laboratory course in prevocational evaluation, activities of daily living, orthotics, and homemaking for the handicapped, joint measurement and muscle testing. Prerequisite: Occupational Therapy 321 and/or 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. Prerequisite: Biology 210, Occupational Therapy Major.

322 Psychiatric and Neurological Conditions **4 hrs. Fall**

A series of lectures and clinical demonstrations concerned with psychiatric and neurological disorders. Course will include incidence, etiology, pathology, symptomatology, and treatment. Prerequisite: Psychology 270, Occupational Therapy 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. Prerequisite: Biology 210, 217.

332 Application in Physical Disabilities **5 hrs. Fall, Winter**

The study of general medical, neurological, and orthopedic conditions with emphasis on methods of treatment used by occupational therapists. Included are preclinical experiences and observations of clinics in local hospitals. Prerequisite: Occupational Therapy 310, 520, 524.

334 Recreation for Handicapped **2 hrs. Fall, Winter**

Course covers planning and practice of recreational activities to suit the needs of various handicapped groups.

340 Clinical Affiliation **3 hrs. Fall, Winter, Summer**

Each student is required by the American Medical Association to complete a minimum of nine months of clinical affiliation. This course is for the first affiliation which may be taken in either the area of Psychiatry or General Medicine and Surgery. By consent only. Prerequisite: Occupational Therapy 322, 342.

342 Application in Psychiatry **5 hrs. Fall, Winter**

A study of the philosophy and application of occupational therapy in the psychiatry field. Includes specific emphasis on the conscious use of one's own personality as a therapeutic tool and to acquaint the student with group processes used in occupational therapy situations. Includes the observation of occupational therapy during a required preclinical experience. Prerequisite: Psychology 270; 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. Prerequisite: Occupational Therapy 332, 342.

436 Independent Study in Occupational Therapy **2-4 hrs. Fall, Winter**

Designed to allow outstanding students to work independently under faculty supervision. Consent of departmental head. Credit variable.

440 Clinical Affiliation **3 hrs. Fall, Winter, Summer**

By consent only. Prerequisite: Completion of all academic work.

441 Clinical Affiliation **3 hrs. Fall, Winter, Summer**

By consent only. Prerequisite: Completion of all academic work.

520 Kinesiology **3 hrs. Fall, Winter**

A basic study of the muscles of the body, classified as to joint motion. Each muscle is studied according to origin, insertion, and action. Analysis of movement will also be included. This study is accompanied by a review of basic terminology of the skeletal and nervous systems. Prerequisite: Occupational Therapy 321.

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

Robert A. Diehm James E. Kline Truman A. Pascoe

100 Introduction to Pulp and Paper Manufacture **4 Hrs. Fall**

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. Winter**

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. Must register prior to June. Typed report required. Open only to departmental majors. Prerequisite: One summer of summer employment.

320 Physical Characteristics of Pulp, Paper and Fibers **4 Hrs. Fall**

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. Fall**

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. Winter**

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. Winter**

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. Fall**

An advanced treatment of the topics introduced in Course 100. Processes, techniques, and equipment involved in pulping, chemical recovery, byproducts, 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 and 333.

341 Paper Manufacture **5 Hrs. Winter**

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. Topics in microbiology discussed are: microbial attack of wood, paper, pulp and felts; slime and its control, stream pollution, and the microbiology of food packaging. 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. Fall, Winter**

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.

470 Senior Thesis **2 Hrs. Fall**

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. Winter**

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. Fall**

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.

580 Engineering Problems **2 Hrs.**

Consideration of special engineering topics designed to develop proficiency in applying advanced mathematical techniques to research and industrial problems. Prerequisite: Paper Tech. 331, Math. 223.

School of Business

ARNOLD E. SCHNEIDER,
Dean

Departments:

Accounting
Business Education
General Business
Management
Marketing

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 three 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.

I. DEGREE CURRICULA

BUSINESS ADMINISTRATION CURRICULUM

Bachelor of Business Administration Degree

A. COURSE REQUIREMENTS

1. General Studies requirements as described on page 20 of the catalog must be met.		40 hrs.
2. Speech		3 hrs.
104 Business and Professional Speech, **or**	3 s.h.*	
100 General Speech	3 s.h.*	
3. Mathematics and Psychology		7 hrs.
100 Algebra and Trigonometry	4 s.h.**	
200 General Psychology	3 s.h.*	
4. Social Sciences		12 hrs.
200 American Government	3 s.h.	
200 Principles of Economics	5 s.h.***	
plus Economics elective	4 s.h.	
5. Business Administration Core		30 hrs.
210-211 Accounting Principles	6 s.h.	
240 Marketing Principles	3 s.h.	
242 Business Communication	3 s.h.	
244 Business Statistics	3 s.h.	
320 Business Finance	3 s.h.	
340-341 Business Law	6 s.h.	
354 Management Principles	3 s.h.	
550 Management Problems	3 s.h.	
6. Major and minor requirements; electives		43 hrs.
7. Physical Education or Military Science		4 hrs.
B. Total hours required for this curriculum		124 hrs.

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*May be used as an approved alternative under General Studies III.

**May be used as an approved alternative in 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 an average of C or better, or at least 2½ units of high school algebra, geometry, and trigonometry with an average of C or better.

***May be used as an approved alternative in Social Science under General Studies I.

MAJOR AREAS OF CONCENTRATION IN BUSINESS ADMINISTRATION

Accounting Department

1. Preparation for a career in public accounting.*

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 hrs.

Recommended Electives:

Integrated Data Processing	Mgt. 355	4 hrs.
Accounting Theory & Problems	518	3
Cost Accounting—Theory and Practice	517	3

Advisers: Everett, Zelechowski

2. Program for a career in industry.

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
One course from recommended elective		3
		24 hrs.

Recommended electives:

Integrated Data Processing	Mgt. 355	4 hrs.
Accounting Systems	513	3
Auditing	516	3
Cost Accounting—Theory and Practice	517	3

Adviser: Daniels

Business Education Department

1. Teaching of Business Subjects: Advisers: Lindquist & McBeth

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 125.

For certification with the B.S. or B.A. degree see the curriculum in Business Teacher Education curriculum listed on page 125.

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*See adviser for specific C.P.A. requirements.

2. Secretarial Administration: **Adviser: McBeth**

Transcription	184	4 hrs.
Production Typewriting	185	3
Office Organization	Mgt. 252	3
Office Machines	281	3
Secretarial Practice	287	3
Records Management	288	2
Personnel Administration & Industrial Relations	Mgt. 350	4
Management Report Writing	Mgt. 552	3

Required courses in the Business Administration curriculum may be waived to meet the needs of the Secretarial Administration program.

General Business Department

1. Finance **Adviser: Grossnickle**

Business Finance 320, Insurance Principles 224, Financial Management 524. The major can be completed by selecting courses under the guidance of the adviser from among the following: Investments 326, Security Analysis 520, Intermediate Accounting 310, Cost Accounting 512, Real Estate Fundamentals 322, Credit Management 324, Economics 320, Money and Credit.

2. Insurance: **Adviser: Burdick**

Insurance Principles 224; four courses selected from the following: Life and Health Insurance 422, Property Insurance 424, Casualty Insurance 426, Advanced Life and Health Insurance 526, Problems in Multiple-Line Insurance 528; and eight hours of business courses selected by the adviser and student.

3. General Business **Adviser: Niemi**

Major: In addition to the Business Administration core, elect a logical sequence of five **advanced** courses in the School of Business which meets the student's vocational interests and needs.

Minor: *Any student who has completed 5 courses from the Business Administration core listed on page 119 shall be entitled to declare these as his General Business Minor of 15 semester hours. One advanced business course of 3 or more semester hours may be substituted for 1 of the 5 core courses. However, not more than two courses may be taken from any one of the following 8 areas: Accounting, Business Communication, Business Statistics, Business Finance, Business Law, 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.

***For a 20 semester-hour Business Education Teaching Minor, see Business Education advisers Lindquist or McBeth.**

4. Business Law Minor:

Any student who has completed 5 courses from General Business 340, 341, 440, 442, 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

1. Personnel Administration

		S.H.
a. Personnel Administration and Industrial Relations	350	4
b. Manpower Management	352	4
c. Administrative Behavior	451	3

Four additional courses to be elected with consent of the adviser from Management Department offerings and cognate fields including the following: Sociology 575, Industrial Sociology; Psychology 380, Psychological Testing; Psychology 440, Industrial Psychology; Psychology 432, Experimental Psychology; Economics 500, Managerial Economics; Economics 510, Labor Problems; Political Science 520, Constitutional Law; Political Science 526, Administrative Law; Management 564, Administrative Dynamics.

2. Industrial Management

OPTION A—Production Management

		S.H.
a. Administrative Behavior	451	3
b. Managerial Economics	Economics 500	3
c. Cost Accounting	Accounting 512	3
d. Planning and Analysis for Production	553	4
e. Readings in Management (Production)	598	3
f. Inventory Management	557	3

One additional course to be elected with consent of the adviser from the following: Mgt. 355, Integrated Data Processing; Sociology 575, Industrial Sociology; Psychology 440, Industrial Psychology; Mathematics 560, Mathematical Statistics; Mgt. 564, Industrial Dynamics.

OPTION B—Management Science

		S.H.
a. Industrial Dynamics	564	4
b. Managerial Economics	Economics 500	3
c. Cost Accounting	Accounting 512	3
d. Introduction to Management Science	554	4
e. Advanced Statistics	General Business 540	3
f. Readings in Management (Management Science)	598	3

One additional course to be elected with consent of the adviser from the following: Mgt. 355, Integrated Data Processing; Sociology 575, Industrial Sociology; Mathematics 560, Mathematical Statistics; Mgt. 557, Inventory Management.

3. **Administrative Services**

		S.H.
a. Integrated Data Processing	355	4
b. Accounting Systems	Accounting 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. 350, Personnel and Industrial Relations; Mgt. 352, Manpower Management; Accounting 512, Cost Accounting.

4. **Electronic Data Processing**

		S.H.
a. Integrated Data Processing	355	4
b. Electronic Data Processing	555	4
c. Introduction to Management Science	554	4
d. Accounting Systems	Accounting 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 500, Managerial Economics; Mathematics 200, Analysis and Applications.

Marketing Department

Requirements for five major areas offered in the Department:

1. **Advertising** **Adviser: Trader**

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. & Technology 151**	**3** hrs.
Marketing	**240**	**3**
Production Control	**Eng. & Technology 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. Edu. 120	2 hrs.
Quality Control	Eng. & Tech. 308	3
Purchasing Principles	358	3
Industrial Marketing	470	3
Management Report Writing	Mgt. 552	3
Planning & 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
		24–27 hrs.

5. Sales Management — Adviser: Trader

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 15 semester hours above the 9 hours required in the core of courses 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.*

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*Another option is available where a student may major in Political Science and Minor in Business. See Political Science adviser.

Major: In addition to the Business Administration Core, elect at least 15 semester hours from the following:

Governmental Accounting	Accounting 314	4 hrs.
Personnel & Industrial Relations	Management 350	4
Integrated Data Processing	Management 355	4
Administrative Behavior	Management 451	3
Law of Business Organization	General Business 544	3
Office Management	Management 556	4
Marketing Logistics	Marketing 578	3
International Marketing	Marketing 579	3

Minor: (Political Science)

American Government	200	3
State and Local Government	302	4
Public Administration	330	5
Problems of Public Administration	530	3–4
Administrative Law and Public Regulation	526	4

BUSINESS TEACHER EDUCATION CURRICULUM

Bachelor of Science Degree*

Business Education Department

I. 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-semester-hour major in business and a 20-semester-hour minor, which may also be in business.

A. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met .... 40 hrs.

2. Social Sciences .... 8 hrs.

American Government	200	3 hrs.
Principles of Economics	200	5 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.

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*Completion of 70 semester hours in the School of Liberal Arts leads to a Bachelor of Arts degree.

**May be used as an approved alternative in Social Science under General Studies I.

4. Business Education Core			14 hrs.
Accounting	210	3 hrs.	
Beginning Typewriting or equiv.	182	2 hrs.	
Business Communication	242	3 hrs.	
Industrial & Business World or elective from Marketing	140	3 hrs.	
Teaching of Business Subjects	346	3 hrs.	
5. Major and minor requirements; electives			42 hrs.
6. Physical Education or Military Science			4 hrs.
B. Total hours required for this curriculum			124 hrs.
C. Business Education Majors:	Advisers: Lindquist & McBeth		
1. Secretarial and related business subjects			
Business Education core (See I.A. 4 above)			14 hrs.
Transcription	184		4
Production Typewriting	185		3
Accounting	211		3
Office Machines	281		3
Secretarial Practice	287		3
2. Accounting and related business subjects			
Business Education core (See I.A. 4 above)			14 hrs.
Accounting electives			9
Integrated Data Processing	Mgt. 355		4
Business Electives			3
3. Salesmanship, retailing and related subjects			
Business Education core (See I.A. 4 above)			14 hrs.
Intermediate Typewriting	183		3
Accounting	211		3
Courses from Marketing Department			10
4. General Business and related subjects			
Business Education core (See I.A. 4 above)			14 hrs.
Accounting	211		3
Office Organization or Office Management	Mgt. 252 Mgt. 556		3
Business Law	340, 341		6
Integrated Data Processing or Business electives	Mgt. 355		4

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 I.A. 4 above)		14 hrs.
Teaching Tech. in Coop. Education	D.E. 572	2
Coordination Tech. in Coop. Edu.	D.E. 573	2
Principles of Practical Arts & Vocational Education	Voc. Edu. 520	2*
Intermediate Typewriting	183	3
Office Machines	281	3
Office Organization or/ Office Management	Mgt. 252 Mgt. 556	3

6. Other major sequences are available: See adviser.

D. Business Education Minors: Advisers: Lindquist and McBeth

1. For student 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 students 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 126 of this catalog, 6 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.

II. Cooperative Secretarial Program: Adviser: Null

†This work-study program concentrates on the development of skills and cooperative work experience in approximately 4 semesters' work. Classroom experience on a half-day basis is combined with half-day 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, Mgt. 252	3
General Psychology 200	3	Secretarial Practice 287	3
**Elective	4	**Electives	14
Physical Education	1		
	32		32

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*May be substituted for Education 450, School & Society.
†62 semester hours required for a Secretarial Certificate.
**Electives chosen after consulting with adviser.

DESCRIPTION OF COURSES

Accounting

John T. Burke, Head

David Boyd	George Kirby	William C. Morris
James E. Daniels	F. S. Luh	Willis C. Stevenson
Frederick Everett	James Mitchell	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 should 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.

212 Secretarial Accounting **4 hrs. Fall, Winter**

An introductory course in accounting for Secretarial Science students.

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. Winter**

Open only to senior students. 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**

Graduating 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. Prerequisite: 519.

511 Advanced Accounting **3 hrs. 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**

The principles of accounting system development are emphasized in relationship to the systems of various types of businesses. Prerequisite: 211.

514 Income Tax Accounting

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. Winter**

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 entering the M.B.A. Program who have not previously completed the equivalent at the undergraduate level. Prerequisite: Graduate standing. Not open to students with credit in accounting.

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

E. L. Marietta, Head

Agnes Anderson
Darrell G. Jones
Edna Kirby
Lester R. Lindquist
John H. McBeth
Max O. McKitrick
L. Michael Moskovis
Leo Niemi
Thomas W. Null
Charity C. Risher

The Department of Business Education includes the areas of preparation for business teaching, office education coordination, office supervision, secretarial positions, and specialized stenographic and clerical work. Students who complete approximately 4 semesters of required work in the stenographic and secretarial areas qualify for a certificate that verifies their finishing this coordinated work-experience program. These students learn by combining the classroom theory and the practical experience gained from business and industrial office situations.

A major in the Department of Business Education consists of 30 semester hours. A minor consists of 20 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. Prerequisite: 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. Prerequisite: 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**

Operating principles, current usage, and fundamentals of punched-card and other mechanical and electro-mechanical office machines.

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 and voice writing. 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. Requisite: current or previous enrollment in Business Education 184, and/or Business Education 185, and/or Business Education 287, or equivalents.

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 187.

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.

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.

380 Alphabetic Shorthand I **4 hrs. Fall, Winter**

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. Fall, Winter**

A continuation of Business Education 380 with emphasis on transcription. Prerequisite: Business Education 380 and Business Education 183 or equivalent.

584 Improvement of Instruction in Shorthand and Secretarial Subjects
2 hrs. Summer

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. Summer**

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. Fall**

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. Winter**

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: Consent of department head.

General Business

Arnold E. Schneider, Head
Leo Niemi, Adviser

Charles A. Blagdon
William L. Burdick
Adrian C. Edwards
R. Todd Goldsberry
Edwin Grossnickle
John B. Healey
James Henricks
William F. Morrison
Emil J. Sokolowski

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 addition, 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

320 Business Finance **3 hrs. Fall, Winter**

Business financing, methods of securing and managing capital, distribution of net income.

322 Real Estate Fundamentals **3 hrs. Winter**

A survey of the principles of real estate as they affect personal and business operations. Real estate as an occupational field, value and land use, and related topics.

324 Credit Management **4 hrs. Fall, Winter**

An introduction to the principles of credit, credit control, and credit management from the viewpoint of manufacturing, wholesale and retail firms. Effective use of credit as a financial and sales device and certain definite aspects of credit such as policies and procedures, collection and legal aspects are studied.

326 Investments **4 hrs. Fall, Winter**

Study of the terminology and principles of portfolio management and a study of the characteristics of individual types of investments. Prerequisite: 320 Business Finance.

520 Security Analysis **4 hrs. Winter**

Analysis of securities, market values, and investment programs. Interpretation of financial reports, factors, and conditions. Prerequisite: 326 Investments.

524 Financial Management **3 hrs. Fall, Winter**

Study of the principles and problems underlying the making of financial policy by the senior financial officers of going concerns. Prerequisites: Business Administration core.

INSURANCE

224 Insurance Principles **3 hrs. Fall, Winter**

A comprehensive course covering principles and practices in all fields of Insurance. Emphasis is placed on the major forms of coverage available and their proper usage. Industry operations, insurance law, regulation and risk are also studied. Prerequisite: Sophomore standing or consent of instructor.

422 Life and Health Insurance **4 hrs. Fall**

The course covers in detail economic aspects, marketing, underwriting, rating, finance, life and health insurance law, types of policies, policy analysis, and basic programming. Prerequisite: 224 Insurance Principles.

424 Property Insurance **3 hrs.**

The course covers the fields of fire, marine and automobile insurance. Detailed study is made of marketing, underwriting, loss adjustments, insurance law and finance. Contracts in the three lines are analyzed. Prerequisite: 224 Insurance Principles.

426 Casualty Insurance and Bonding **3 hrs.**

General Liability, Workmen's Compensation, Theft Insurance and Bonding are covered. Detailed consideration is given to underwriting, marketing, loss adjustment, finance and insurance law, as well as policy analysis in the four lines. Prerequisite: 224 Insurance Principles.

526 Advanced Life and Health Insurance **4 hrs. Winter**

The topics covered include group life and health insurance, business life and health insurance, insured pension plans, estate and tax planning and new developments in the life and health insurance fields. Prerequisite: 422 Life and Health Insurance or consent of instructor.

528 Problems in Multiple Line Insurance **3 hrs.**

This course uses the case analysis method in dealing extensively with both personal and commercial risk surveys and analyses. Special problems in rating, loss adjustment, marketing, underwriting, and finance in the property and casualty fields are also solved. Prerequisite: 424 Property Insurance or 426 Casualty Insurance and Bonding.

LAW

340 Business Law **3 hrs. Fall, Winter**

A study of basic principles applicable to business including legal rights and remedies, contracts, and agency, and employer and employee relations.

341 Business Law **3 hrs. Fall, Winter**

Continuation of Business Law 340 with emphasis on negotiable instruments, sales, and property.

440 Law of Personal Property **3 hrs.**

The study of the law including sales, bailments and transportation. Prerequisite: 340 Business Law.

442 Damage and Tort Liability **3 hrs. Winter**

The study of law as a result of civil injury and negligence, necessary for the potential insurance, finance, management and marketing specialist. Prerequisite: 340 Business Law.

542 Law of Real Property **3 hrs.**

The study of real property including property rights, mortgages, leases and land contracts. Prerequisite: 340 Business Law.

544 Law of Business Organizations **3 hrs.**

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; sampling 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.

MISCELLANEOUS

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.

598 Readings in General Business 1–4 hrs. Fall, Winter

Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Consent of instructor.

Management

Fred V. Hartenstein, Head

Nazir A. Ansari
Gene S. Booker
Peter D. Couch
Alan H. Leader
Leo Niemi
Paul E. Sands
Arnold E. Schneider

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.

252 Office Organization 3 hrs. Fall, Winter

Personnel policies and how they affect office 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.

350 Personnel and Industrial Relations 4 hrs. Fall, Winter

The administration of the personnel program, with emphasis on formal personnel department functions: manpower and organizational planning, administration of personnel procurement and development programs, management of compensation and employee services, administration of labor relations programs including contract negotiation and maintenance.

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.

354 Management Principles 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.

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 and symbolic languages.

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.

550 Management Problems 3 hrs. Fall, Winter

An opportunity to approach business from the case-study method by working solutions to actual management problems. Prerequisite: 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 studies. The development and practice of technical report writing will be stressed.

553 Planning and Analysis for Production 4 hrs. Fall

An examination of modern methods of analysis, their relation to the production process and utilization in management planning. Cases and problems will be utilized. Prerequisites: Principles of Economics 200, and Statistics 244 or equivalents.

554 Introduction to Management Science 4 hrs. Fall, Winter

Modern scientific techniques used in business and industry for controlling operations, maximizing profits and 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 or equivalent.

555 Electronic Data Processing **4 hrs. Winter**

Programming electronic computers in FORTRAN and COBOL languages. Computers, computer applications, systems and procedures, and feasibility 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 Equiv.

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 management 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: Consent of department head. Repeatable with consent of department head.

Marketing Department

Robert B. Trader, Head

Richard E. Embertson
Frances S. Hardin
Conrad R. Hill
Leonard D. Orr
Connor P. Otteson
Henry A. Sciullo
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 200, 201, which may be taken either before or in conjunction with this course; or permission of instructor.

358 Purchasing **3 hrs. Fall, Winter**

Organization and operation of the purchasing department; basic materials, substitutes, imitations, sources of supply, catalogs, terms, discounts, and public relations.

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. Var., 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. Includes three hours of lecture and one and one-half hours of lab per week.

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 structures, selection, training, compensation, territories, conventions, and sales promotion. 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**

Value analysis and the evaluation of purchasing department performance. Problems involve organization, operation, materials management, vendors relations, and make-or-buy decisions. Prerequisite: Purchasing 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. Var., 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 problem, 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

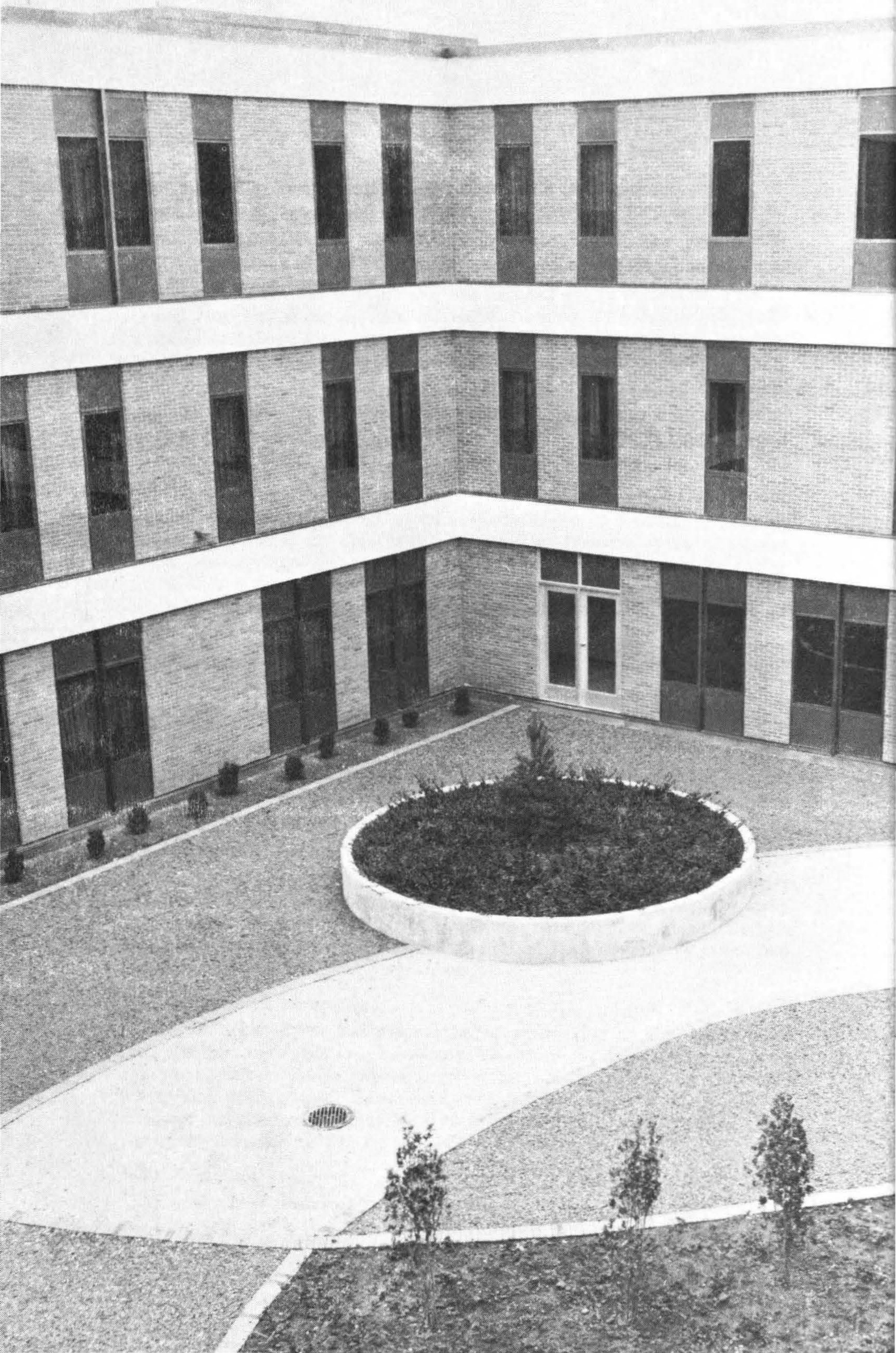
An analysis of problems relating to the movement, handling and storage of industrial products. Attention will also be given to changing market conditions and industrial structure as they effect the physical distribution of industrial goods. Prerequisite: Marketing 240 or permission of instructor.

579 International Marketing 3 hrs. Fall

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: Consent of instructor.



School of Education

JAMES H. GRIGGS,
Dean

ROLAND S. STROLLE,
Assistant Dean

Departments:

Teacher Education
School Services
Physical Education for Men
Physcial Education for Women
Campus School
Educational Resources Center
Psycho-Educational Clinic

ROBERT M. W. TRAVERS
Distinguished University Professor

The School of Education consists of the following departments: Teacher Education, School Services, Physical Education for Men, Physical Education for Women, Campus School, the Educational Resources Center, 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 Directed Teaching Office, 2504 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.

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 Liberal Arts and Sciences; (2) advanced specialized study, with major and minor interests in the fields of the student's choice, offered in all 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 subject 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. Course requirements

1. General Studies Requirements as described on page 20 of the catalog must be met.
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.

Teaching of Elem. Sch. Math. 250 (strongly recommended)
(Eight hours must be taken in General Studies Science courses)

4. Social Sciences .... 5 hrs.
   - American Government 200 .... 3 hrs.
   - Elementary School Social Studies 507 .... 2 hrs.
5. Teacher Education .... 24 hrs.
   - Human Development and Learning 250 .... 4 hrs.
   - Teaching and Learning in the Elem. School 300 .. 3 hrs.
   - Teaching of Reading 312 .... 3 hrs.
   - Directed Teaching, Seminar in Education and School and Society 470, 410, and 450 .... 14 hrs.
6. Fine Arts (Art and Music) .... 7 hrs.
   - Music for the Classroom Teacher 140 .... 4 hrs.
   - Art Workshop for Elementary Teachers 140 .... 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)

B. 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.)

C. The candidate must satisfy the requirements of the A.B. or B.S. degree.

Total Hours Required .... 124 hrs.

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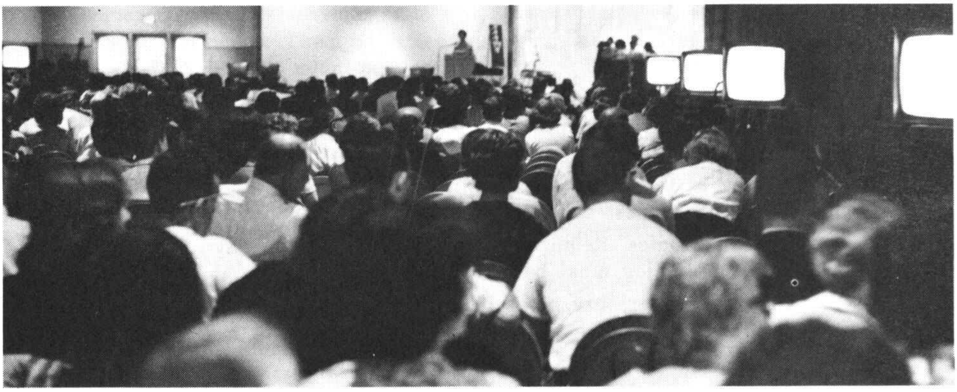
*Students with a minor in librarianship may substitute 3 s.h. of library science courses for the practical arts requirement.



RURAL ELEMENTARY CURRICULA

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. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met. (Students should include Physical Geography, Biological Science, and Introduction to the Non-Western World.)		
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.	
4. Social Sciences		13 hrs.
American Government 200	3 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 305	4 hrs.	
Supervision in Rural Area Sch. (Sem.) 408	2 hrs.	

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*Only for students enrolled in the Special Program as described below.

**Not required of students enrolled in the Special Program.

6. Fine Arts (Art and Music) .... 7 hrs.
   Music for the Classroom Teacher 140 .... 4 hrs.
   Art Workshop for Elem. Teachers 140 .... 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)

B. 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 subjects taught in the elementary school, chosen with the guidance of the Director of Rural Life and Education.

C. The candidate must satisfy the requirements for the A.B. or B.S. degree.

Total Hours Required ....124 hrs.

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 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. Course Requirements

1. General Studies requirements as described on page 20 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.
Developmental Psychology 270	3 hrs.	
4. Social Sciences		10 hrs.
American Government 200	3 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.

B. 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.

C. The candidate must satisfy the requirements of the A.B. or B.S. degree.

D. 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.

Total Hours Required ....124 hrs.

SECONDARY CURRICULUM

A.B. or B.S. Degree

State Secondary Provisional Certificate

(For the preparation of teachers in Grades 7-12)

A. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.		
2. Social Sciences		3 hrs.
American Government 200	3 hrs.	
3. 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.	
4. Physical Education or Military Science		4 or 8 hrs.

B. 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.)

C. The candidate must satisfy the requirements for the A.B. or B.S. degree.

D. The candidate for the State Secondary Provisional Certificate must present a methods course in a major or minor field.

Total Hours Required ....124 hrs.

LIBRARIANSHIP CURRICULUM

A.B. or B.S. Degree
State Elementary or Secondary Provisional Certificate
(For Teacher-Librarians)

A. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.

2. Language, Literature, Speech, Philosophy and Religion		20 hrs.
Modern Language	8 hrs.	
Children's Literature 282	4 hrs.	
English Elective	4 hrs.	
Speech Elective	4 hrs.	
3. Science, Mathematics and Psychology		3 hrs.
General Psychology 200	3 hrs.	
4. Social Sciences		6 hrs.
American Government 200	3 hrs.	
History Elective	3 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.	
6. Teacher Education		21 hrs.
Human Development and Learning 250	4 hrs.	
Teaching and Learning (Elem., Jr. H. S., or Sr. H. S.) 300	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.

B. 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 145.

C. A portion of the Directed Teaching period is spent in a selected school library.

D. The candidate must satisfy the requirements of the A.B. or B.S. degree.

Total Hours Required . . . . 124 hrs.

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*Required only for teacher-librarian candidates in the secondary curriculum.
**Required only for teacher-librarian candidates in the elementary curriculum.

MUSIC EDUCATION CURRICULUM

B.M. Degree

State Secondary Provisional Certificate

(For preparation of Teachers of Vocal and Instrumental Music)

A. Course Requirements
   1. General Studies requirements as described on page 20 of the catalog must be met.
   2. Social Sciences .... 3 hrs.
      American Government 200 .... 3 hrs.
   3. Music Theory .... 18 hrs.
      Theory 160, 161, 260, 261, 360 ....16 hrs.
      Theory Elective .... 2 hrs.
   4. Musical Performance .... 42 hrs.
      Major Performance Medium ....16 hrs.
      Secondary Performance Media, Conducting and Ensemble ....26 hrs.
      (These requirements vary for Instrumental, Vocal and Combined curricula. See Music Supplement Catalog for details.)
   5. 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.
   6. Physical Education or Military Science .... 4 or 8 hrs.

B. 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.

C. The candidate must meet the requirements of the B.M. degree. (See Music Supplement Catalog for details.)

Total Hours Required ....134 hrs.

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. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.		
2. Language, Literature, Speech, Philosophy and Religion		4 hrs.
Children's Literature 282	4 hrs.	
3. Science, Mathematics and Psychology		12 hrs.
Structure of Arithmetic 150	4 hrs.	
(Eight hours must be taken in General Studies Science courses)		
4. Social Sciences		5 hrs.
American Government 200	3 hrs.	
Elementary School Social Studies 507	2 hrs.	
5. Teacher Education		27 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, Seminar in Education, and School and Society 470, 410 and 450	14 hrs.	
General Music Methods 240	3 hrs.	
6. Fine Arts (Art and Music)		39 hrs.
Art Workshop for Elem. Teachers 140	3 hrs.	
Piano and Voice Courses	10 hrs.	
Ensemble	5 hrs.	
Music Appreciation 170, 374	7 hrs.	
Music 160, 161 (Theory)	6 hrs.	
Music 244, 245 (Elementary Music Pract.)	6 hrs.	
Conducting 330 or 331	2 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)		

B. An academic minor or group minor of 20 or 24 hours outside of Music, in a subject or subject field taught in the elementary school.

C. The candidate must meet the requirements of the B.S. degree.

Total Hours Required	128 hrs.

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. Course Requirements		
1. General Studies requirements as described on page 20 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. Social Sciences		5 hrs.
American Government 200	3 hrs.	
Elmentary School Social Studies 507	2 hrs.	
5. Teacher Education		24 hrs.
Human Development and Learning 250	4 hrs.	
Teaching and Learning in the Elem. School 300	3 hrs.	
Teaching of Reading 312	3 hrs.	
Directed Teaching, Seminar in Education and School and Society 470, 410 and 450	14 hrs.	
6. Fine Arts (Art and Music)		7 hrs.
Music for the Classroom Teacher 140	4 hrs.	
Art Workshop for Elementary Teachers 140	3 hrs.	
7. Practical Arts		2 hrs.
Arts and Crafts for Teachers 572	2 hrs.	
8. Crippled and Homebound—Major		30 hrs.
General Psychology 200	3 hrs.	
Introduction to Speech Correction 250	3 hrs.	
Psychological Testing 380	3 hrs.	
Medical and Orthopedic Conditions (O.T.) 524	4 hrs.	
Interdisciplinary Education and Rehabilitation Techniques 528 or 529	2 hrs.	
Education of Exceptional Children 530	3 hrs.	
Mental Deficiency 532	4 hrs.	
Education and Therapeutic Care of Crippled Children 543	4 hrs.	
Community Agency Resources 572	2 hrs.	
Mental Hygiene of Childhood and Adol. 585	2 hrs.	

9. Physical Education or Military Science (Must include Physical Education for the Elementary Teacher 340)	4 or 8 hrs.

B. One academic minor in a subject or subject field taught in elementary school.

C. The candidate must satisfy the requirements of the B.S. degree.

Total Hours Required	132 hrs.

SPECIAL EDUCATION CURRICULUM — EMOTIONALLY DISTURBED

B.S. Degree

State Elementary or Secondary Provisional Certificate

(For the preparation of teachers of emotionally disturbed children)

A. Course Requirements

1. General Studies requirements as described on page 20 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. Social Sciences		3 hrs.
American Government 200	3 hrs.	
5. 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.	
6. Fine Arts (Art and Music)		7 hrs.
Music for the Classroom Teacher 140	4 hrs.	
Art Workshop for Elementary Teachers 140	3 hrs.	
7. Practical Arts		2 hrs.
Arts and Crafts for Teachers 572	2 hrs.	
8. Emotionally Disturbed—Major		34 hrs.
General Psychology 200	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.

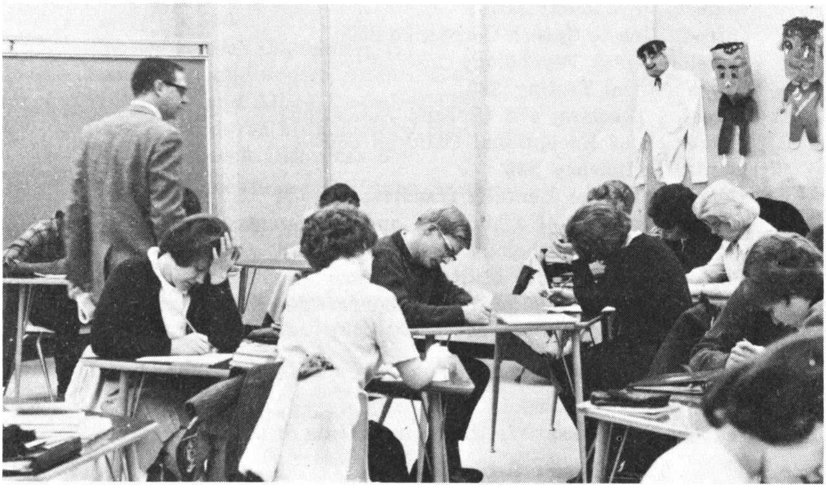
9. Physical Education or Military Science .... 4 or 8 hrs.
(Must include Physical Education for the Elementary Teacher 340)

B. One academic minor in a subject or subject field taught in elementary or secondary school.

C. During the first three years the student must complete a minimum of 150 clock hours of observing and working with normal and maladjusted children.

D. 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.

Total Hours Required .... 132 hrs.



SPECIAL EDUCATION CURRICULUM — MENTALLY HANDICAPPED

B.S. Degree

State Elementary Provisional Certificate

(For the preparation of teachers of mentally handicapped children)

A. Course Requirements

1. General Studies requirements as described on page 20 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 Arthimetic 150	4 hrs.	
4. Social Sciences		3 hrs.
American Government 200	3 hrs.	
5. 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.	
6. Fine Arts (Art and Music)		7 hrs.
Music for the Classroom Teacher 140	4 hrs.	
Art Workshop for Elementary Teachers 140	3 hrs.	
7. Practical Arts		2 hrs.
Arts and Crafts for Teachers 572	2 hrs.	
8. Mentally Handicapped—Major		33 hrs.
General Psychology 200	3 hrs.	
Introduction to Speech Correction 250	3 hrs.	
Developmental Psychology 270	3 hrs.	
Psychological Testing 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.	
9. Physical Education or Military Science		4 or 8 hrs.
(Must include Physical Education for the Elementary Teacher 340)		

B. One academic minor in a subject or subject field taught in elementary school.

C. The candidate must satisfy the requirements of the B.S. degree.

Total Hours Required	132 hrs.

SPECIAL EDUCATION CURRICULUM — SPEECH PATHOLOGY AND AUDIOLOGY

B.S. Degree

State Elementary or Secondary Provisional Certificate
(For the preparation of teachers of speech correction)

A. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.		
2. Language, Literature, Philosophy and Religion		4 hrs.
English Language 270	4 hrs.	
3. Science, Mathematics and Psychology		6 hrs.
General Psychology 200	3 hrs.	
Abnormal Psychology 320	3 hrs.	
4. Social Sciences		3 hrs.
American Government 200	3 hrs.	
5. Teacher Education		26 hrs.
Human Development and Learning 250	4 hrs.	
Teaching and Learning in Elem. or H. S. 300	3 hrs.	
Directed Teaching, Seminar in Education and School and Society 470, 410 and 450	14 hrs.	
Education of Exceptional Children 530	3 hrs.	
Mental Hygiene of Childhood and Adol. 585	2 hrs.	
6. Speech Correction—Major		36 hrs.
Introduction to Speech Correction 250	3 hrs.	
Voice and Articulation 252	4 hrs.	
Communicative Processes of Speech 302	4 hrs.	
Physiological Processes of Speech 304	4 hrs.	
Phonetics 350	3 hrs.	
Applied Speech Correction 454	3 hrs.	
Basic Voice and Speech Science 550	3 hrs.	
Stuttering and Allied Disorders 552	4 hrs.	
Basic Procedures in Audiology 555	4 hrs.	
Organic Speech Disorders 558	4 hrs.	
7. Physical Education or Military Science		4 or 8 hrs.

B. One academic minor in a subject or subject field taught in elementary or secondary school.

C. During the program the student must complete a minimum of 210 clock hours of supervised casework in speech pathology and audiology.

D. The candidate must satisfy the requirements for the B.S. degree.

Total Hours Required	132 hrs.

Teacher Education

Orval L. Ulry, Head
A. L. Sebaly, Director of Student Teaching
Kristen D. Juul, Director of Special Education
James O. Ansel, Director of Rural Life and Education

David W. Adams
Hubert G. Archer
James Austin
Max Benne
Robert Betz
Gerald Bodine
Harold W. Boles
Earl L. Borr
Frederick Brail
Roy C. Bryan
John A. Buelke
Mary A. Cain
Raymond C. Carlson
Clara R. Chiara
James A. Davenport
Joseph J. Eisenbach
Vern L. Farrow
Orie I. Frederick
Louis A. Govatos
James H. Griggs
Francis E. Heger
Edward J. Heinig
Robert D. Hellenga
Helen Jennings
Elizabeth Johnson
William H. Kanzler
Gertrude Kirkwood
Mary Lafter
Cameron Lambe
Neil Lamper
Carl Lindstrom
George G. Mallinson
Arthur J. Manske
Gerald C. Martin
Lyle McAuley
Dorothy McCuskey
Dorothy McGinnis
Marie McMahan
Owen Middleton
George Miller
Daniel Moore
Marshall E. Myer, Jr.
Harvey Overton
Ben Owen
Lois Robinson
Lawrence Schlack
Esther D. Schroeder
Carl B. Snow
Roland S. Strolle
Sarah J. Stroud
Sara R. Swickard
Robert D. Taylor
Isadore R. Turansky
William P. Viall
Robert Westley
Roberta Westra

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 24 hours in professional education courses, including Teaching of Reading 312. A grade of "C" or better must be earned in each of these 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:

Teacher 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.

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 designed to prepare students for the responsibilities of classroom instruction. Emphasis is placed on: purposes of the school; selection and organizational 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.

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*May be substituted for Arts and Ideas in the General Studies Program.

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 in the Student 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 Director of Special Education.

475 Directed Teaching (Rural) **5 hrs. Fall, Winter**

Only for students in the Special Rural Life and Education curriculum.

GENERAL COURSES

99 Adult Reading **No Credit. 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.

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.

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 participate in the workshop. Not offered in 1965-66.

506 Adult Education **2 hrs.**

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. Not offered in 1965-66.

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 workshop 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 with in 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. Not offered in 1965-66.

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. Not offered in 1965-66.

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.

482 Clinical Problems in Reading **2 hrs. Fall, Winter**

This course provides practical experience in Reading Laboratories sponsored by the Psycho-Educational Clinic. Diagnosis and treatment of reading problems at either the elementary level or secondary level are emphasized. This course deals with physical, mental, and emotional factors affecting reading performance. Open to advanced students with permission of instructor.

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 the Nursery School and Kindergarten education. Consideration will be given to the organization, equipment, curriculum, and approved teaching procedures.

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.

SPECIAL EDUCATION

Dr. Kristen Juul, Director

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.

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.

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 conferences, and inter-disciplinary teamwork are among the areas covered. Resource persons include psychiatrists, psychologists, social workers, etc.

METHODS OF TEACHING

546 Driver and Safety Education **2 hrs. Fall, Winter**

Deals with several aspects of safety education in the home, school and community, with special emphasis on preparing secondary school teachers of driver training and safety education. Materials and methods, psychophysical testing, sound driving practices, pedestrian protection, "Behindthe Wheel" training in dual control cars, and accident prevention procedures are an integral part of the course.

548 Audio-Visual Education **2 hrs. Fall, Winter**

Acquaints teachers 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.

FOUNDATIONS OF EDUCATION

530 Education of Exceptional Children **2 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.

585 Mental Hygiene of Childhood and Adolescence **2 hrs. Fall, Winter**

Deals with the problems of emotional adjustment and maladjustment in childhood and adolescence.

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.

305 Problems of Community Schools in Rural Areas **4 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.

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.

475 Directed Teaching (Teacher interns) See p. 163 **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 textbook.

230 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.

School Services

Harold W. Boles, Head

Robert Betz
Donald Blasch
Roy C. Bryan
Frances Crawford
James A. Davenport
Donald A. Davis
Kenneth B. Engle
Ruth Kaarlela
Neil Lamper
Dorothy McCuskey
Arthur J. Manske
Thomas J. Murphy
Roland S. Strolle
Stanley Suterko
William P. Viall
Donald C. Weaver
Lloyd Widerberg

The Department of School Services offers work in the fields of administration and supervision, curriculum development, guidance and personnel services, and blind rehabilitation. Most of these courses are open to graduate students only, but the following courses in guidance and blind rehabilitation 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.

582 Occupational and Educational Information 2 hrs. Fall

Discussion of theories of occupational and educational choice stressing knowledge of sources, use, evaluation and techniques of imparting occupational and educational information including college choice, loans, fellowships, scholarships and grants in education.

583 Guidance Workshop 2 hrs. Fall, Winter

Designed for counselors who wish to study particular guidance problems and procedures in relation to their local guidance program. Group procedures will be demonstrated and experienced by the counselors with a view toward developing understandings of the group processes as perceived by students. Class membership limited to counselors, social agency personnel, and Hines Hospital personnel.

584 Elementary School Guidance 2 hrs. Fall

Designed to give teachers, administrators and guidance workers an understanding of the principles and techniques of guidance programs in elementary schools.

BLIND REHABILITATION

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. Winter

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 adult, 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.

Physical Education for Men

Mitchell J. Gary, Head

Donald E. Boven
Bill M. Chambers
J. Patrick Clysdale
George Dales
F. William Doolittle
Edward A. Ferkany
Edward A. Gabel
John W. Gill
Joseph T. Hoy
J. Arthur Jevert
Jack D. Jones
Charles H. Maher
John T. Miller
Robert L. Parks
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

THE GENERAL PHYSICAL EDUCATION REQUIREMENT

All men must participate in general physical education beginning with the first semester 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.

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 rquirements 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, we offer a program of instruction and guidance in a wide range of sports skills fundamentals which can satisfy basic physical needs and will contribute 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 body building 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 120 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.

Veterans of military service are subject to the same requirements in general physical education as non-veterans.

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.

The general physical education requirement is waived for students forty years of age or older.

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 session of residence at Western Michigan University and thereafter each 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 either in general physical education or R.O.T.C. beginning with the first semester of residence. During the first four semesters in which he is enrolled in basic R.O.T.C. he is excused from general physical education. If he completes the basic R.O.T.C. program, the requirement in general physical education for graduation is waived.

Students who withdraw or are dropped from the R.O.T.C. program before satisfactory completion of the first two years must meet all of the requirements in general physical education. Any participation less than satisfactory completion of the two-year program in R.O.T.C. may not be substituted for a part of the general physical education requirement.

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)
120 General Physical Education (Football) 1 hour (Fall)
121 General Physical Education (Cross Country) 1 hour (Fall)
122 General Physical Education (Basketball) 1 hour (Winter)
123 General Physical Education (Swimming) 1 hour (Winter)
124 General Physical Education (Wrestling) 1 hour (Winter)
125 General Physical Education (Baseball) 1 hour
126 General Physical Education (Track) 1 hour
127 General Physical Education (Golf) 1 hour
128 General Physical Education (Tennis) 1 hour
124 Social Dance (Co-Educational) 1 hour Women's Department
125 Square Dance (Co-Educational) 1 hour Women's Department
215 General Physical Education (Bowling) 1 hour (Additional Fee)

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, 340, 370, 380, 460. Elect six hours from courses 234, 235, 244, 260, 270, 342, 351, 352, 371, 430.

General Biology 100, Mammalian Anatomy 210, Systemic Physiology 217 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, 340, 380, 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. 243. Elect eight hours from 244, 260, 270, 342, 351, 352, 430, 470 or coaching courses not elected in 230-235 series.

General Biology 100, Mammalian Anatomy 210, Systemic Physiology 217 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, 340, 380, 460. Elect two hours from 270, 370, 371, 470. Elect two hours from Biol. 111, 514, P.E.W. 242 or 243. Candidates in secondary education elect six hours from 230-235 series. Candidates in elementary education may elect six hours from related departmental offerings.

General Biology 100 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 & Materials in Recreation	2
	470	Directed Field Experiences	2
			8 hrs.

ELECTIVES

Group I—Arts and Crafts—(3 hrs.)

I.E.	174	Ind. Arts for Elementary Teacher	3 hrs.
	272	Related Arts and Crafts	3
	278	Leather, Plastics, Archery	2
O.T.	202	Minor Crafts	3

Group II—Aquatics—(1 hr.)

P.E.	**330	Swimming	1 hr.
	430	Advanced Swimming	1

Group III—Activity Skills—(3 hrs.)

P.E.	**340	Teaching of Physical Education	3

Group IV—Additional Electives—(5 or 11 hrs.)

Biol.	231	Outdoor Science for Teachers	3
	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 & Athletic Injuries	2
Soc.	368	Welfare Organization	2
Libr.	546	Story Telling	2
			23 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 (20 Hours)

This curricular pattern in the men's physical education department is selected as a **second minor only.** Several courses are undergoing extensive revision in their respective departments. For this reason the health education minor will be determined during 1965-66 by consultation with the departmental adviser.

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. Winter**

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 **2 hrs. 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.

340 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.

342 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. Fall**

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: Gen. Biol. 100 and Mammalian Anatomy 210.

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 health lessons, 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. Summer

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.

Physical Education for Women

Physical Education for Women

Candace Roell, Head

Helen Brown
Ruth Davis
Eleanor Douglass
Frances Ebert
Jean Friedel
Elisabeth Hetherington
Opal Klammer
Margaret Large
Wilhelmina McFee
Margie Jeanne Miner
Barbara Stephenson
Mary Lou Stewart
Armine Vart

Each student must complete four semester hours of physical education. Persons forty 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 the total hours required for graduation.

The maximum amount of general physical education credit to be earned in one semester is one semester hour. Transfer students who may need to increase the hours should consult with the department chairman. Physical fitness of the student for participating in the physical education program is determined by medical examination. No student is excused from fulfilling the requirement because of physical handicap, but program adjustments are arranged to take care of individual needs. Adaptations in the program may be made after consultation with the Department Head. Uniforms, which are required for activity classes, should be purchased at the Campus Store.

Transfer students who are in residence at Western Michigan University for less than five semesters may have the requirement for general physical education waived only for the semester during which they are participating in student teaching, provided they complete one semester hour of credit in physical education during each of the other semesters they are in attendance at Western Michigan University or satisfy the total requirement of four semester hours.

PHYSICAL EDUCATION MAJOR

A. Course Requirements

1. General Studies Requirements as described on page 20 of the catalog must be met.
2. Biological Science .... 12 hrs.
    General Biology 100 .... 4 hrs.
    Mammalian Anatomy 210 .... 4 hrs.
    Systemic Physiology 217 .... 4 hrs.

Physical Education Required Courses

Foundations 151 (History, Principles, Orientation)	2 hrs.
Community Recreation 276 (Outdoor Education)	2 hrs.
Theory and Practice 180	2 hrs.
Theory and Practice 181	2 hrs.
Elementary and Secondary Physical Education 345	4 hrs.
Theory and Practice 280	2 hrs.
Theory and Practice 281	2 hrs.
Kinesiology 350	3 hrs.
Physiology of Activity 351	3 hrs.
Tests and Measurements 352	2 hrs.
Elementary School Health and Safety Education 342	3 hrs.
Secondary School Health and Safety Education 343	3 hrs.
Theory and Practice 380	2 hrs.
Theory and Practice 381	2 hrs.
Theory and Practice 480, or Theory and Practice 481	2 hrs.
Administration and Organization 561	2 hrs.
Theory and Practice 480, or Methods in Physical Education 544 (elective)	2 hrs.
Philosophy of Physical Education 545 (elective course)	2 hrs.
Health Education 343 (required of all physical education majors, but may be counted toward the minor in health education.)	

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 for Dance Emphasis students and other students who wish to elect it.

Required Courses:

Theory and Practice 180-Beginning Contemporary Dance, Folk Dance, Square Dance	2 hrs.
Theory and Practice 181-Basic Movement Skills, Dance Fundamentals, Beginning and Intermediate Swimming	2 hrs.
Theory and Practice 280-Modern Jazz, Gymnastics, Advanced Driving, WSI, Dance Workshop I	2 hrs.
Theory and Practice 281-Rhythmic Form, Dance Workshop II, Social Dance, SP in Dance	2 hrs.

Theory and Practice 381-Individual Indoor Sports, Creative Rhythms, Dance Workshop III	2 hrs.
Theory and Practice 381-Individual Indoor Sports, Dance in Secondary School, Swimming Methods, Dance Workshop IV	2 hrs.

Additional Courses:

Dance Workshop I (Physical Education 280)	
Dance Workshop II (Physical Education 281)	
Dance Workshop III (Physical Education 380)	
Dance Workshop IV (Physical Education 381)	
Dance History and Philosophy 515 (Elective)	4 hrs.

PHYSICAL EDUCATION MINOR

Required courses:

Methods and Practice in Elementary and Secondary School Physical Education 345	4 hrs.
Community Recreation and Outdoor Education 276	3 hrs.
Elementary School Health and Safety Education 342 or Secondary School Health and Safety Education 343	3 hrs.
Kinesiology 350 (prerequisite Mammalian Anatomy 210)	3 hrs.
Theory and Practice, 3 courses, one of which includes participation experience	6 hrs.

Elective courses:

Test and Measurements in Physical Education 352	2 hrs.
Foundations of Physical Education 151	2 hrs.
Administration and Organization of Phys. Ed. 561	2 hrs.
Methods and Materials in Health Education 514	2 hrs.
Methods in Physical Education 544	2 hrs.
Philosophy of Physical Education 545	2 hrs.
Theory and Practice courses (with advice of counselor) Dance History and Philosophy	4 hrs.

HEALTH EDUCATION MINOR

A minor is offered in health education. Since many courses are undergoing extensive revision in their respective departments, the health education minor will be determined during the 1965-66 school year by consultation with the departmental adviser.

COURSE DESCRIPTIONS

General Physical Education Courses:

100 Personal Physical Education **1 hr. Fall, Winter**

A study of personal physical needs essential to the background of an educated woman. Includes study of posture and mechanics of movement, experimentation in basic motor skills, 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**
104	**Softball and Basketball**	**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**
112	**Intermediate Swimming and Diving**	**1 hr.**	**Fall, Winter**
117	**Tennis and Badminton**	**1 hr.**	**Fall, Winter**
119	**Field Hockey and Volleyball**	**1 hr.**	**Fall, Winter**
121	**Folk Dance 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**
201	**Intermediate Tennis**	**1 hr.**	**Fall**
203	**Intermediate Golf**	**1 hr.**	**Fall**
204	**Creative Rhythms in the Elementary School**	**1 hr.**	**Fall, Winter**
205	**Archery and Recreational Games**	**1 hr.**	**Fall, Winter**
207	**Intermediate Fencing**	**1 hr.**	**Fall, Winter**
208	**Intermediate Gymnastics**	**1 hr.**	**Fall, Winter**
212	**Swimming Advanced and Diving**	**1 hr.**	**Fall, Winter**
213	**Life Saving and Instructors Course**	**1 hr.**	**Fall, Winter**
214	**Synchronized Swimming**	**1 hr.**	**Fall, Winter**
215	**Bowling (Additional Fee)**	**1 hr.**	**Fall, Winter**
223	**Intermediate Contemporary Dance**	**1 hr.**	**Fall, Winter**

340 Physical Education for the Elementary Classroom Teacher **1 hr. Fall, Winter**

This course is required of all persons enrolled in Elementary Education curricula.

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.

Courses giving *academic* credit. (These courses may be used as academic electives but not to satisfy any part of the general physical education requirement.)

150 First Aid 2 hrs. Fall, Winter

342 Elementary School Health and Safety Ed. 3 hrs. Fall, Winter

343 Secondary School Health and Safety Ed. 3 hrs. Fall, Winter

514 Methods and Materials in Health Education 2 hrs.

Prerequisite: 353 or 354 or consent of instructor.

515 Dance History and Philosophy 4 hrs. Winter

Courses intended primarily for physical education majors and minors:

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, Speedball, Speed-a-way, Field Hockey, Softball.

181 Physical Education Theory and Practice 2 hrs. Winter

Basic Motor Skills, Dance Fundamentals, Beginning and Intermediate Swimming.

276 Community Recreation and Outdoor Education 3 hrs. Fall, Winter

280 Theory and Practice 2 hrs. Fall

Track and Field, Gymnastics. Officiating (Hockey—Softball), Archery. Sophomore participation.

281 Physical Education Theory and Practice 2 hrs. Winter

Rhythmic Form and Analysis, Volleyball, Basketball, Social Dance. Sophomore participation. Life Saving and Water Instruction, Advanced and Speed Swimming.

342 Elementary School Health and Safety Education 3 hrs. Fall, Winter

In this course the fundamental scientific principles of healthful living are developed through a study of school health problems. An effort is made to make prospective teachers aware of modern methods and materials useful in helping school children solve their health problems.

343 Secondary School Health and Safety Education 3 hrs. Fall, Winter

This course is similar to course 342 with emphasis on health and problems of the secondary school.

345 Elementary and Secondary School Physical Ed. 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

Study of the laws and principles of mechanics as they apply to the efficient use of the human machine: Includes laboratory practice in the investigation and analysis of human motions experienced in physical education to gain an understanding of the human mechanism and its processes of motor functioning. Prerequisites: 210 Mammalian Anatomy, 217 Systemic Physiology.

351 Physiology of Activity 3 hrs. Winter

Study of the effects of physical activity on the organs and systems of the human body. Includes laboratory experiments which illustrate the principles of the physiological effects of exercise. Prerequisites: 350 Kinesiology, 210 Mammalian Anatomy, 217 Systemic Physiology.

352 Tests and Measurements in Physical Education 2 hrs. Fall

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.

380 Physical Education Theory and Practice 2 hrs. Fall

Tennis, Golf. Dance in the Elementary School. Badminton and methods. Team Sports Methods, Junior participation.

381 Theory and Practice in Physical Education 2 hrs. Winter

Badminton, Officiating (Volleyball, Basketball) Dance in the Secondary School, Swimming Method. Junior participation.

480 Theory and Practice 2 hrs. Fall

Individual study or two electives from Archery, Bowling, Fencing, Modern Jazz, Skiing, Horsemanship, Dance workshop II (only on advice of departmental counselor).

481 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.**

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 **4 hrs. 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.

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.

561 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.

Dance Courses (certain sections of Theory and Practice courses)

Dance Workshop I (Physical Education 280)

A laboratory in analyzing and executing beginning contemporary dance movement.

Dance Workshop II (Physical Education 281)

A laboratory in advanced contemporary dance technique. Choreographic principles will be employed in movement studies.

Dance Workshop III (Physical Education 380)

A laboratory in which costuming, make up, lighting and simple scenery making will be studied and executed.

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.

School of
Liberal Arts and Sciences

GERALD OSBORN,
Dean

CORNELIUS LOEW,
ASSOCIATE DEAN

Departments:

Art
Biology
Chemistry
Economics
English
General Studies
Geography and Geology
History
Language
Mathematics
Music
Philosophy and Religion
Physics
Political Science
Psychology
Sociology and Anthropology
Speech

SCHOOL OF LIBERAL ARTS AND SCIENCES

The School of Liberal Arts and Sciences is composed of five divisions:

General Studies:	Offerings in the areas of English, Natural Sciences, Humanities, and Social Sciences are included in this division.
Fine Arts:	The Departments of Music and Arts are in this division.
Language and Literature:	This division includes the English, Language, Philosophy and Religion, and Speech Departments.
Science and Mathematics:	This division is composed of the following departments: Biology, Chemistry, Geography, Geology, Mathematics, Physics, and Psychology.
Social Science:	The social science division is composed of the following departments: Economics, History, Political Science, Sociology, and Anthropology.

General objective: 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-professional courses.

Degree Curricula

I. LIBERAL ARTS CURRICULUM

B.A. Degree

A. One hundred hours' work in the School of Liberal Arts and Sciences. At least 70 of these hours shall be in the Divisions of General Studies, Language and Literature, Science, Mathematics and Social Science.

B. The regular General Studies requirements.

C. Six (6) hours in each of the three divisions of Science and Mathematics, Language and Literature, and Social Science, and six hours selected from courses in the Division of Fine Arts.

D. Thirty hours of work in 300, 400 and 500 courses.

E. Four hours of intermediate work in a foreign language, or successful completion of a qualifying examination.

F. Six hours of college mathematics (or two years of high school preparation from the following: algebra, geometry, and/or trigonometry).

G. Course in Government.

H. Physical education, four hours, or Military Science, eight hours.

I. Completion of a major, minor 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 work or for a Bachelor's degree without reference to a 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 20 of this Catalog.)	40 hours
B.	Course in Government	3 hours
C.	Physical Education or Military Science	4–8 hours
D.	Liberal Arts courses to complete a major, minor and electives to make a total of 124 hours.	

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.

The hospitals with which Western Michigan University is affiliated are: Borgess Hospital, 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. Course Requirements

1. General Studies requirements as described on page 20 of the catalog must be met.		40 hours
2. Science, Mathematics and Psychology		52 or 53 hrs.
Mathematics 100	4	
Biology 100 and 101	8	
Mammalian Body 210	4	
Animal Physiology 317	4	
Microbiology 412	4	
Advanced Microbiology 513	4	

General Chemistry 100 or 102	5 or 4	
Freshman Qual. 120	4	
Organic 265	4	
Quant. Analysis 222	4	
Biochemistry 553	4	
Physics 110	4	
3. Social Sciences		3 hrs.
American Government	3	
4. Medical Technology 432		30 hrs.
5. Physical Education or Military Science		4–8 hrs.
B. Degree requirements must be met.		
C. Total hours required for this curriculum		124 hrs.

APPLIED MUSIC CURRICULUM

INSTRUMENTAL-VOCAL

Bachelor of Music Degree

A. Course Requirements

		S.H.
1. General Studies requirements, as described on page 20 of this catalog must be met		40
2. Applied Music		
Major Performance Area	24	
Secondary Performance Area	6	
	—	
		30
3. Music History and Literature		
Music Literature 270	2	
Music History and Literature 370, 371	6	
Ensemble	8	
	—	
		16
4. Music Theory		
Music 160, 161, 260, 261	14	
Conducting 330 or 331	2	
Music 360	2	
Upper Division Theory Electives	4	
	—	
		22
5. Physical Education or Military Science		4–8
6. Electives		12

B. Degree Requirements must be met (see Music Supplement Catalog for details).

C. Total hours required for this Curriculum		124

MUSIC COMPOSITION-THEORY CURRICULUM

Bachelor of Music Degree

		S.H.
A. Course Requirements		
1. General Studies requirements, as described on page 20 of this catalog must be met		40
2. Applied Music		
Major Performance Area	16	
Secondary Performance Area	10	
Ensemble	8	
	—	
		34
3. Music History and Literature		
Music Literature 270	2	
Music History and Literature 370, 371	6	
	—	
		8
4. Music Theory		
Music 160, 161, 260, 261, 360	16	
Analysis Electives	4	
Music 362, 363, 562, 563, 560, 561, 567, 568	16	
Conducting 330 or 331	2	
	—	
		38
5. Physical Education or Military Science		4–8
B. Degree Requirements must be met (see Music Supplement Catalog for details).		
C. Total hours required for this Curriculum		124

MUSIC THERAPY CURRICULUM

Bachelor of Music Degree

A. Course Requirements

			S.H.
1.	General Studies requirements, as described on page 20 of this catalog must be met		40
2.	Applied Music		
	Major Performance Areas	16	
	Secondary Performance Areas	6	
			22
3.	Music History and Literature		
	Music Literature 270	2	
	Music History and Literature 370, 371	6	
			8
4.	Music Theory		
	Music 160, 161, 260, 261, 360	16	
	Music 330 or 331	2	
			18
5.	Physical Education or Military Science		4–8
6.	Psychology		
	Music 643	2	
	To include General Psychology, Adolescent Psychology, Abnormal Psychology	8	
			10
7.	Social Science To include Principles of Sociology		8
8.	Music Therapy Music 290, 281, 382, 383, 480, 380, 580 To include Psychiatric Theory		20

B. Degree Requirements must be met (see Music Supplement Catalog for details).

C.	Total hours required for this Curriculum	130

INTERNSHIP REQUIREMENT

A minimum of six months' clinical training through resident internship in an approved neuropsychiatric hospital with an established music program is required. Students planning to work with mentally defective or handicapped children should spend two months of this internship in an appropriate institution. This is Music Therapy Internship 580, 6 S.H. credit.

SOCIAL WORK CURRICULUM

A.B. or B.S. Degree, with Certificate in Social Work

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 pre-professional 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 training 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 towards 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.		Course Requirements	
1.		General Studies requirements as described on page 20 of the catalog must be met.	**40 hours**
2.		Language and Literature, Speech and Philosophy and Religion	**0 hours**
3.		Science, Mathematics and Psychology	**3–6 hours**
	200	General Psychology	3
	220	Psychology of Personality **OR**	3
	250	Human Development and Learning (Education)	4
4.		Social Sciences	**39–44 hours**
	200	American Government	3
	200	Principles of Economics	5
	200	Principles of Sociology	4
	210	Modern Social Problems	3
	220	Social Psychology	3
	260	Fields of Social Work	3
	582	Introduction to Social Research **OR**	3
	580	Introduction to Social Statistics	
	364	Public Welfare **OR**	3
	368	Community Welfare Organization	2
	560	Principles of Social Work	3
	362	Family and Child Adjustment	3
	462	Orientation to Field Work	2
	463	Supervised Field Work	3
		Sociology and Anthropology electives (300 or over) selected with advice and approval of adviser	14
		Electives	25–24
5.		Physical Education or Military Science	**4–8 hours**
B.		Total hours required for this curriculum	**124 hours**

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. 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.

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 Philosophy and Religion.

		S.H.
A.	Course Requirements	
	1. General Studies requirements, as described on page 20 of this catalog must be met.	40
	2. Foreign Language 4 semesters of German, French, Latin, or Greek	16
	3. Religion Religion 201, 220, 310, and 311	13
	4. Philosophy Philosophy 200, 360, 361	10
	5. Political Science 200	3
	6. Physical Education or Military Science	4–8
	7. Remaining hours Electives	38
B.	Degree Requirements must be met	
C.	Total hours required for this Curriculum	124

III. PRE-PROFESSIONAL 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 pre-professional training. It should be noted, however, that the courses outlined are only suggested plans to illustrate in general the kinds of programs that pre-professional 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 see to it that the specific requirements of a particular school will have been 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 pre-dental 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	8
Chemistry 100 or 102, 120	8 or 9
Man and Society 202	8
Introd. to the Non-Western World, 304 (4 hours)	
Phys. Ed. or R.O.T.C.	2–4
Trig. (If none in high school)	3

Second Year	S.H.
Physics 110, 111	8
Organic Chem. 360, 361	8
Phys. Ed. or Military Science	2–4
Language or Arts and Ideas 222	6–8
Electives	4

Third Year	S.H.
Comparative Chordate Anatomy 342	4
Vertebrate Embryology 343	4
Genetics 306	4
Psychology	6
Electives (complete minors)	13
	100

ENGINEERING

For All Engineering Curricula

First Year	S.H.		
Freshman Reading 140	2	Gen. Chem. 100 or 102, 120 or 109	8 or 9
College Writing 116	4	Engineering Drwg. 230	3
Mathematics I 122	4	Descriptive Geometry 231	3
Mathematics II 123	4	Phys. Ed.	1
		Electives	0–3

Chemical and Metallurgical

Second Year	S.H.	Third Year	S.H.
Physics 210, 211, 212	12	Prin. of Economics 200 and	5
Eng. Materials 210	3	Accounting 210	3
Quant. Anal. 222	4	Organic Chemistry 360, 361	8
Mathematics III 222	4	General Speech 100	3
Mathematics IV 223	4	American Government 200	3
Phys. Ed.	1	Labor Problems 510 or Industrial Sociology 575	3
Electives	4	Arts and Ideas 222	4
		Electives	2

Aeronautical, Civil, Electrical, Marine, and Mechanical

Second Year	S.H.	Third Year	S.H.
Physics 210, 211, 212	12	Prin. of Economics 200	5
Eng. Materials 210	3	Differential Equations 500	3
Mathematics III 222	4	or Geology 230, 231	8
Mathematics IV 223	4	Labor Problems 510	3
General Speech 100	3	American Government 200	3
Phys. Ed.	1	Arts and Ideas 222	4
Electives	4	Electives	4–6

FORESTRY

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 102, 109	8 or 9
College Writing 116	4	Botany of Seed Plants 220	4
General Biology 100, 101	8	Plant Kingdom 221	4
Math.	6, 8 or 10	Social Science (Elect.)	8
Agronomy 220, 221	6	Soils 320	3
Phys. Ed. or R.O.T.C.	2 or 4	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.	Second Year	S.H.
College Writing 116	4	Geology 230	4
Freshman Reading 140	2	Physics 210	5
Gen. Chem. 100 or 102, 109	8 or 9	Agronomy 220	3
Western Civil. 100, 101 or Man & Soc. 202 or Introd. to Non-West. World 304	8	Economics 200	5
General Biology 100, 101	8	Plant Morphology 322	4
Alg. and Trig. 10	4	Plant Pathology 529	4
		Electives	4

JOURNALISM

A. Course Requirements:

1. General Studies requirements as described on page 20 of the catalog must be met. 40 hrs.
2. Language & Literature, Speech, and Philosophy & Religion:
   Speech 100 .... 3 hrs.
   English 264, Journalism .... 4 hrs.
   Speech 342, Radio and TV Journalism .... 4 hrs. 11 hrs.
3. Social Sciences:
   History 210, 211, U. S. History .... 6 hrs.
4. Physical Education or Military Science .... 4–8 hrs.

B. Degree requirements: This program is a two-year, pre-professional 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.

C. Total hours required for this curriculum .... 64 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 pre-legal education, if he specifies pre-law 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 pre-law 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 pre-professional curriculum in librarianship is outlined in this bulletin under the Graduate School on page 331.

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 pre-medical 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 pre-medical work will assist the student in planning his course of study. They should get in touch with the chairman of Western Michigan University's Pre-Medical Advisory Committee by the end of their freshman year.

The following program will in most instances satisfy medical school requirements:

First Year	S.H.	Second Year	S.H.
Freshman Reading 140	2	Quantitive Analysis 222	4
College Writing 116	4	Physics 110, 111	8
Biology 100, 101	8	Man and Society 202, Introd. to Non-Western World, 304 (4 hours)	8
Chemistry 100 or 102, 120	8 or 9		
Language	8		
Phys. Ed. 104, 105, or Military Science	2–4	Phys. Ed. 204, 205 or Military Science	2–4
Trig. (If none in high school)	3		

Third Year	S.H.	Fourth Year	S.H.
Comparative Anatomy 342	4	If four-year pre-med 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: Genetics 306 Histology 413 Parasites and Parasitism 503 Animal Physiology 317 Invertebrate zoology 341	
Organic Chemistry 360, 361	8		
Electives in Social Science	4		
Embryology 413	4		

MORTUARY SCIENCE

The first two years of a three-year program in Mortuary Science are called the pre-professional 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 Mortuar Science requires comletion of certain group requirements which the student should check thoroughly.

Suggested First Year	S.H.		S.H.
Freshman Reading 140	2	Biology 100	4
College Writing 116	4	Small Bus. Mgmt.	3
Chem. 100 or 102, 120	8 or 9	Phys. Ed.	2
Man and Society 202 or Western Civil. 100, 101 or Non-West. World 104 (4 hours)	8		

NURSING

Pre-professional 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 pre-nursing counselor, to meet the admission requirements of the school they wish to attend.

A typical one-year pre-professional required program:

	S.H.		S.H.
College Writing 116	4	Psychology 200	3
Freshman Reading 140	2	Social Science	8
Chemistry 100 or 102, 109	8 or 9	Sociology 200	3
Biology 100, 101	8	Phys. Education	Each sem.

Bronson Methodist Hospital School of Nursing students receive pre-clinical 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 pre-pharmacy course of study at Western Michigan consists of one year's work.

First Year	S.H.		S.H.
Freshman Reading 140	2	Electives (Speech 100 is recommended)	2 or 4
College Writing 116	4	Phys. Ed. or Military Science	2 or 4
Chemistry 100 or 102, 109	8 or 9		
Biology 100, 101	8		
Math. (If trig. was not taken in high school)	3 or 4		

DESCRIPTION OF COURSES

FOREIGN STUDIES SEMINAR

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 Economics, Geography, History, Political Science or Sociology if the credit is approved by the head of the department prior to registering for the seminar.

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 and Religion, Languages, English, Art, Music or Speech if the credit is approved by the Head of the Department prior to registering for the seminar.

DIVISION OF GENERAL STUDIES

Robert M. Limpus, Director

The Division of General Studies is responsible for establishing and administering the program of General Education for Western Michigan University.

Each student should take College Writing 116 and Freshman Reading 140 in his freshman year. It is recommended that the student's program for the freshman year should also include Western Civilization 100 or 101 and at least part of the requirement in science. Arts and Ideas 222 and the courses in social science are recommended for the sophomore year.

At the Junior-Senior level the student must take Introduction to the Non-Western World 304 or an approved alternative. He must also take at least one course from the list of General Studies upper-class electives. (See page 20 of this Catalog.)

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.

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

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. Students may present either this course or General Studies 105 toward their science requirements, but not both.

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.

118 English as a Second Language 6 hrs. Fall, Winter

A course in English as a second language for foreign students, including students on Permanent Residence Status coming from countries to which English is not indigenous.

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.

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 General Studies 203 and 204.

203 The Social Bases of Human Behavior 4 hrs. Fall, Winter

An analysis of the behavioral sciences and their contributions to the understanding of human personality, the interaction between persons in groups, and the understanding of social institutions and cultures. Not open to students who have taken General Studies 202.

204 Institutions and Ideologies 4 hrs. Fall, Winter

An introduction to the institutions and forces shaping contemporary society, emphasizing major economic and political institutions and ideological factors. Not open to students who have taken General Studies 202.

222 Arts and Ideas **4 hrs. Fall, Winter**

This course explores the relation between form and content or structure and theme in the arts, with a concern to helping the student perceive and examine human values.

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.

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.

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.

403 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.

404 Conceptual Foundations of Business **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. Illustrative topics: Authority and Power, Pluralism, Competition, Freedom of Association, Innovation, Social Responsibility.

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.

DIVISION OF FINE ARTS

Elwyn F. Carter, Chairman

The Division includes the Departments of Art and Music. The heads of the departments and the departmental counselors will advise students relative to requirements for majors or minors in these departments and concerning any special requirements set up by the departments. In certain cases, where a group major or minor is possible and advisable, the chairman of the Division should be consulted.

Art

Harry S. Hefner, Head
Stanley K. S. Phillips, Administrative Asst.

Triantafilos D. Argyropoulos
Robert H. Engstrom
David P. Grath
Gordon J. Grinwis
Marc Hansen
Carole Harrison
Jon M. Henderson
John G. Kemper
John M. Metheany
Helmi Moulton
Barbara Rensenhouse
Louis B. M. Rizzolo
Paul A. Robbert
M. Elizabeth Smutz

The Art Department 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, color, appreciation and art history and an opportunity for depth in study of painting, sculpture, ceramics, printmaking, painting, or one of the craft areas. Or a student may select a Major in Secondary Art Education (60 credit hours) which will provide the same art background, qualify him for teaching or supervising 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.

110 Drawing
111 Drawing
114 Design
115 Design
120 Art Survey
121 Art Survey

Group II: Courses required of all Art Education Majors (Secondary).

210 Life Drawing
220 Art History
221 Art History
232 Ceramics and Sculpture
234 Textiles & Handcrafts
236 Jewelry & Studio Equipment
240 Intro. to Painting
242 Printmaking
245 Graphic Design
252 Art Education (Majors)
315 Design
320 Seminar in Art
525 Seminar in Art
550 Art Supervision (Elementary)
551 Art Supervision (Secondary)

Group III: Electives and Advanced courses from which a student may select courses to complete a major or minor requirement.

150 Art Education Workshop (El.)
224 Comparative Arts
300 Independent Study
310 Life Drawing
330 Ceramics
331 Sculpture
332 Handcrafts
334 Textiles
338 Jewelry
340 Oil Painting
341 Printmaking
342 Watercolor Painting
345 Graphic Design
400 Independent Study
510 Life Drawing
520 Art History
530 Ceramics
531 Sculpture
533 Textiles
538 Jewelry
540 Oil Painting
541 Printmaking
542 Watercolor Painting
545 Graphic Design

Course requirements for the Art Majors:

The General Curriculum Major in Art (Fine), with 60 credit hours in art, consists of all courses in Group I (above); the following courses from Group II; 320, 220, 221, 520, 525; and electives from Group 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, in addition to all courses in Group I, the following: 220, 221, 210, 245, 234, 236, 232, 242, 252, 315, 320, 240, 525, 550, 551, and 11 credits of art electives from Groups II and 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) leading to an Elementary Certificate, consists of: Group I (above); the following courses in Group II; 320, 234, 236, 242, 245, 232, 240, 332, and 550; and 150 from Group III. In addition he is expected to plan for an exhibit of his work during the senior year.

Course requirements for the Art Minors:

The General Curriculum Minor in Art (Fine) 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.

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.

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, 150, 220, 221, and 224.

GUIDE FOR
GENERAL CURRICULUM MAJOR IN ART (60 Hrs.)

FIRST YEAR

Fall	S.H.	Winter	S.H.
College Writing	4	Independent Reading	2
Early Western Civilization or Mod. West. Civil.	4	Man & Society	4
Phys. Ed. or R.O.T.C.	1–2	Phys. Ed. or R.O.T.C.	1–2
110 Drawing	2	320 Seminar in Art	1
114 Design	2	111 Drawing	2
120 Art Survey	2	115 Design	2
		121 Art Survey	2
	15–16		14–15

SECOND YEAR

Fall	S.H.	Winter	S.H.
Science	4	Science	4
American Government	3	Arts & Ideas	4
Phys. Ed. or R.O.T.C.	1–2	Phys. Ed. or R.O.T.C.	1–2
220 History of Art	3	221 History of Art	3
Art Electives	4–5	Art Electives	3–4
	16–17		16–17

THIRD YEAR

Fall	S.H.	Winter	S.H.
Non-Western World	4	Interdisciplinary Course	4
520 History of Art	3	Art Electives	12–13
525 Seminar in Art	1		
Art Electives	8–9		16–17
	16–17		

FOURTH YEAR

Fall	S.H.	Winter	S.H.
Non-Professional Courses	6	Art Electives (to total a minimum of 60 credit hrs.)	
Art Electives	10–11		
	16–17		16–17

Total Non-Art Credits	51
Total Art Credits	60
Electives, (Art & Non-Art.)	12 or more
Grand Total	123–133

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*A student may complete this course of study by attending 8 of the regular 15 week semesters. However, it may be extended or expedited by attending one or more of the spring or summer sessions.

CURRICULUM GUIDE FOR THE SECONDARY EDUCATION MAJOR IN ART (60 Hrs. K-12)

FIRST YEAR

Fall	S.H.	Winter	S.H.
College Writing	4	Independent Reading	2
Early Western Civilization or Modern West. Civil.	4	Man & Society	4
Phys. Ed. or R.O.T.C.	1–2	Phys. Ed. or R.O.T.C.	1–2
110 Drawing	2	111 Drawing	2
114 Design	2	115 Design	2
120 Art Survey	2	121 Art Survey	2
320 Seminar in Art	1	220 Art History	3
	16–17		16–17

SECOND YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Science	4	Science	4
Arts & Ideas	4	Human Growth & Development	3
Phys. Ed. or R.O.T.C.	1–2	Phys. Ed. or R.O.T.C.	1–2
210 Life Drawing	2	236 Jewelry and Studio Equipment	4
221 Art History	3	234 Textiles & Handcrafts	4
245 Graphic Design	2	525 Seminar in Art	1
	16–17		17–18

THIRD YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Non-Western World	4	Inter-Disciplinary Course	4
American Government	3	Intro. to Dir. Teaching	3
232 Ceramics and Sculpture	4	240 Intro. to Painting	4
550 Art Supervision (El.)	2	242 Printmaking	2
252 Art Education	3	551 Art Supervision (Sec.)	2
	16		17

FOURTH YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Non-Professional Courses	6	Directed Teaching	15
Art Electives	11		
	17		15

Total Non-Art Credits	68– 72
Total Art Credits	60
Grand Total	128–132

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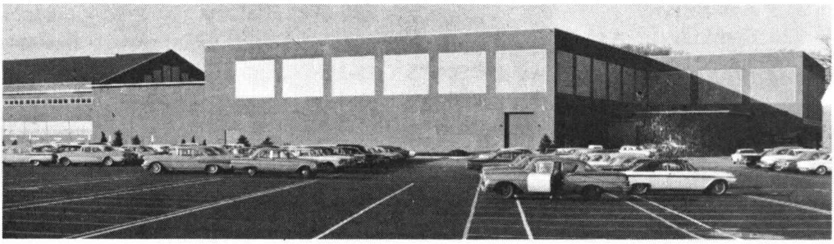
*A student may complete this course of study by attending 8 of the regular 15 week semesters. However, it may be extended or expedited by attending one or more of the spring or summer sessions.



CURRICULUM GUIDE FOR ELEMENTARY EDUCATION MAJOR IN ART (40 Hrs. K-8)

FIRST YEAR

Fall	**S.H.**	**Winter**	**S.H.**
College Writing	4	Independent Reading	2
Early West. Civilization or		Man & Society	4
Modern Western Civil.	4	Music for Classroom Tchr.	3
Phys. Ed. or R.O.T.C.	1–2	Phys. Ed. or R.O.T.C.	1–2
110 Drawing	2	111 Drawing	2
114 Design	2	115 Design	2
120 Art Survey	2	121 Art Survey	2
	15–16		16–17

SECOND YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Science	4	Science	4
Arts & Ideas	4	Structure of Arithmatic	4
Human Growth & Development	3	Children's Literature	3
American Government	3	Phys. Ed. or R.O.T.C.	1–2
Phys. Ed. or R.O.T.C.	1–2	236 Intro. to Jewelry and	
320 Seminar in Art	1	Studio Equipment	4
	16–17		16–17

THIRD YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Science	4	Non-Western World	4
Teaching of Reading	3	Inter-Disciplinary Course	4
Practical Arts	3	Intro. to Directed Teaching	3
150 Art Education Workshop	3	242 Printmaking	2
234 Intro. Textiles & Handcrafts	4	245 Graphic Design	2
		550 Art Supervision (El.)	2
	17		17

FOURTH YEAR

Fall	**S.H.**	**Winter**	**S.H.**
Non-Professional Courses	6	Directed Teaching	15
232 Intro. to Ceramics & Sculpture	4		—
332 Handcrafts	3		15
240 Intro. to Painting	4		
	—		
	17		

Total Non-Art Credits	88– 92
Total Art Credits	40
Grand Total	128–132

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*A student may complete this course of study by attending 8 of the regular 15 week semesters. However, it may be extended or expedited by attending one or more of the short spring or summer sessions.

CURRICULUM REQUIREMENTS FOR A MINOR IN ART (FINE) 1965-66

Group I	**S.H.**	**Plus**	**S.H.**
110 Drawing	2	150 Art Education Workshop	3
111 Drawing	2	Electives from Group II or III	9
114 Design	2		—
115 Design	2	Total Credits	24
120 Art Survey	2		
121 Art Survey	2		
	—		
	12		

CURRICULUM REQUIREMENTS FOR A MINOR IN ART (FINE) 1965-66

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		
121 Art Survey	2	Electives from Group II and III	10
	—		—
	12	Total Credits	24

ART DEPARTMENT

Complete list of courses, prerequisites, and course descriptions. (All courses to be offered fall and winter terms).

110 Drawing **2 hrs.**

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.**

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.**

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.**

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.**

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.**

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.

150 Art Education Workshop **3 hrs.**

A course specifically designed for the Elementary Education Major who will be using art as a class-room teacher. Content directed toward concepts and methodology in art education when considering the creative and mental growth of children. Application of theory by means of many art projects. Prerequisite: None.

200 The Creative Process through Art **4 hrs.**

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.**

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. Prerequisites: Basic, Group I: Art 110, 111, 114, 115, 120, 121.

220 History of Art **3 hrs.**

An historical survey of art from pre-historic ages to the Renaissance. Prerequisite: None.

221 History of Art **3 hrs.**

An historical survey of art from the Renaissance through the contemporary period. Prerequisite: None.

224 Comparative Arts **2 (4) hrs.**

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.

232 Introduction to Ceramics and Sculpture **4 hrs.**

A course leading to the understanding of sculptural and pottery form and conception. Half of the course will explore sculptural media and techniques, the other half will be devoted to a survey of pottery processes including handbuilding, technical information, and a limited experience with the potter's wheel. Prerequisite: Basic Group I. Team teaching: half term in each area.

234 Introduction to Textiles and Handcrafts **4 hrs.**

Introductory survey in textiles to include weaving, stitchery, block printing, stencilling, tie and dye, and batik. Half the term devoted to handcrafts which include enameling, wood, metal, glass, plaster and the use of pertinent equipment and tools. Prerequisite: Basic Group I. Team teaching: half term in each area.

236 Introduction to Jewelry and Studio Equipment **4 hrs.**

A survey of jewelry processes to include cutting, soldering, casting, stonecutting, and the use of appropriate equipment. Half of the term devoted to proper use and care of shop equipment to include hand and power tools for woods and metals. Application by means of small projects. Prerequisite: Basic Group I. Team teaching: half term in each area.

240 Introduction to Painting **4 hrs.**

(Oil and Watercolor)

A survey of the application, techniques, and limitations of the two painting media. Prerequisites: Basic Group I, and Art 210, or 210 to be taken along with 240. Half of the term will be devoted to each area.

242 Printmaking **2 hrs.**

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 taken concurrently.

245 Graphic Design **2 hrs.**

Survey and practical application of traditional and contemporary letter forms. Prerequisites: Basic Group I, and Art 210, or 210 taken concurrently.

252 Art Education (Majors) **3 hrs.**

An introduction to experimentation wtih drawing, painting, color, and construction as experience for teaching art at all levels or grades. The course stresses methodology and philosophy which can lead to meaningful creative and mental growth of children through art. Prerequisites: Basic Group I.

300 Independent Study **1–4 hrs.**

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.**

Advanced work in the exploitation of life drawing as a form of art capable of expressing humanistic values. Prerequisites: Basic Group I, and Art 210.

315 Design **3 hrs.**

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.**

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. Prerequisites: None (Art majors and minors only).

330 Ceramics **3 hrs.**

Continuation of 232 with opportunity for concentration in the medium. Prerequisites: Basic Group I, and Art 232.

331 Sculpture **3 hrs.**

Continuation of 232 Sculpture with opportunity for specialization in a material of special interest. Prerequisites: Basic Group I, and Art 232, 210.

332 Handcraft **3 hrs.**

An advanced class in hand-craft which allows for individuals to concentrate in a material beyond the introductory survey. Prerequisite: Basic Group I, and Art 236, 234.

334 Textiles **3 hrs.**

Advanced work in textile design allowing for specialization with a material or technique surveyed in 234. Prerequisites: Group I and Art 234.

338 Jewelry **3 hrs.**

Advanced work in the jewelry processes. Prerequisites: Basic Group I and Art 236.

340 Oil Painting **3 hrs.**

Advanced work in the medium of oil. Prerequisites: Basic Group I and Art 210, 310, 240.

341 Printmaking **3 hrs.**

A continuation of printmaking (242) exploring the possibilities of one of the printing media in a more thorough manner. Prerequisites: Basic Group I and Art 242, 210, 310.

342 Watercolor **3 hrs.**

Advanced problems in watercolor techniques to include composition. Prerequisites: Basic Group I, and Art 240.

345 Graphic Design **3 hrs.**

Two dimensional visual communication. Commercial art techniques and graphic processes. Prerequisites: Basic Group I, and Art 245.

400 Independent Study **1–4 hrs.**

An opportunity for qualified upperclassmen to elect an area of special interest in which to study an art medium or area in depth.

510 Life Drawing **3 hrs.**

Continuation of Art 310 with emphasis on the final drawing as a complete and coherent artistic statement. Prerequisites: Basic Group I, and Art 310.

520 History of Art **3 hrs.**

The study of American Art beginning with the Pre-Columbian period. Prerequisites: Art 220, 221.

525 Seminar in Art **1 hr.**

(Art Majors and Minors only)

A seminar primarily in Art Philosophy and History with opportunity for research and debate.

530 Advanced Ceramics **3 hrs.**

Advanced work in Ceramics including glaze calculations and experimentation. Prerequisites: Basic Group I, and Art 232, 320.

531 Sculpture **3 hrs.**

Advanced work in Sculpture. Prerequisites: Basic Group I, Art 310, 331.

533 Textiles **3 hrs.**

Continuation of 344 with advanced work in textile design. Prerequisites: Basic Group I, and Art 234, 334.

538 Jewelry **3 hrs.**

Continuation of 338: advanced work in jewelry processes. Prerequisites: Basic Group I, and Art 236, 338.

540 Oil Paintings **3 hrs.**

Advanced oil painting. Prerequisites: Basic Group I, and Art 210, 310, 240, 340.

541 Printmaking **3 hrs.**

A continuation of printmaking, 341. Prerequisites: Basic Group I, and Art 210, 310, 242, 510, 341.

542 Watercolor **3 hrs.**

Continuation of advanced watercolor techniques with emphasis on experimentation. Prerequisites: Basic Group I, and Art 240, 342.

545 Graphic Design **3 hrs.**

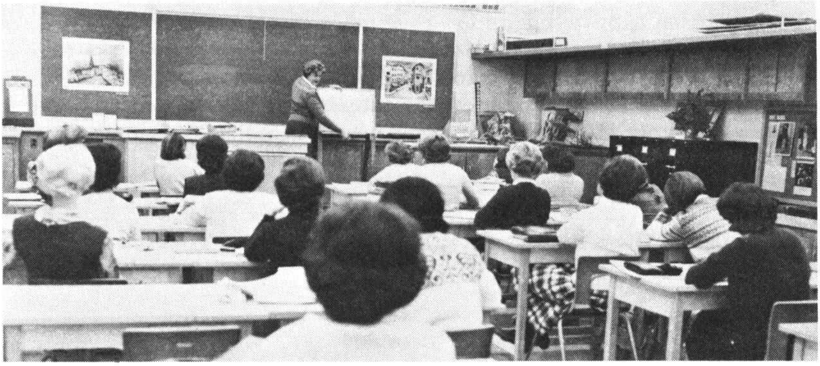
A survey of visual communication from two dimensional to three dimensional forms. E.g., editorial design, packaging, point of sale, exhibition design.) Prerequisites: Basic Group I, and Art 245, 345.

550 Art Supervision (Elementary) **2 hrs.**

Designed to prepare elementary art education majors to realistically meet such responsibilities as working with elementary classroom teachers, selecting, organizing and teaching art activities at each stage of development.

551 Art Supervision (Secondary) **2 hrs.**

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.



Music

Elwyn F. Carter, Head

Ethel G. Adams
Sam B. Adams
Elmer R. Beloof
Margaret F. Beloof
Owen L. Berger
Russell W. Brown
Donald Bullock
Herbert Butler
Robert M. Davidson
Marcella Faustman
Robert R. Fink
Jack J. Frey
Tom R. Fulton
Alice Gernant
Willard Hahnenberg
Thomas C. Hardie
James Hause
William Heiles
Robert Humiston
Lambert Kroon
Daniel A. Kyser
Holon Matthews
Leonard V. Meretta
Charles E. Osborne
Olive G. Parkes
A. Boggs Ryan
Julius Stulberg
Burt Szabo
Joseph T. Work
Joyce Zastrow

The Department offers courses leading to the Bachelor of Music and Bachelor of Arts degrees. The Bachelor of Arts degree is defined on page 186 as to both purposes and requirements. The Bachelor of Music degree is different in that it is highly professional in its requirement aims and permits the student to do much more of his work in the field of music. Detailed information relative to the Bachelor of Music degree may be procured by writing for the Music Supplement Catalog.

Those students who want both elementary and secondary teaching certification in music should work for the B.M. 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 Arts degree. Such music majors must complete 16 hours of Applied Music (through level 6 in their major performance field); Theory 160, 161; Theory 260, 261; Music History and Literature 370, 371; Analysis of Basic Forms 360; and one semester of an advanced theory or music literature course.

Minors in music seeking certification must complete Music Theory 160, 161, 6 s.h.; General Music Methods 240, 3 s.h.; Music Methods Elective, 2 s.h.; Piano Classes 120, 121, 2 s.h.; Conducting 330 or 331, 2 s.h.; Music Elective, except ensembles), 5 s.h.

Those students not seeking Teaching Certification who wish to minor in music should arrange their minor requirements with the Head of the Music Department.

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 full-time (12 s.h.) undergraduate B.M. degree candidates must attend thirty (30) recitals and/or concerts sponsored by WMU each year. B.S.

degree candidates with music major must attend fifteen (15). If the student's recital attendance record is satisfactory, he will be excused during his senior year. In the case of the senior student who has failed to meet the yearly attendance requirements, the cumulative deficiency of the three-year period must be made up in the senior year. Exception to these regulations may not be made except by petition in advance to the faculty.

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 National Association.

MUSIC COURSES

120 Piano Class **1 hr. Fall**

A course designed for students with little or no background in piano. Opportunity is provided for some individual instruction. Recommended to piano majors to gain a knowledge of piano class procedure and to elementary education majors.

121 Piano Class **1 hr. Winter**

A continuation of 120.

122 Voice Class **1 hr. Fall, Winter**

This course deals with the fundamental processes of breath control and tone production as a class, 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. "Tune-a-Day," Herfurth. Solos from "Miniature Concert Series," by Goldman. For instrumental majors.

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. The study of a limited repertoire for these instruments. For instrumental majors.

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 instrumental majors.

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 on that instrument. The study of a limited repertoire for these instruments. For instrumental majors.

128 Violin Class **1 hr.**

An introduction to string instrument techniques and how they may be taught. Designed for voice and piano majors.

129 String Class **2 hrs.**

A thorough examination of all stringed instrument performance, pedagogy, materials, methods and maintenance. For the non-string major.

130 Percussion Class **1 hr. Fall, Winter**

A survey of the requirements for a percussion player. The student is required to play in an acceptable manner at least one percussion instrument and to demonstrate a working knowledge of three others.

131 English and Italian Diction and Song Literature **1 hr.**

Required of all students whose field of concentration is voice. English and Italian diction and song literature are studied as a class, and opportunity is provided for solo performance.

140 Music for Classroom Teachers **4 hrs. Fall, Winter**

Designed for the elementary classroom teacher without regard to previous musical training. The student is prepared to use music functionally and developmentally in the elementary classroom through singing, playing the piano and informal instruments, and responding to music rhythmically. Creative aspects and values of music are emphasized and materials are studied in relation to future use in the classroom.

Students who need special help in singing are required to enroll in one of the sections of M-141, Vocal Clinic for Non-Singers.

141 Vocal Clinic for Non-Singers **No credit. Fall, Winter**

Students are taught to sing through the development of pitch and breath control.

160 Music Theory **3 hrs. Fall**

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.

161 Music Theory **3 hrs. Winter**

A continuation of Music 160. Prerequisite: 160.

170 Music Appreciation **4 hrs. Fall, Winter**

This introductory course, designed to cover significant musical repertoire of the western world, stresses fundamental knowledge 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.**

Fundamentals of attack; breath control; formation of the embouchure. "Method for the Cornet," Beeler. Solos from "Miniature Concert Series" by Goldman. "Tri-Form Folio," Schaefer. For vocal and string majors.

226 Clarinet Class **1 hr.**

Fundamentals of attack; breath control; formation of the embouchure. "The Study of the Clarinet," Stubbins. Selected solos. For vocal and string majors.

228 String Class **1 hr.**

A specialized course for the string major presenting the techniques and materials of the stringed instruments other than his major. Students take two semesters and attend the pedagogy lectures given in String Class 129.

229 String Class **1 hr.**

A continuation of 228.

231 French Diction and Song Literature **1 hr.**

Required of all students whose field of concentration is voice. French diction and song literature are studied as a class, and opportunity is provided for solo performance.

232 German Diction and Song Literature **1 hr.**

Required of all students whose field of concentration is voice. German diction and song literature are studied as a class, and opportunity is provided for solo performance.

233 Major Performance Literature **1 hr.**

Required of applied music (except voice) majors for last two years. Literature for the major performance instrument is studied as a class, and opportunity is provided for solo performance. (This course may be repeated for credit not to exceed a total of four semester hours.)

Piano majors in the music education curriculum are required to take Piano Literature 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.

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.

260 Music Theory **4 hrs. Fall**

A continuation of Music 161 on a more advanced level of study. Prerequisite: 161.

261 Music Theory **4 hrs. Winter**

A study of the structure and function of chromatic harmony. Prerequisite: Music 260.

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.

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. Prerequisite: Psychology 200.

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 group singing and other group music activities.

291 Functional Piano for Pianists **1 hr.**

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.

322 Vocal Pedagogy **2 hrs.**

A course designed to acquaint the voice major with the physiology and the 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 tone quality. The study and selection of literature is included.

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.**

A study of the place of music in the education of adolescent youth. Such technical problems as the changing voice, voice testing, vocal ensembles, and evaluation of suitable ensemble materials will be considered. Administrative matters such as library organization, budget construction, schedule development, and the maintenance of desirable attitudes among the general student body toward singing and the singing groups.

341 Vocal Methods and Materials for the Senior High School **2 hrs.**

A continuation of the Junior High course (340) at the Senior High level with emphasis upon materials for high school ensembles. Maintenance of desirable attitudes among parents and the general public will be considered.

342 Organization and Administration of Church Choral Groups **1 hr.**

A course designed for vocal teachers who will be involved in the directing of a church choir or choirs. A short history and philosophy of church music and an extensive survey of church music literature.

343 Methods and Music for Teaching String Instruments **2 hrs.**

Introduction to materials and music for string choir and full orchestra. Emphasis will be on the evaluation and selection of suitable materials for the junior and senior high levels. Students will have an opportunity to conduct, rehearse, and analyze the materials studied.

344 Methods and Music for Teaching Band Instruments **2 hrs.**

Introduction to materials and music for band. Emphasis will be on the evaluation and selection of suitable materials for the junior and senior high levels. Students will have an opportunity to conduct, rehearse, and analyze the materials studied.

345 Administration of the Instrumental Music Program **2 hrs.**

An introduction to the organizational facets of an instrumental music program, to include such topics as historical and philosophical considerations, public relations, contest and festival, public performance, music rooms and equipment, library, library and uniform inventory, recruiting and testing, and scheduling.

346 Marching Band Techniques **2 hrs.**

An introduction to the techniques and administrative problems peculiar to the school marching band. Marching techniques, show design, selection of music, and rehearsal techniques are topics to be included.

347 Music in the Humanities in Secondary Schools **2 hrs.**

This course attempts to prepare the music student to take an intelligent knowledgeable part in the Humanities in Secondary Schools. The student learns to participate in setting the goals, content, and techniques for the Humanities program.

360 Analysis of Basic Forms **2 hrs.**

An analytical study of music in the smaller forms. Prerequisite: 260.

361 Analysis of Instrumental Forms **2 hrs.**

A continuation of Music 360 with special emphasis on the larger forms of the sonata, symphony, quartet, concerto, etc. Prerequisite: 360.

362 Composition **2 hrs. Fall**

Original work in composition, starting with the smaller forms in both the vocal and instrumental fields. Prerequisite: 260-261.

363 Composition **2 hrs. Winter**

A continuation of 362.

364 Analysis of Vocal Forms **2 hrs.**

An extension of Music 360 placing special emphasis on vocal literature: lieder, opera, oratorio, etc. Prerequisite: 360.

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 idiom, neo-classicism, polytonality, and atonality.

366 Instrumental Arranging **2 hrs.**

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 or consent of instructor.

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. Prerequisite: 270 or consent of instructor.

371 Music History and Literature **3 hrs. Winter**

A continuation of Music 370 from the Baroque period forward. Prerequisite: 370.

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 will be: (1) words 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.

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 200.

382 Influence of Music on Behavior 2 hrs. Fall

Review of the relationship between musical effect and personality. The function of music in personality adjustment and development. A study of pertinent research methods by analysis and evaluation of published studies. A beginning on an original research project. Prerequisite: Consent of instructor.

383 Influence of Music on Behavior 2 hrs. Winter

Continuation of original research. Development of skills essential to research. An analytical survey of pertinent, recent publication. Prerequisite: consent of instructor.

391 Piano Pedagogy 2 hrs.

This course deals with teaching of piano at beginning level, to children and adults in private study or in groups. The ideas developed in beginning piano will be extended through the intermediate and advanced levels.

480 Music Therapy Methods and Materials 2 hrs. Fall

Survey of materials available for use in music therapy programs and methods of adopting such materials to institutional use. Study of publications and techniques developed specifically for use in music therapy programs. Prerequisite: 281.

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 head of the Department of Music, but may be under the direct guidance of any of the members of the music faculty. This course may be elected as many as three times.

530 Advanced Instrumental Conducting 1 hr. Fall

Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 331.

531 Advanced Choral Conducting **1 hr. Winter**

Supervised experience in conducting vocal groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 330.

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.

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: 260-261.

561 Counterpoint **2 hrs. Winter**

A continuation of 560.

562 Advanced Composition **2 hrs. Fall**

Further original work in composition dealing with the larger forms in both vocal and instrumental fields. Prerequisite: 362-363.

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.

567 Orchestration **2 hrs. Fall**

A study of the characteristics of the various instruments, application in arranging for various instrumental combinations including accompaniments for solos, vocal and instrumental. The course is divided between arranging for band and for orchestra. Some attention is given to the problems in score reading. Prerequisite: 260-261.

568 Orchestration **2 hrs. Winter**

A continuation of 567.

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 cantatas, oratorios, motets, passions, and masses.

573 Classical Music (1750-1800) **2 hrs.**

Examination of the chief works of the period by composers such as Stamitz, Mozart, and Haydn, with intensive study into the symphony and its derivation commencing with the Mannheim School; also chamber music, concertos, operas and sacred music.

574 Romantic Music (1800-1910) **2 hrs.**

Music of the important composers of the period such as Beethoven, Brahms, and Wagner, along with historical, cultural and political background of the works. Special attention to growth of Nationalism in the music of various countries.

580 Music Therapy Internship **6 hrs.**

Six months' clinical training through resident internship in an approved neuropsychiatric hospital with an established music program.

590 Operetta and Musical Production **2 hrs.**

The problems involved in producing a musical show in public schools such as selection of the production, casting, lighting, scenery construction, publicity, makeup, etc., will be studied in the process of developing a public performance by the class.

APPLIED MUSIC

Individual lessons in applied music can be elected for academic credit by any student in the university. Students in other departments of the university who wish individual instruction in some field of applied music should contact the head of the Department of Music for 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. M. degree candidates are required to have 60 minutes a 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 Catalog.

Eight levels of study in the various areas of applied music are indicated in the Music Supplement Catalog. 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—Stringed Instruments: Violin, Viola, Cello, Bass Viol
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. M. degree candidates are required to participate in some large music ensemble, e.g., orchestra, choir, band, or glee club, throughout their four years of study. 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. Sometime during the student's residence he is expected to take one year of small ensemble (117). 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.

110 University Band **Mr. Meretta**

This organization affords to the student who plays some instrument an opportunity for development in both marching and playing. The band furnishes music at many athletic events, concerts are given during the year on the campus and at various high schools. Uniforms and many of the instruments are furnished. (May be substituted for Physical Education credit.)

111 University Orchestra **Mr. Stulberg**

The orchestra is open to all students who have had a reasonable amount of orchestra experience. Many fine compositions will be studied and played during the year, and the orchestra joins with other campus organizations in joint programs. Instruments are available for the use of students.

112 University Choir **Mr. Hardie**

The University Choir is an a cappella choir with limited membership. The ensemble aims to develop and to perpetuate a high standard of choral singing. Each year the choir performs frequently on campus, before area high schools, and for professional organizations.

113 University Singers **Mr. Hamberger**

University Singers is open to all students (men and women) who wish to obtain a knowledge of choral music. The choir sings concerts on campus and for other organizations in the area.

114 Varsity Band **Mr. Bullock**

Membership in this band is open to students who have had some previous experience on a wind instrument. This organization is designed for students whose schedules or qualifications do not permit their immediate enrollment in the concert band. The band plays for athletic events and other university functions.

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 vacation 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**

The Women's Glee Club of fifty is selected by try-outs. The object is to select students for special artistic training in ensemble work. The Glee Club sings before a number of high schools throughout the state and takes an active part in the musical work on the campus and in the city.

117 Special Music Ensembles **The Staff**

Special instrumental or vocal ensembles may be formed with the permission of the head of the Department of Music. Where a sufficient number of hours of rehearsal per week warrant it, one hour of credit will be granted.

118 Campus Chorale **Mr. Frey**

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.

119 Varsity Choir **Dr. Carter**

A highly selective mixed vocal group which specializes in folk music, specialty 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

219 Madrigal Singers **Mr. Hardie**

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.

DIVISION OF LANGUAGES AND LITERATURE

Frederick J. Rogers, Chairman

The Division includes the Departments of English, Language, Philosophy and Religion, and Speech. The heads of the departments and the departmental advisers will advise students relative to requirements for majors and minors in these departments and concerning any special requirements set up by the departments.

DIVISIONAL COURSE

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.

English

Frederick J. Rogers, Head

Phillip D. Adams
Thelma E. Anton
Harold O. Bahlke
Lynwood H. Bartley
Joel Bernaciak
Willis J. Buckingham
Georgiann Burge
Roseann Cacciola
Edward T. Callan
Bernadine P. Carlson
Norman E. Carlson
Joann Cattonar
William W. Combs
Philip S. Denenfeld
Paul H. Douglas
Edward L. Galligan
Clare R. Goldfarb
Russell M. Goldfarb
Clayton A. Holaday
Frank C. Householder
J. Lee Kaufman
Robert G. Lambert
Robert LaRue
Robert M. Limpus
John J. McNally
Ken Macrorie
Jean Malmstrom
F. Theodore Marvin
Alice B. Merriman
Ralph N. Miller
Helen Mills
John M. Murphy
Arnold Nelson
Lucille A. Nobbs
John B. Orr
Robert Palmatier
Faye Pauli
John R. Phillips
Olga C. Porter
David G. Pugh
Calvin A. Rich
Eleanor H. Richardson
Michael W. Robbins
Katharine D. Rogers
William R. Rosegrant
H. D. Rowe
David F. Sadler
Albert L. Sampson
Karl R. Sandelin
Helen G. Sellers
Robert L. Shafer
Charles A. Smith
Anne O. Szalkowski
Judith Vetter
John W. 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 for English are no longer required. Students who do not have slips should follow the requirements listed below for the different curricula; students who already have slips may follow either the requirements on their slips or the requirements listed below. Anyone wishing advice or further information should consult with an adviser in the English office.

ENGLISH MAJORS 30 hours required

General Curriculum and Liberal Arts

Required: Literary Interpretation (210), English Language (270), and Senior Studies (499), plus electives to make 30 hours.

Recommended but not required: Shakespeare (252), and the Age of Chaucer (531).

Students planning to go to graduate school should take at least one year of a foreign language, preferably French or German.

Secondary Education

Required: Literary Interpretation (210), English Language (270), an American Literature course (preferably Major American Writers, 322), Teaching of English (380), and Senior Studies (499), plus electives to make 30 hours.

Recommended but not required: Shakespeare (252), Advanced Writing (362), and Development of Modern English (372).

Students planning to go to graduate school should take at least one year of a foreign language, preferably French or German.

Elementary Education

Required: Literary Interpretation (210), English Language (270), Children's Literature (282), and Senior Studies (499), plus electives to make 30 hours.

Recommended but not required: American Literature and Culture (222), and Development of Modern English (372).

ENGLISH MINORS 20 hours required

General Curriculum and Liberal Arts

Required: Literary Interpretation (210), English Language (270), plus electives to make 20 hours.

Recommended but not required: Shakespeare (252), and an American Literature course.

Secondary Education

Required: Literary Interpretation (210), English Language (270), an American Literature course (preferably Major American Writers, 322), and Teaching of English (380), plus electives to make 20 hours.

Recommended but not required: Shakespeare (252), Development of Modern English (372).

Elementary Education

Required: Literary Interpretation (210), English Language (270), and Children's Literature (282), plus electives to make 20 hours.

Recommended but not required: American Literature and Culture (222), and Development of Modern English (372).

All students proposing to take courses in English should be aware that written work must meet the Department's standards of competent writing.

The following courses in other departments may be used for English credit:

Language:
- 568 Mythology
- 575 Greek Drama in Translation

Philosophy and Religion:
- 344 The Religious Quest in Modern Literature

COMPARATIVE AND GENERAL LITERATURE

112 General Literature 4 hrs. Fall, Winter

Readings in European literature from the Greek period to the present.

210 Literary Interpretation 4 hrs. Fall, Winter

An introduction to the study of literature, aimed at developing sensitivity and skill in the critical interpretation of poetry, drama, and prose fiction.

410 Topics in English Literary History 4 hrs.

A study in historical perspective of selected literary works. Prerequisite: 210.

519 Non-Western Literatures 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. (Not offered in 1965-66).

NATIONAL LITERATURE

222 American Literature and Culture 4 hrs. Fall, Winter

A study of some of the recurrent themes in American life as seen in American literature.

322 Major American Writers 4 hrs. Fall, Winter

Intensive reading of representative works of major American writers. Prerequisite: 210.

522 Movements in American Literature 4 hrs. Fall

Study of a movement or movements in American Literature such as romanticism, realism, naturalism. Prerequisite: 210.

LITERARY PERIODS

238 20th Century Literature **4 hrs. Fall, Winter**

Study of the most important American and British literature of the period between 1900 and the Second World War.

332 16th Century Literature **4 hrs. Fall**

Among the writers discussed in this course are Ascham, Bacon, Dekker, Marlowe, and Spenser. Prerequisite: 210.

333 17th Century Literature **4 hrs. Winter**

Among the writers discussed in this course are Donne, Herbert, Herrick, Bunyan, Milton, Walton, and Browne. Prerequisite: 210.

530 Medieval Literature **4 hrs. Winter**

Readings in medieval drama, lyric and narrative poetry, and romances and an introduction to Dante's *Divine Comedy*. All in translation. Prerequisite: 210.

531 The Age of Chaucer **4 hrs. Fall, Winter**

Readings in the major works of Chaucer and other representative medieval authors. Prerequisite: 210.

534 Neo-Classical Literature **4 hrs. Fall**

English literature 1660-1730, with major emphasis on Dryden, Pope, and Swift. Prerequisite: 210.

535 Eighteenth-Century Literature **4 hrs. Winter**

Readings in Johnson, Boswell, Gray, Fielding, Sterne, and Smollett. Prerequisite: 210.

536 Romantic Literature **4 hrs.**

Readings in poetry and criticism, with emphasis on Blake, Burns, Wordsworth, Coleridge, Scott, Byron, Shelley, Keats. Prerequisite: 210. (Not offered in 1965-66).

537 Victorian Literature **4 hrs.**

Readings emphasizing Carlyle, Mill, Dickens, Thackeray, Tennyson, Browning, Arnold. Prerequisite: 210. (Not offered in 1965-66).

LITERARY TYPES

240 Development of English Verse **4 hrs. Winter**

Studies in the development of poetic techniques, including major verse forms, and their relation to theories on poetry.

242 Development of the Drama **4 hrs. Fall**

Studies in the development of the drama from the Renaissance to the present with emphasis on selected periods.

244 Development of the Novel 4 hrs. Fall, Winter

A study of the development and diversity of the novel as a literary form.

AUTHORS

252 Studies in Shakespeare 4 hrs. Fall, Winter

A study of Shakespeare's art through the application of several critical methods to selected tragedies, histories, and comedies.

555 Studies in the Art and Thought of Major Writers 4 hrs. Winter

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.

WRITING

264 Journalism 4 hrs. Fall, Winter

Theory and practice of news gathering and news writing; copy editing, headline writing, news evaluation, page layout, and editorial writing.

362 Advanced Writing 4 hrs. Fall, Winter

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. Fall, Winter

A beginning course in the writing of poetry, fiction, and drama.

566 Creative Writing Roundtable 4 hrs. Fall, Winter

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.

LANGUAGE STUDY

270 English Language 4 hrs. Fall, Winter

Introduction to the principles which govern language study, with particular reference to their use in understanding English.

372 Development of Modern English 4 hrs. Fall, Winter

A course in the history of the language treating the historic and linguistic forces which have affected pronunciation, grammar, and vocabulary. Prerequisite: 270.

TEACHING

282 Children's Literature 4 hrs. Fall, Winter

A survey and analysis of the best that has been written for children or appropriated by them.

380 Teaching of English **4 hrs. Fall, Winter**
Materials, procedures, and problems of the junior and senior high school English teacher, including some initial experience in teaching a class.

SPECIAL STUDIES

396 English Honors **4 hrs. Fall**
Intensive study of selected literary topics. Open only to students in the English Honors Program.

397 English Honors **4 hrs. Winter**
Continuation of 396.

496 English Honors **4 hrs. Fall**
The writing of an Honors Essay on a topic selected by the student in consultation with the instructor.

499 Senior Studies in English **4 hrs. Fall, Winter**
Special studies in language and literature for senior English majors. The course may be taken a second time with full credit.

598 Readings in English **1-4 hrs. Fall, Winter**
Individual reading project, available by special permission from the department head and the staff member who will supervise the study.

Language

Wayne Wonderley, Head

Elsa Alvarez
Clifford Barraclough
Maurice H. Bourquin
Elva Calmette
Roger L. Cole
Elizabeth Giedeman
Paule Hammack
Herb B. Jones
Frances E. Noble
Genevieve Orr
George F. Osmun
Herman E. Rothfuss
Micheline A. Rozier
Lily Salz
Irene Storoshenko
James Austin Tylor

GENERAL

Language is probably the most quintessential manifestation of a culture. Essential for communication and useful in various technical and professional areas, the purposeful study of language utilizes the cultural heritage of yesterday and continues to make today and tomorrow more meaningful.

For students majoring or minoring in a modern foreign language a course in modern European history is desirable. A course in Roman history is recommended for Latin majors or minors. English majors should be competent in a modern language.

No credit will be given for a 100-course unless the 101-course is also completed.

Freshmen entering from high school or transferring upperclassmen with two or three years of high school language should register for an intermediate (200) or 300-level course in the language desired. Students with four years of high school language should enroll in a 300 or 400-level course.

Selection of specific courses for a major or minor is planned with the counsel of the Departmental adviser. A student planning a Language major or minor should obtain a Departmental adviser's recommendation form as early as possible in his university studies to insure proper planning and avoid possible difficulties in scheduling which might subsequently occur.

The undergraduate major consists of a minimum of 30 credit hours (minimum of 20 credit hours for an undergraduate minor) beyond the 100-level (elementary) or equivalent of the languages offered by the Department of Language 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: 316-317-320-322-556. Only students in the Elementary Curriculum include 556.

French minor

Twenty hours beyond 100-level to include a selection of 3 hours from this group: 316-317-320-322-556. Only students in the Elementary Curriculum take 556.

German major

Thirty hours beyond 100-level to include a selection of 6 hours from this group: 316-317-556. Only students in the Elementary Curriculum include 556.

German minor

Twenty hours beyond 100-level to include a selection of 3 hours from this group: 316-317-556. Only students in the Elementary Curriculum take 556.

Latin major

Thirty hours beyond the 100-level with courses selected from the 200-500-series. Teaching majors must include 552 and 557.

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 major

Thirty hours beyond the 100-level to include selection 316. Only students in the Elementary Curriculum substitute 556 for 316.

Russian minor

Twenty hours beyond the 100-level to include 316. Only students in the Elementary Curriculum substitute 556 for 316.

Spanish major

Thirty hours beyond the 100-level to include selection of 5 hours from the group 316-317-556. Only students in the Elementary Curriculum take 556.

Spanish minor

Twenty hours beyond the 100-level to include a selection of 5 hours from the group: 316-317-556. Only students in the Elementary Curriculum take 556.

Teaching majors may include 558 (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, 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 hrs. 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.

LANGUAGE TEACHING COURSES

Language 558 Modern Language Instruction **3 hrs.**

Primarily for prospective teachers of French, German, Russian, or Spanish in the secondary and elementary school. Problems common to the four languages are considered. The bases for the course are the principles underlying learning and current methodology and practice.

The comparable teaching course for Latin, 557 Teaching of Latin, is described under Latin offerings.

CHINESE

100 Basic Chinese **4 hrs. Fall**

Elements of Chinese-Mandarin with audiolingual emphasis. Chinese cultural readings. No prerequisite. (Offered in odd-numbered years).

101 Basic Chinese **4 hrs. Winter**

Continuation of 100. Prerequisite: Chinese 100 or equivalent.

200 Intermediate Chinese **4 hrs.**

Level two Chinese-Mandarin. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: Chinese 101 or equivalent. Offered in even-numbered years.

201 Intermediate Chinese **4 hrs.**

Continuation of 200. Prerequisite: Chinese 200 or equivalent.

FRENCH

100 Basic French **4 hrs. Fall**

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**

Emphasis upon increasing the student's command of written French. Prerequisite: French 201 or equivalent.

317 French Conversation **3 hrs. Winter**

Intended 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.**

Designed to correct typical difficulties encountered by students of French with Anglo-American patterns of pronunciation. Prerequisite: French 201 or equivalent.

322 French Civilization **3 hrs.**

A study of selected aspects of French life and culture and their historical settings. Prerequisite: French 201 or equivalent.

326 Readings in French Romanticism **3 hrs.**

A study of outstanding works of the writers of the Romantic period with emphasis on poetry and drama. Prerequisite: French 201 or equivalent.

327 Readings in French Realism and Naturalism **3 hrs.**

A study of outstanding works of nineteenth century prose writers with emphasis on the novel. Prerequisite: French 201 or equivalent.

328 Survey of French Literature **3 hrs.**

Readings in French Literature from its beginnings to the French Revolution. Prerequisite: French 201 or equivalent.

329 Survey of French Literature **3 hrs.**

Continuation of French 328. Readings in nineteenth and twentieth century literature. Prerequisite: French 201 or equivalent.

Open to Upperclassmen and Graduate Students

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 summers of 1966 and 1969.

550 Independent Study in French **1–3 hrs.**

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. Fall**

Intensive practice with written French. Prerequisite: six hours of French 316-317-556 or equivalent.

552 Advanced French Conversation **3 hrs.**

Intensive practice with spoken French. Prerequisite: six hours of French 316-317-556 or equivalent.

556 French Conversation for Elementary Education Teachers **3 hrs.**

Conversational practice with subject matter and vocabulary geared to the particular needs of students planning to teach French on the elementary school level. Open only to students in the elementary education curriculum. Prerequisite: French 316, 317, or equivalent.

560 Studies in French 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: six hours selected from French 322-326-327-328-329-550. 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.

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**

Fundamentals of German with audiolingual emphasis. German cultural readings. No prerequisite.

101 Basic German **4 hrs. Winter**

Continuation of 100. Prerequisite: German 101 or equivalent.

100–101 Basic German (accelerated) **8 hrs. Summer**

This course is an intensive combination of 100 and 101. Although there are no prerequisites, prospective students should arrange a conference with the instructor in advance of pre-registration. Because the course requires a considerable commitment of time and energy, students should avoid remunerative employment while pursuing this study.

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.

208 Scientific German **4 hrs. Fall**

Fundamentals and practice in reading scientific and technical German. Designed primarily for students with interest in science. Prerequisite: German 101, two years of high school German, or equivalent. To complete an 8-hour sequence, German 201 is suggested as the complementary course to 208.

316 German Composition **3 hrs.**

Emphasis upon increasing the student's command of written German. Prerequisite: German 201 or equivalent.

317 German Conversation **3 hrs.**

Emphasis upon increasing the student's command of spoken German. Prerequisite: German 201 or equivalent.

326 Readings in German Literature **4 hrs.**

Primarily selections from (a) Lessing, Goethe, and Schiller, and (b) prose selections from the 19th and 20th centuries. Prerequisite: German 201 or equivalent.

328 Survey of German Literature **4 hrs.**

Synoptic literary selections with cultural and historical background. Prerequisite: same as for German 326.

Open to Upperclassmen and Graduate Students

510 The Central European Area **2 hrs.**

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.

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 and Conversation **4 hrs. Fall**

Intensive practice with written and spoken German. Required for graduate students. Prerequisite: six hours of German 316-317-556 or equivalent.

556 German Conversation for Elementary Education Teachers **3 hrs.**

Conversational practice with subject matter and vocabulary geared to the particular needs of a student planning to teach German on the elementary school level. Open only to students in the elementary education curriculum. Prerequisite: 3 hours of German 316-317 or equivalent.

559 History of the German Language **3 hrs. Winter**

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—Primarily Kleist, Grillparzer, Hebbel, and Hauptmann.

Twentieth Century Drama—Representative selections.

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. (Offered in odd-numbered years).

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. (Offered in even-numbered years).

201 Interdemiate 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 and Ovid **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 Cicero and Ovid **4 hrs.**

Continuation of 200. Prerequisite: Latin 200 or equivalent.

204 Vergil **4 hrs. Fall**

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. Winter**

Continuation of 204. Prerequisite: Latin 204 or equivalent.

324 Latin Literature **4 hrs.**

A survey of Latin Literature with reading of representative Latin authors, including selections from Pliny's *Letters* and Cicero's philosophical works. Prerequisite: Latin 201 or 205 or equivalent.

325 Latin Literature **4 hrs.**

Continuation of 324, with selections from the *Histories* of Livy and certain Latin poets. 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. Fall**

For prospective teachers of Latin in the elementary or secondary school. Principles, problems, and current practice.

560 Studies in Latin 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: 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. Winter**

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. Fall**

Reading and analysis of selected plays of Aeschylus, Sophocles, Euripides, and Aristophanes as dramas and as expressions 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.**

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.

556 Russian Conversation for Elementary Education Teachers **3 hrs.**

Conversational practice with subject matter and vocabulary geared to the particular needs of students planning to teach Russian on the elementary school level. Open only to students in the elementary education curriculum. Prerequisite: Russian 201 or equivalent.

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 include:

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, Leonov, and Sholokhov.

SPANISH

100 Basic Spanish **4 hrs. Fall**

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 **2 hrs.**

Emphasis upon increasing the student's command of written Spanish. Prerequisite: Spanish 201 or equivalent.

317 Spanish Conversation **3 hrs.**

Emphasis upon increasing the student's command of spoken Spanish. Prerequisite: Spanish 316 or equivalent. (316 may be taken concurrently).

328 Introduction to Spanish Literature **3 hrs.**

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.**

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.

556 Spanish Conversation for Elementary Education Teachers **3 hrs.**

Conversational practice with subject matter and vocabulary geared to the particular needs of students planning to teach Spanish on the elementary school level. Open only to students in the elementary education curriculum. Prerequisite: Spanish 316 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 Novel—Development of the regional novel from Fernán Caballero through Blasco Ibáñez.

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.

Philosophy and Religion

E. Thomas Lawson, Head

Joseph Ellin	Otto Gründler	Jerome Long
William Emblom	John Hardon	Harvey Mullane
Arthur Falk	Maynard Kaufman	Dale Westphal
	Cornelius Loew	

Philosophy and Religion are separate fields of study, joined in one department for administrative reasons.

PHILOSOPHY

A student may decide to elect philosophy as a major with one of several educational objectives in mind. First, 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. Second, 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.

There is on campus a chapter of Phi Sigma Tau, the National Honor Society in Philosophy for qualified students.

Major and Minor Requirements

A major in philosophy consists of not more than 40 nor less than 24 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. 360-361 (History of Philosophy), one seminar, and a distribution requirement of one course chosen from each of the three following groups:

I. History of Philosophy
   Analytic Philosophy (365), Existentialism (364), American Philosophy (363), 20th Century Philosophers of Religion (342), Medieval Philosophy (565)

II. Value Theory
   Ethics (270), Social Philosophy (371), Philosophy of Art (370)

III. Theory of Knowledge and Reality
   Logic (250, 251), Philosophy of Science (381), Philosophy of Religion (340), Philosophy and Language (351)

Seminars:
Representative Western Philosophers (560), Epistemology (570), Metaphysics (571)

Students planning to do graduate work in philosophy must elect Phil. 250 (Logic) as soon as possible.

A Minor consists of 15 hours. The restriction concerning Phil. 200 applies. The minor includes Phil. 360-361 and a seminar, but there is no distribution requirement.

200 Introduction to Philosophy **3 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.

250 Elementary Logic **3 hrs.**

A study of methods and principles of deductive reasoning and some of the sources of common fallacies. Topics included are Aristotelian logic and an introduction to techniques of symbolic logic. Open to freshmen.

251 Intermediate Logic **3 hrs.**

Modern symbolic logic; the calculus of propositions; modal logic; theory of relations; introduction to paradoxes and theory of types. Prerequisite: Phil. 250 or permission of instructor.

270 Introduction to Ethics **3 hrs.**

Introduction to the philosophic study of morality. Deals with such questions as: What is the good life? Why should I be moral? What is the meaning of right and wrong?

340 The Philosophy of Religion **3 hrs.**

An examination of the place of religion in human experience, with special attention to the problems of whether there are rational grounds for validating the ideas or beliefs of religion, and the problem of the relation of these ideas or beliefs to the general human quest for truth. The nature of religious language, the relation between philosophy and theology, and the problem of religious knowledge are also discussed.

342 20th Century Philosophers of Religion **3 hrs.**

An analysis, interpretation, and critique of one or more of the major philosophers of religion who have been influential in the philosophical and theological movements of the 20th century.

351 Philosophy and Language **3 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. 250 or permission of instructor.

360 History of Ancient Philosophy **3 hrs.**

A study of Greek philosophical thought from Thales to Plotinus with an emphasis on Plato and Aristotle.

361 History of Modern Philosophy **3 hrs.**

A survey of modern philosophy from the Renaissance through Kant, with emphasis on Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume and Kant.

362 Representative 19th Century Philosophers **3 hrs.**

Reading and discussion of the work of a small number of outstanding philosophers of the period.

363 American Philosophy **3 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.

364 Existentialist Philosophies **3 hrs.**

A concentrated study of leading thinkers in modern philosophical existentialism: Kierkegaard, Nietzsche, Jaspers, Sartre, and Camus.

365 Analytic Philosophy **3 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.

366 Asian Thought: China **3 hrs. Fall**

A study of the major strands of Chinese thought, notably Confucianism and Taoism, with particular emphasis on their relevance to recent developments in China.

370 Philosophy of Art **3 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.

371 Social Philosophy **3 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.

381 The Philosophy of Science **3 hrs.**

Examination of the sciences from the point of view of their methods, presuppositions, and implications for philosophy. Prerequisite: one course in logic or its equivalent, or permission of the instructor.

466 Independent Study **2-4 hrs.**

Independent study is for those students who have attained a degree of competence in philosophy and who 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: written permission of the instructor with whom the student desires to work.

467 Independent Study **2-4 hrs.**

See above

560 Representative Western Philosophers **3 hrs.**

Devoted to the concentrated study of a single major philosopher or an identifiable philosophic school. The topic will be chosen by the instructor and announced in advance of registration. Prerequisite: permission of instructor.

565 Medieval Philosophy **3 hrs.**

Medieval philosophical thought from Augustine to Ockham.

570 Epistemology **3 hrs.**

Selected problems in the theory of knowledge. The course focuses on the roles of reason and perception in knowing, and examines the problem of the external world. Prerequisite: permission of the instructor.

571 Metaphysics **3 hrs.**

A study of selected topics from among typical metaphysical questions such as the mind-body problem. The course includes the examination of concepts such as reality, existence, being, substance, space, time and causality.

593 Philosophy of History **3 hrs.**

An inquiry into the conscious and unconscious attitudes toward history which, when systematized, are philosophies of history. Consideration is given to their effect on the writing and interpretations of history. The range of thought includes the positions of such men as St. Augustine, Ibn Kahldun, Marx, Dilthey, Spengler, Bultmann, Toynbee, and Jaspers.

RELIGION

A major in religion consists of a minimum of 24 hours and includes Rel. 201, 220, 301, and 310 or 311. The remaining hours are elective, except that at least one course must be elected in the area of theology and ethics and at least one course in the area of the philosophy of religion. In addition, the student majoring in religion should seriously consider electing six or more hours from the following list of cognate courses: Phil. 360, 361, 362, 363; Hist. 552, 555; Lang. 120, 121 (Latin), 140, 141 (Greek).

A minor in religion consists of a minimum of 15 hours and includes Rel. 201, 220, and at least 9 hours selected from the courses listed below. The student minoring in religion is urged to elect one or more of the cognate courses recommended in the description of the major.

201 Introduction to Religion in the West **3 hrs.**

A survey of anthropological and historical data which provide a background against which the biblical view of nature, man, and God can be seen and understood; with special emphasis on three modes of religious expression: myth, philosophy, and history.

220 Foundations of Christian Thought **3 hrs.**

Examination of the roles of myth, philosophy, and history as modes of religious expression in the development of Christian thought during the first five centuries.

230 The Catholic Tradition: Trent to Vatican II **3 hrs.**

An historical and critical study with special emphasis on the development of Roman Catholic life and thought from council of Trent to Vatican II.

301 Primitive Religions **3 hrs.**

An historical and comparative study of the religious expression of three types of primitive culture (Hunters and Food-gatherers, Simple Agriculturists, Nomadic Pastoralists). These religious expressions have a history extending back to Paleolithic and Neolithic times and still exist in numerous parts of the world today. Primary attention will be placed on an attempt to understand the structural meaning of the religious symbols, myth, and rites of these primitive cultures.

302 Religions of Africa **3 hrs.**

A study of the types of traditional religions of Africa with a focus upon myth, cult, customs and religious practices as primary religious expressions. Special attention is given in this course to the meaning of the historical and religious encounters of Christianity and Islam with the traditional African religions.

303 Religions of India **3 hrs.**

A study of the major religious and philosophical systems of India (Vedism, Hinduism, Buddhism, Jainism, Tantrism, and Yoga) including an analysis of their prehistoric roots, contemporary manifestations, and relations with other religious traditions in the modern world.

304 Religions of China and Japan **3 hrs.**

A study of the development of the impact of Buddhism on the indigenous religions of China and Japan with particular attention being focussed upon the manner in which Buddhism stimulated these indigenous religions to develop new forms, and the impact of the new forms on Buddhism. In this connection, close attention will be given to Taoism, Confucianism, and Shan buddhism in China. In Japan the formation of the indigenous religions in Shintoism and Buddhism will be studied.

305 The Shaping of Religion in America **3 hrs.**

The histories of Judaism, Protestantism, and Roman Catholicism in the United States, including a survey of distinctive beliefs and practices characteristic of these three traditions at the present time.

310 Understanding the Old Testament **3 hrs.**

A theological introduction to the literature of the Old Testament, with primary emphasis on its meaning in the life and history of ancient Israel.

311 Understanding the New Testament **3 hrs.**

The distinctive faith and traditions of the early Christian Church studied under three headings: the Community emerges, the Community expands, the Community matures.

321 Representative Christian Thinkers I **3 hrs.**

Selected writings of leading theologians of the Middle Ages and the early Reformation period; notably Anselm, Thomas Aquinas, Abelard, Bernard of Clairvaux, Bonaventure, and Robert Bellarmine.

322 Representative Christian Thinkers II **3 hrs.**

Selected writings of leading Protestant theologians of the Reformation and Post-Reformation period; with special attention to the relation of Protestant orthodoxy to the medieval tradition and its response to the challenges posed by the new science. Does not require Rel. 321 as a prerequisite.

333 20th Century Protestant Theologians **3 hrs.**

Intensive study of representative works by such men as Karl Barth, Paul Tillich, H. Richard Niebuhr, Charles Hartshorne, Rudolph Bultmann, Dietrich Bonhoeffer, and Nicholas Berdyaev.

334 20th Century Catholic Theologians **3 hrs.**

Intensive study of representative works of the major Catholic theologians of the 20th century.

335 Catholic Moral Theology **3 hrs.**

Study of the leading questions of personal and social morality, including marriage and the family, according to the principles of Roman Catholic theology. Does not require Rel. 230 as a prerequisite.

340 The Philosophy of Religion **3 hrs.**

An examination of the place of religion in human experience, with special attention to the problem of whether there are rational grounds for validating the ideas or beliefs of religion, and the problem of the relation of these ideas or beliefs to the general human quest for truth. Specific topics: the existence of God, knowledge of God, the nature of religious language, the relation between philosophy and theology.

341 Contemporary Challenges to Christian Thought **3 hrs.**

Intellectual challenges to Christian thought in the works of Darwin, Feuerbach, Marx, Nietzsche, and Freud.

342 20th Century Philosophers of Religion **3 hrs.**

An analysis, interpretation, and critique of one or more of the major philosophers of religion who have been influential in the philosophical and theological movements of the 20th century.

344 The Religious Quest in Modern Literature **3 hrs.**

The purpose of this course is to enrich the student's appreciation of imaginative literature by exploring its moral and religious dimensions. By intensive study of several novels and plays, the student is confronted with several religious options in their concrete or dramatized forms rather than in abstract theological formulations. Students are thus challenged to critically evaluate these religious options, or "quests," in the context of their dramatic power and efficacy.

466 Independent Study **2-4 hrs.**

Independent study is for those students who have attained a degree of competence in religion and who 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: written permission of the instructor with whom the student desires to work.

467 Independent Study **2-4 hrs.**

See above.

501 Hinduism and Buddhism **3 hrs.**

A study of Hinduism and Buddhism in terms of their historical development, systems of thought, and contemporary revival. Special emphasis on reading and analysis of original sources available in English translation.

Speech

Zack L. York, Head

John T. Barrett
Harold L. Bate
Ruth Beall
Albert B. Becker
Harry W. Bowen
Charles T. Brown
William Buys
Melvin Donaho
William R. Dopheide
George O. Egland
Robert L. Erickson
Beatrice Hartman
Charles R. Helgesen
Deldee M. Herman
Frances M. Kerber
Radford Kuykendall
William Livingston
James McIntyre
Suzanne L. Pullon
R. Franklin Smith
Robert Lee Smith
Alastair A. Stunden
Charles Van Riper
Ethel West

Effective communication is the imperative for the world today and for the world of tomorrow if there is to be one. The Department of Speech, in endeavoring to help students become qualified and responsible users of speech, considers itself a functional part of a University which not only offers the student opportunity to train himself professionally but also to educate himself in the liberal arts tradition as well.

I. MAJORS

Three majors are available.

(1) Speech Major
A Speech major includes 30 semester hours of speech to be arranged in consultation with the student and the Head of the Department.

(2) Speech Education Major *
Speech Education major requires 30 semester hours of speech including the following courses: 100**, 302, 304, 562.

(3) Speech Pathology and Audiology Major
A major in speech pathology and audiology consists of 34 hours, including the following courses: Speech 250, 350, 358, 454, 500, 552, 555, 558 and Education 530, 585. In addition, 210 hours of supervised case work is required.

II. MINORS

Two minors are available.

(1) Speech Minor
A speech minor requires 18 semester hours of speech including General Speech 100†, Communicative Process of Speech 302 and 12 additional elective hours to be chosen in consultation with the

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**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 106, Natural Science Bldg.

*To teach speech in a school accredited under North Central Association, teachers must have 13 hours in English.

Head of the Speech Department. This minor is designed for students not intending to teach and for those students in Secondary Education who are special teachers of Art, Industrial Education and Music.

(2) Speech Education Minor *
A speech education minor requires 18 semester hours of speech for teaching in secondary and elementary schools, including the following core courses: Speech 100**, 302, 304 and 560 for Elementary minors, 562 for Secondary minors.

I. CORE COURSES

100 General Speech ** 3 hrs. Fall, Winter**

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 Education major or minor.

302 Communicative Processes of Speech 4 hrs. Fall, Winter

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. Fall, Winter

Concerns the physics and the physiology involved in the speech process. Includes the study of: accoustics, 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 well as to help him function more intelligently as a teacher of speech.

561 Teaching Speech in the Elementary School 3 hrs. Winter

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. Fall

An examination of the cultural objectives of our time and a determination of the role oral communication plays in a democracy, study of the communication process by model building, examination of the model in order to determine what objectives are related to the oral communication curriculum. A study is made of curriculum content, methods, materials and systems of evaluating the teacher's behavioral objectives.

**Exceptions may be made upon the approval of the Chairman of the Department, Room 106, Natural Science Bldg.

**Of courses Speech 100, 102 and 104, only one may be taken for credit.

*To teach Speech in a school accredited under North Central Association, teachers must have 13 hours in English.

II. INDEPENDENT STUDY

329 Independent Study in Speech **1–3 hrs. Fall, Winter**

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. Offered as needed. Prerequisite: Consent, Head of Department.

III. SERVICE COURSES

102 Speech for Teachers** **3 hrs. Fall, Winter**

A beginning course in speech for those who intend to teach in elementary 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. Fall, Winter**

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. Fall, Winter**

Individual improvement program emphasizing voice production and diction.

560 Studies in Speech Education **3 hrs.**

Selected studies in background, methods, materials and procedures in any one of the several speech areas.

564 Creative Dramatics for Children **4 hrs. Fall, Winter**

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.

IV. PUBLIC ADDRESS

131 Parliamentary Procedure **1 hr. Fall, Winter**

Study and practice of the principles and rules which govern business meetings in voluntary organizations.

230 Public Speaking **4 hrs. Fall, Winter**

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.

**Of courses Speech 100, 102 and 104, only one may be taken for credit.

232 Discussion **4 hrs. Fall, Winter**

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 Debating **1 hr. Fall, Winter**

Participation in intercollegiate debates, discussions and student congresses. The national college debate and discussion topics are used. Debaters meet regularly 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.

334 Argumentation and Debate **4 hrs. Fall, Winter**

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.

530 Studies in Public Address **3 hrs. Winter**

Selected areas of detailed study within the total range of public address.

531 Public Speaking **3 hrs. Fall**

The intensive study of speech organization, audience adaptation, and delivery. Includes practice in speaking. Research project required.

532 Persuasion **3 hrs. Winter**

Study of factors of human behavior and their ethical implications as related to oral communication. Class activities include research, experimentation and discussion.

V. RADIO AND TELEVISION

240 Introduction to Broadcasting **4 hrs. Fall, Winter**

Introductory analysis of history, economics, programming, social implications of American commercial and educational broadcasting.

244 World Systems of Mass Communications **4 hrs. Fall**

Study of basic purposes, design and control of significant world mass communication systems, as seen through broadcasting and film.

342 Radio and TV Journalism **4 hrs. Winter**

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. Summer**

Provides the student with practical experience at commercial or educational stations, allowing him to gain some familiarity with operation, equipment, and problems of broadcasting.

540 Studies in Broadcasting **3 hrs. Fall**

Analysis in depth of specific issues affecting broadcasting.

544 Broadcasting Regulations **3 hrs. Winter**

The role of self-regulation and governmental regulation of the broadcasting industry.

545 Broadcasting Criticism **3 hrs. Winter**

Analysis and criticism of programs and programming. Study of writings of major radio and television critics.

VI. THEATRE AND INTERPRETATION

111 Choral Reading **1 hr. Fall, Winter**

Performances in group reading of prose and poetry. May be taken for maximum of 4 semester hours credit.

210 Oral Interpretation **4 hrs. Fall, Winter**

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 **4 hrs. Fall, Winter**

Considers 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 **4 hrs. Fall, Winter**

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 **5 hrs. Fall**

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 **5 hrs. Winter**

A beginning course for students in design, including stage lighting and stage settings. Includes laboratory practice in staging University Theatre productions.

228 Stage Make-up **1 hr. Fall, Winter**

Study and practice of the principles and techniques of stage make-up.

320 Stage Direction **4 hrs. Fall, Winter**

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.

326 History of the Theatre* **4 hr. Fall**

From the beginning to the English Renaissance.

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*May be used as substitute for Arts and Ideas 222. See page 201.

327 History of the Theatre* **4 hrs. Winter**

From the English Renaissance to the present day.

328 Stage Costume **4 hrs. Fall**

Study of historic costume as adapted for the stage. Practical laboratory experience in costume construction offered in conjunction with University Theatre productions.

510 Studies in Oral Interpretation **3 hrs. Winter**

Projects in reading and analysis of literature designed to intensify the student's application of the theory and principles of oral interpretation.

520 Studies in Theatre **3 hrs. Fall**

Selected study within the range of the several aspects of theatre including backgrounds, theory and production. Emphasizes concepts rather than skills.

VII. SPEECH PATHOLOGY AND AUDIOLOGY

99 Special Speech Problems **No credit. Fall, Winter**

Designed to meet the needs of the students with special speech difficulties. Emphasis is placed upon the solution of the individual speech problems through individual and group therapy.

250 Introduction to Speech Correction **3 hrs. Fall, Winter**

A survey course introducing the student to the field of speech pathology. Emphasis is placed upon understanding the problems of those who are handicapped in communication.

350 Phonetics **3 hrs. Fall, Winter**

Designed to acquaint the student with the phonetic alphabet, speech-sound production, phonetic transcription, an introduction to structural linguistics, together with training in auditory and teaching skills in the application of phonetics to speech and language areas.

358 Voice and Articulation **4 hrs. Fall, Winter**

Speech and the speech mechanism are considered in terms of servosystem principles. Within this frame of reference diagnostic and therapeutic principles for voice and articulation disorders are explored. Prerequisite: Phonetics.

450 Speech and Language Development **3 hrs. Winter**

A study of the stages, requisites and principles which enter into the development and facilitation of speech and language.

454 Applied Speech Correction **3 hrs. Fall, Winter**

This seminar course covers a series of projects, discussions and topics concerning the analysis of the common problems found in work with children and adults in both clinical and public school settings.

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*May be used as substitute for Arts and Ideas 222. See page 201.

550 Voice and Speech Science **3 hrs. Fall, Winter**

This course, for majors in speech pathology and audiology, deals with the embryology and neurology of the speech and hearing mechanism with special reference to clinical types of speech and language disorders. Emphasis is also placed on such physical aspects of speech as pitch, intensity, duration and wave composition.

552 Stuttering and Allied Disorders **4 hrs. Fall, Winter**

Designed to provide the student with more detailed knowledge of the nature, causes, and development of stuttering and other serious functional speech disorders. The literature will be surveyed, and the various methods for treating these disorders will be described in detail.

555 Basic Procedures in Audiology **4 hrs. Fall, Winter**

A study of the fundamentals of audiology and audiometry. Includes coverage of physics, anatomy, physiology and pathology of hearing: administration and interpretation of hearing tests; and rehabilitation techniques. Observation of and practice in hearing testing included.

556 Aural Rehabilitation **4 hrs. Fall**

Study of fundamental and techniques of speechreading, auditory training, and general rehabilitation of the hearing impaired. Survey of research, methods, and materials. Experience in preparation and presentation of lesson plans. Prerequisite: Speech 555.

558 Organic Speech Disorders **4 hrs. Fall, Winter**

This course is concerned with the diagnosis and treatment of the speech disorders of organic origin; aphasia, cerebral palsy, cleft palate and laryngectomy. Prerequisite: Speech 550.

559 Advanced Procedures in Audiology **4 hrs. Winter**

An advanced course in audiology dealing with hearing disorders and medical techniques of treatment; the signicance of certain hearing tests in otologic diagnosis; and a study of hearing aids and hearing aid evaluations. Clinical experience in hearing evaluations also included. Prerequisite: Speech 555.

DIVISION OF SCIENCE AND MATHEMATICS

Lillian H. Meyer, Chairman

The division includes the Departments of Biology, Chemistry, Geography and 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 the Elementary Education curriculum. They will not ordinarily be approved for students in other curricula, except in rare cases with special permission of the Chairman of the Science Division.

Four courses will be required of group science majors or minors. They are as follows:

Physical Geography 105	4 hrs.
Biological Science 107 or Biology 100	4 hrs.
Physical Science 108	4 hrs.
Structure of Arithmetic 150	4 hrs.

In addition, the minor will elect an additional 8 hours, the major an additional 18 hours from the following courses:

Biology 234	4 hrs.
Biology 235 (By Extension only)	3 hrs.
Biology 403	3 hrs.
Geography 225	4 hrs.
Geology 230	4 hrs.
Geology 231	4 hrs.
Physics 200	4 hrs.

DIVISIONAL COURSE OFFERINGS

The following Divisional freshman courses are offered: Biological Science; Physical Geography; Physical Science. Descriptions of these courses are found under the Division of General Studies. In addition to these, the following Divisional courses are offered.

390 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.

403 Elementary School Science — 3 hrs.

This course covers important subject matter of the physical and biological sciences with methods for its effective presentation in the classroom.

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.

Department of Biology

Edwin B. Steen, Head

Bartoo, Harriette V.
Brewer, Richard D.
Engemann, Joseph G.
Fuller, Anne V.
Hinds, Frank J.
Holt, Imy V.
Hurst, Elaine H.
Lawrence, Jean M.
Noecker, Norbert
Pippen, Richard W.
Powers, Myrtle M.
Rutherford, Phoebe
Schultz, Beth
Schumann, Donna N.
Spradling, Marjorie A.
VanderBeek, Leo C.
VanDeventer, William C.
Vial, James L.
Wiseman, Merrill R.
Wood, Jack S.

Visiting Lecturers

Barbiers, Arthur
Duncan, Gordon
Ericsson, Ronald

A major in biology consists of a minimum of 24 credit hours in courses in biology (in Secondary Education, 30 hours); 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. 107, 111.

All students majoring in biology are required to take two semesters of college chemistry and two semesters of college mathematics. Courses in organic chemistry and physics are recommended.

All students minoring in biology are required to take one semester of college chemistry and one semester of college mathematics.

The basic core curriculum for most biology majors consists of Biol. 100 and 101 or equivalent and a course in each of the following five fields: zoology, botany, physiology (animal or plant), ecology and genetics. Modifications in curricula are made to meet various preprofessional requirements or to fit individual needs.

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 purpose of the Center is to encourage and conduct ecological studies and research. The Center administers, for ecological research, a 40-acre tract of land owned by the University and a 500-acre tract along the Kalamazoo River under license from the Department of the Army.

The department maintains The Clarence R. Hanes Herbarium which houses the Hanes' collection of vascular plants from Kalamazoo County, one of the most complete regional floras. 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, containing plants from throughout the United States and Mexico, are housed in the department and are utilized in teaching and research.

The department has a radiation laboratory equipped for teaching and a minimum of research in the areas of instrumentation, isotopes, ultra-violet and X-ray techniques.

DESCRIPTION OF COURSES

100 General Biology **4 hrs. Fall, Winter**

Diversity, adaptation, phylogeny. Included are the principles of systematics and variation; reproduction and development; a survey of the plant and animal kingdoms. This course and the following one, 101, introduce the field of biology and serve as a foundation for advanced courses.

101 General Biology **4 hrs. Fall, Winter**

Metabolism, genetics, evolution, and ecology. How organisms obtain energy, control and maintain the internal environment; variation, inheritance, and evolutionary mechanisms; interaction of the organism and environment. Prerequisite: Biology 100, or consent of instructor.

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**

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.

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 100 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.

217 Systemic 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 propogation. Prerequisite: Biology 100 or 101 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. Prerequisite: Biology 100 and 101 or equivalent.

224 Trees and Shrubs **2 hrs. Extension**

A field course in the identification of trees and shrubs. Structural characteristics, habit of growth, geographic distribution and economic importance are included.

225 Local Flora **2 hrs. Extension, Spring, Summer**

A field course designed for those who desire an acquaintance with the common plants occurring in the region.

231 Outdoor Science for Teachers **3 hrs. Extension**

A field course in biology designed to meet the needs of in-service teachers.

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 **4 hrs. Fall, Winter**

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. Prerequisite: Biology 100 and 101.

302 Man and the Living Environment **3 hrs. Extension**

A study of interrelationships among plants and animals, including man, designed to meet the needs of in-service teachers.

306 Genetics **4 hrs. Fall, Winter**

A study of the principles of variation and heredity and the mechanisms of inheritance in animals and plants. Prerequisite: Biology 100 and 101 or equivalent.

308 Evolution **3 hrs. Fall**

A consideration of the evidence for and the principles involved in the evolution of plants and animals, including man. Prerequisites: Biology 306, or consent of instructor.

317 General Physiology **4 hrs. Fall, Winter**

A study of the fundamental principles which underlie the functional activities of animals. Prerequisites: Biology 210 or equivalent; organic chemistry.

321 Systematic Botany **4 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 100 and 101.

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.

326 Plant Physiology **4 hrs. Fall, Winter**

A study of growth, metabolism and nutrition in plants. Prerequisite: Biology 100 and 101 or equivalent; a course in chemistry is desirable.

341 Invertebrate Zoology **4 hrs. Fall, Winter**

A study of the anatomy, physiology, embryology, and life history of representatives of the major groups of invertebrate animals. Prerequisite: Biology 100 and 101 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. Prerequisite: Biology 210 or equivalent.

347 Ornithology **4 hrs. Fall**

A study of the details of the adaptations, songs, migrations, behavior, conservation, and management of birds, as well as methods of study utilized in the teaching of elementary science. Special attention is given to the orders and families of the passerine birds as well as to seasonal occurrence of shore and marsh birds. Study skins for both resident and migratory birds are provided. Early morning field trips. Prerequisite: Biology 100 and 101 or consent of instructor.

403 Elementary School Science 3 hrs. Fall, Winter

A laboratory course focusing on ideas and subject matter commonly included in elementary school science curricula. Prerequisite: Completion of Basic Studies Science requirements.

404 Problems in the Teaching of Biology 2 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 the human body, and of ecology, physiology and genetics-evolution.

412 Microbiology 4 hrs. Fall

A study of the morphology, physiology, methods of culture, identification and classification of microorganisms with emphasis on bacteria. Prerequisites: Biology 100 and 101.

443 Histology 4 hrs. Winter

A study of the microscopic structure of tissues and organs. Prerequisite: Biology 210 or equivalent.

500 Selected Experiences in Biology 2 hrs. Winter, Extension

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 2 hrs. Fall

A study of the man-dominated biotic community of civilization and its interrelationships. Lectures, assigned reading, group and individual field work. Prerequisite: at least a minor in biology.

508 Recent Advances in Biology 2 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.

511 Physiology of Reproduction 2 hrs. Winter

A comparative study of the reproductive physiology of domestic animals, laboratory animals and man. Prerequisite: a course in animal physiology and a working knowledge of biochemistry.

513 Advanced Microbiology 4 hrs. Winter

This course deals with pathogenic microorganisms, infectious diseases, diagnostic tests and principles of immunology. Prerequisites: 412 or equivalent.

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 326 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 217 or 317 or consent of instructor.

519 Comparative Animal Physiology **4 hrs. Fall**

A study of the basic physiological processes as they occur in various groups of animals. Prerequisite: Biology 317 or equivalent.

521 Phycology **3 hrs. Fall**

Studies in the classification, structure, physiology, ecology, and economic importance of the fresh-water algae. Prerequisite: a 200 or 300 course in botany.

522 Phytogeography **3 hrs. Winter**

A study of the geographical distribution of plants based on physical and ecological factors. Prerequisite: Biology 321 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: Biology 221 or equivalent.

524 Economic Botany **3 hrs. Fall**

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. Prerequisite: 12 hours of biology, one year of chemistry.

526 Mycology **3 hrs. Fall**

Studies in the classification, structure, physiology, development and economic importance of fungi. Prerequisite: a 200 or 300 course in botany.

527 Advanced Plant Physiology **4 hrs. Fall**

Advanced investigations into plant functions. Basic principles are examined more intensively. Advantage is taken of the discoveries and unifying principles of modern biochemistry. Prerequisites: Biology 326 and a course in chemistry or consent of instructor.

528 Morphology 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 221 or equivalent.

529 Morphology of Vascular Plants **3 hrs. Winter**

A detailed study of the morphology, life cycles, and evolution of vascular plants. Individual research required. Prerequisite: Biology 221 or equivalent.

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. Prerequisite: Biology 100 or 101 or consent of instructor.

542 Entomology **3 hrs. Fall**

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. Fall**

Field and laboratory studies of both free-living and parasitic protozoans, including taxonomy, morphology, life histories, ecology, heredity, evolutionary development. Prerequisite: Biology 341 or consent of instructor.

545 Ichthyology **3 hrs. Fall**

Biology of fishes, with special reference to systematics, adaptations and ecology of fresh water and marine forms. Museum and experimental methods will be employed. Field trips will emphasize study of the Great Lakes region fishes. Prerequisites: Biology 100 and 101 or equivalent.

547 Advanced Ornithology **4 hrs. Fall**

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: Biology 347 or consent of instructor.

548 Herpetology **3 hrs. Fall**

Biology of amphibians and reptiles with reference to systematics, adaptations and ecology. Museum and experimental methods are emphasized in the laboratory. Field work is an integral part of the course with special consideration of Michigan herpetofauna. Prerequisites: Biology 100 and 101 or equivalent.

549 Mammalogy **3 hrs. Winter**

Biology of mammals emphasizing systematics, adaptations and ecology. Musem and experimental techniques will be employed. Field trips are an integral part of the course, studying the Michigan mammals. Prerequisite: Biology 100 and 101 or equivalent.

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. Fall**

A consideration of the organization of vegetation and causal relationships between vegetation and environment. Prerequisite: Biology 301 and 321 or 326 or equivalents.

553 Limnology **3 hrs. Fall**

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.

559 Radiation Biology **3 hrs. Spring, Summer**

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. Prerequisite: A minor in chemistry and consent of instructor.

561 Vertebrate Natural History **3 hrs. Fall, Winter**

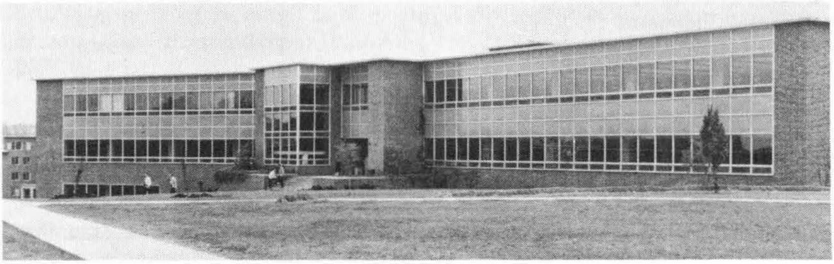
The biology of vertebrates with special reference to adaptation, evolution, behavior and ecology of major groups. Classification, museum and field methods will be stressed in laboratory. Field trips required. Prerequisite: Biology 100 and 101 or equivalent.

563 Zoogeography **2 hrs. Winter**

A study of major geographical patterns of animal distribution on the bases of historical and ecological principles. Prerequisites: Biology 301 or 306 or equivalent.

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

Lillian H. Meyer, Head

Robert H. Anderson
Shirley R. Bach
Donald C. Berndt
James W. Boynton
Donald J. Brown
John E. Frey
Robert E. Harmon
Paul E. Holkeboer
Thomas Houser
James A. Howell
Don C. Iffland
Lawrence G. Knowlton
Robert C. Nagler
Gerald Osborn
Jochanan Stenesh
Herbert D. Warren
Esther Woodruff

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 one year of physics and mathematics through calculus 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.

All chemistry majors are required to take Chemistry Seminar during their junior and senior year.

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 a:

	American Chemical Society Certification	General Curriculum	Secondary Education and others
General Chemistry 100 or 102	4	4	4 hrs.
Qualitative Analysis ~~120~~	4	4	4 hrs.
Organic Chemistry	10	8	8 hrs.
Quantitative Analysis ~~222~~	4	4	4 hrs.
Physical Chemistry	8	8	4 hrs.
Biochemistry	3 ~~2~~	–	–
Inorganic Chemistry	3	–	–
Advanced Analytical Chemistry	3	–	–
Special Problems in Chemistry	2	–	–
Elective	–	6	6 hrs.
	40	34	30 hrs.

In addition the following are required for A.C.S. certification: reading knowledge of German; 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 **5 hrs. Fall, Winter**

A course with emphasis on the fundamental principles, theories, and problems of chemistry. It is designed for students with no high school chemistry preparation. Prerequisite: One year of algebra.

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 ACS High School Chemistry examination. Students well prepared may earn credit by taking final examination.

105 General Chemistry **4 hrs. Winter**

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 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. Winter**

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 electro-chemistry. Students desiring to enroll in this course are required to take a qualifying examination. Prerequisites: High School chemistry and algebra. Not offered 1965-66.

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 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: ~~Chemistry~~ 100 or 102.

210 Engineering Materials **3 hrs. Fall**

An introductory course in the science of engineering materials. Engineering properties are correlated with (1) internal structures (atomic, crystal, micro-, and macro-) and (2) service environments (mechanical, thermal, chemical electrical, magnetic, and radiation). Prerequisite: 108, 109, or 120.

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: ~~Qualitative Analysis~~ 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. This course will not serve as prerequisite for 361 and 363. Prerequisite: 120

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, Winter**

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.

390 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.

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. Winter**

The theory and technique involved in the more complex separations and determinations in quantitative analysis. Modern instrumentation and such physicochemical methods as spectrophotometry, colorimetry, chromatography, and potentiometry are discussed. The laboratory work is an application of the above techniques. Prerequisites: 531 and 222.

530 Physical Chemistry **4 hrs. Fall**

Lectures and laboratory work in kinetic theories of gases, liquids, solids, thermodynamics, phase rule, equilibrium, solutions, etc. Prerequisite: 120, 1 year college Physics, Math. 222; corequisite: 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.

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. Not offered 1965-66.

551 Elementary Biochemistry **2 hrs. Winter**

Elementary study of the chemistry of the body, digestion, metabolism and excretion. Prerequisite: 1 semester organic.

553 Biochemistry **4 hrs. Winter**

Lectures and laboratory in elementary biochemistry. Prerequisites: 222 and 1 semester organic.

560 Qualitative Organic Analysis **3 hrs. Winter**

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.

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 1965-66.

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. Summer, Fall**

Advanced students who have completed certain 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.

Geography and Geology

Albert H. Jackman, Head,
Department of Geography

Chuen-tyi Chow
Val L. Eichenlaub
Charles F. Heller
Oscar H. Horst
Eugene C. Kirchherr
F. Stanley Moore
Arthur S. Morris
Henry A. Raup
Cyril L. Stout

Lloyd J. Schmaltz, Head,
Department of Geology

W. David Kuenzi
Richard V. McGehee

GEOGRAPHY MAJOR OR MINOR

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	4 hrs.
310	Geography of Anglo-America	4 hrs.
380	Principles of Cartography	4 hrs.
566	Field Geography	4 hrs.
	Electives in geography chosen with consent of Counselor	10 hrs.
	Supporting required course: Geology 230	

Non-teaching Minor

20 Hours

Any two of the following courses:

225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	4 hrs.
310	Geography of Anglo-America	4 hrs.
	Electives in geography chosen with consent of Counselor	8 hrs.

Elementary Education Major

32 Hours

105	Physical Geography	4 hrs.
206	World Regional Geography	5 hrs.
244	Economic Geography	4 hrs.
310	Geography of Anglo-America	4 hrs.
	or	
350	Principles of Conservation and Resource Management	3 hrs.
460	Instructional Methods in Geography	3 hrs.
	Electives in geography chosen with consent of Counselor to complete a total of 32 hours.	
	Supporting required course: Geology 112	

Elementary Education Minor

22 Hours

105	Physical Geography	4 hrs.
206	World Regional Geography	5 hrs.
310	Geography of Anglo-America	4 hrs.
	or	
350	Principles of Conservation and Resource Management	3 hrs.
460	Instructional Methods in Geography	3 hrs.
	Electives in geography or geology chosen with consent of Counselor to complete a total of 22 hours.	

Secondary Education Major
32 Hours

105	Physical Geography	4 hrs.
225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	4 hrs.
310	Geography of Anglo-America	4 hrs.
	or	
350	Principles of Conservation and Resource Management	3 hrs.
460	Instructional Methods in Geography	3 hrs.

Electives in geography chosen with consent of Counselor to complete a total of 32 hours.

Supporting required course: Geology 112.

Secondary Education Minor
22 Hours

105	Physical Geography	4 hrs.
225	Introduction to Meteorology and Climatology	4 hrs.
244	Economic Geography	4 hrs.
310	Geography of Anglo-America	4 hrs.
	or	
350	Principles of Conservation and Resource Management	3 hrs.
460	Instructional Methods in Geography	3 hrs.

Electives in geography chosen with consent of Counselor to complete a total of 22 hours.

GEOGRAPHY

The Geography courses 105, 225, 380, 568, 580, and 582 are acceptable for science credit.

FOUNDATION COURSE

105 Physical Geography

(Sci. Credit)

(See General Studies)

COURSES IN SYSTEMATIC GEOGRAPHY

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 planetary climatic controls, and upon the effects of various climates on the economic activities of man. Prerequisite: Geography 105 or consent.

244 Economic Geography **4 hrs. Fall, Winter**

Description and analysis of world economic patterns, including the study of spatial variation in economic development, primary production, energy generation, manufacturing, service occupations, and trade. Prerequisite: Geography 105.

350 Principles of Conservation and Resource Management
3 hrs. Fall, Winter

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. Prerequisite: Geography 105.

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. Prerequisite: Geography 105 or consent.

541 Geographic Foundations of National Power **3 hrs. Winter**

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. Prerequisite: Geography 105 or graduate standing.

543 Cultural Georgraphy **3 hrs. Fall**

A consideration of the major aspects of the relationship between the physical environment and human occupance will be followed by more detailed study of the types of livelihood in their geographic settings, population geography, and the urban environment. The place of origin and patterns of distribution of various cultural systems will be traced. Each semester, certain of these relationships will be singled out for intensive study. Prerequisite: Geography 105 or consent.

544 Agricultural Geography **3 hrs. Fall**

A course designed to acquaint the student with world patterns of farming activity, and food distribution. 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. Prerequisite: Geography 244 or consent.

546 Manufacturing and Transportation Geography **3 hrs. Fall**

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. Prerequisite: Geography 244.

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. Prerequisite: Consent of instructor.

570 Urban Geography **4 hrs. Winter**

The study of urban settlements as distinctive geographical units. Among the more significant 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. Prerequisite: Geography 244 or junior standing with at least a minor in geography or the social sciences.

COURSES IN REGIONAL GEOGRAPHY

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. Prerequisite: Geography 105.

310 Geography of Anglo-America **4 hrs. Fall, Winter**

A descriptive study of the physical and cultural interrelationships in the geographic regions of Anglo-America. Prerequisite: Geography 105 or consent.

311 Geography of Michigan **3 hrs.**

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. Prerequisite: Geography 105 or consent.

315 Geography of Asia **4 hrs. Winter**

Interpretation of the major geographic regions of the Asian continent outside the U.S.S.R. Study of both physical environment and the cultural geography. Special emphasis is placed on population problems, the changing political roles, and the developing economies of the Asian countries. Prerequisite: Geography 105.

511 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. Prerequisite: Geography 105.

512 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. Prerequisite: Geography 105.

513 Western and Southern Europe **4 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. Prerequisite: Geography 105 or consent.

514 U.S.S.R. and Eastern Europe **4 hrs. Winter**

Analysis of the physical and cultural geography of the Soviet bloc in the U.S.S.R. and Satellite Nations; survey of the natural environment, resources and human occupance. Prerequisite: Geography 105 or consent.

515 Monsoon Asia **4 hrs.**

Intensive study of the physical and cultural environments of the countries of southern and eastern Asia (from Pakistan to Japan). Problems of population, food supply, and industrial resources are considered in view of the emergence of the states of Monsoon Asia on the world political scene. Special attention is given to the developing economies of Southeast Asia, the role of Japan, and the comparative study of China and India. Prerequisite: Geography 105 or consent.

516 Middle East and North Africa **3 hrs.**

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 problems, economic development, petroleum, Arab re-unification movements, and the impact of the Muslim World on the current political scene. Prerequisite: Geography 105 or consent.

517 Middle and South Africa **4 hrs. Fall**

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. Prerequisite: Geography 105 or consent.

518 The Pacific Realm **3 hrs. Winter**

The human and physical geography of the South and Central Pacific, with concentration on Australia, New Zealand, Fiji, and Polynesia. Prerequisite: Geography 105.

542 Historical Geography of North America **3 hrs. Winter**

A study of the geographic and related factors as they combined to influence routes of exploration, trade, settlement and travel in North America. The evolution of patterns of settlement which resulted from the interaction of physical and cultural geographic conditions are studied in relation to the development of the continent for human use. Prerequisite: Geography 105.

COURSES IN GEOGRAPHIC METHODOLOGY AND RESEARCH

380 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 or research. Lectures 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. Prerequisite: Geography 105.

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, including Geography 105.

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 380 or consent.

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 methods of model formulation in the analysis of spatial interaction. Prerequisite: A course in statistics or consent.

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 380 or consent.

582 Aerial Photograph Interpretation 3 hrs. Winter

(Sci. Credit) The student will acquire proficiency in the fundamental skills of aerial photographic interpretation during the early weeks of the course. Projects assigned during the final weeks will be adapted to the interest and anticipated future work of the student in physical or social sciences.

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

Departmental Counselor — Dr. Lloyd J. Schmaltz

Major (24-27 Hours)

Required Courses

Physical Geology 230	4
Historical Geology 231	4
Invertebrate Paleontology 533	4
Mineralogy 335	4
Petrology 336	4
Structural Geology 430	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.

Supporting required courses: Chemistry 100 or 102 (for students with a high school chemistry background), and 120; Physics 110 and 111; Biology 100; 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.

Minor

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.

Minor (15-16 Hours)

Required Courses

Physical Geology 230	4
Historical Geology 231	4
Choice of two of the following with consent of counselor:	
Mineralogy 335	4
Petrology 336	4
Invertebrate Paleontology 533	4

Course substitution from other geology offerings for the above electives 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 (24 hours)

Required Courses

Introduction to Meteorology and Climatology 225	4
Physical Geology 230	4
Historical Geology 231	4
Astronomy (Physics 104)	4
Oceanography 538	3

plus at least 5 hours of additional course work in geology with the advice and consent of departmental counselor.

Minor (18 hours)

Required Courses

Introduction to Meteorology and Climatology 225	4
Physical Geology 230	4
Historical Geology 231	4
Astronomy (Physics 104)	4
Oceanography 538	3

Some modification can be made with consent of counselor.

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 to form the 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.

335 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 hrs/wk; Laboratory 4 hrs/wk. Prerequisites: Geology 112 or 230 and General Chemistry or consent of instructor.

336 Petrology **4 hrs. Winter**

Classification, origin, and description of igneous, sedimentary, and metamorphic rocks. Lecture 3 hours a week. Laboratory 4 hours a week. Prerequisite: Geology 335.

430 Structural Geology **3 hrs. Winter**

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**

Origin, occurrence, and utilization of metallic and non-metallic mineral deposits, 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: 8 hours in Geology and permission of instructor.

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 intrepretation of topographic and geologic maps, and aerial photographs. Prerequisite: Geology 112 or 230.

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.

535 Stratigraphy **3 hrs. Winter**

Principles of stratigraphy including sedimentation, correlation, facies, tectonics, and sedimentary environments and rocks. Prerequisite: Geology 231 or consent of instructor.

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 230 or consent of instructor.

538 Oceanography **3 hrs. Fall, Winter**

Physical oceanography and submarine geology. A study of the physical properties of sea water, boundary processes, ocean currents, water masses and circulation in the ocean. Consideration will be given to sedimentary processes, marine sediments and their history, continental shelves, the development of coral reefs, and topography of the ocean floor. Prerequisite: Geology 112 or 230 or consent of instructor.

539 Field Geology **4 hrs. Summer**

A study of geologic materials and features in the Upper Great Lakes Region. Prerequisite: Geology 112 or 230.

Mathematics

James H. Powell, Head

Yousef Alavi
Fred A. Beeler
Gary Chartrand
Herbert Hannon
Philip Hsieh
Stanislaw Leja
Joseph McCully
Jack R. Meagher
J. K. Peterson
John W. Petro
Oswald Petrucco
James E. Riley
Erik A. Schreiner
Robert C. Seber
Robert E. Sechler
Walter W. Turner
John E. Vollmer
Gertrude Wolinski

A non-teaching major in mathematics must include Mathematics 122, 123, 222, 223, 380, 330, 340 or 540, 570 and one elective course at the 500 level. A teaching major may substitute elective courses at the 500 level for Mathematics 223 and for Mathematics 570. The election of courses for the major must be approved by the departmental adviser.

A non-teaching minor in mathematics must include Mathematics 122, 123, 222 and 223. A teaching minor must include Mathematics 122, 123, 222, 380 and either 223 or 330.

The courses Mathematics 100, 106, 107, 150, 200, 250, 260 and 360 are primarily "service" courses and may not be included among those presented for a major or a minor in mathematics.

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 a honors student. For further information, see the Head of the Mathematics Department.

Students who fail to earn a "C" or better grade in Mathematics 100, 122, 123 and 222 will not be permitted to enroll in the next sequence course.

100 Algebra and Trigonometry **4 hrs.**

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. Properties of the real number system and elementary topics from the theory of equations will also be included. Prerequisite: One year of h.s. algebra, one year of h.s. geometry.

106 Introduction to Computers I **1 hr.**

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 Computer II **2 hrs.**

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.**

The first of a four semester sequence of courses dealing with topics from algebra, trigonometry, analytic geometry, calculus and differential equations. This course includes the following topics: sets, absolute values, inequalities, an introduction to analytic geometry, function, limits, derivatives, applications of the derivative, integrals. Prerequisite: 1½ to 2 yrs. h.s. algebra, 1 yr. h.s. geometry and ½ yr. h.s. trigonometry or Mathematics 100.

123 Mathematics II **4 hrs.**

A continuation of Mathematics I. Topics include: the definite integral as a limit of a sum, exponential and logarithmic functions, trigonometric and inverse trigonometric functions, formal integration, the central conics, centroids, indeterminate forms, improper integrals, Taylor's formula. Prerequisite: Mathematics 122.

150 Structure of Arithmetic **4 hrs.**

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.

200 Analysis and Applications **4 hrs.**

Topics include: differentiation; integration; matrices; probabality; applications, such as, optimization, linear programming and math of finance problems. This course should **not** be elected by those students who wish to take courses in the Mathematics 122, 123, 222 and 223 sequence. Prerequisite: Mathematics 100 or 1½ yrs. h.s. algebra and 1 yr. h.s. geometry.

222 Mathematics III 4 hrs. Fall, Winter

A continuation of Mathematics I and II. Topics include: infinite series, plane curve, vectors, polar coordinates, three-dimensional analytic geometry, differential calculus of functions of several variables. Prerequisite: Mathematics 123.

223 Mathematics IV 4 hrs.

A continuation of Mathematics I, II and III. Topics include: multiple integration, line and surface integrals, ordinary differential equations with applications. Prerequisite: Mathematics 222.

250 Teaching of Elementary School Mathematics 3 hrs.

This course is designed for students who expect to teach arithmetic in grades K through 6. It deals with the philosophy, objectives, and methods of teaching arithmetic. The understanding of basic arithmetic concepts and processes is emphasized, and arithmetic content is developed through currently accepted, newer approaches to the presentation of arithmetic in the elementary classroom. Not open to freshmen or sophomores.

260 Elementary Statistics 4 hrs.

A study of probability distributions, sampling, estimation, testing hypotheses, correlation and regression. Prerequisite: Mathematics 200 or equivalent.

330 Introduction to Modern Algebra 4 hrs.

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 groups theory including quotient groups. Prerequisite: Mathematics 380.

340 Fundamental Concepts of Geometry 4 hrs.

This course will include a survey of analytic geometry in space using vector methods followed by an axiomatic development of projective geometry. Prerequisite: Mathematics 222 or equivalent.

360 Statistical Methods for Industry 4 hrs.

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: Mathematics 223 or equivalent.

380 Foundations of Mathematics 4 hrs.

This course is required for all mathematics majors and is a prerequisite for most upper division mathematics courses. Topics discussed include elementary set theory and logic, Boolean algebra, axiomatic systems, relations and functions, the natural numbers and mathematical induction, a development of the real number system, metric spaces, and cardinal numbers. Prerequisite: Mathematics 222 or equivalent.

500 Differential Equations **3 hrs.**

This course is a continuation of linear ordinary differential equations studied in Math 223 or 306. Topics included: 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 or 306 (Math 380 recommended)

506 Programming for Computers **3 hrs.**

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: Mathematics 223 or equivalent.

507 Numerical Analysis **3 hrs.**

Numerical methods involving polynomial evaluation, Legendre polynomials, Čebyšev polynomials, differences, integration, solution of differential equations and linear programming. Prerequisites: Math 223 or 306 and Math 506.

508 Automatic Programming Systems **3 hrs.**

A thorough study of the internal organization of the Fortran Compiler. Each student will be required to construct a compiler. Prerequisite: Math 506.

530 Vectors and Matrices **3 hrs.**

Properties of n-dimensional vector spaces, linear transformations, and matrix algebra are studied. Prerequisite: Mathematics 330.

540 Introduction to Higher Geometries **3 hrs.**

Topics will be selected from: projective geometry, affine geometry, non-euclidean geometry and elementary topology. Mappings of a geometric nature and their properties will be considered in the development of each topic. Prerequisite: Mathematics 380.

550 Teaching of Secondary Mathematics **3 hrs.**

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: Mathematics 380.

552 Teaching of Elementary Mathematics **2 hrs.**

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: Mathematics 150 or equivalent.

560 Mathematical Statistics **3 hrs.**

Probability spaces, mathematical expectation, moment generating functions, some special distributions of the discrete and continuous type, sampling theory, independence, statistical inference, transformations of variables. Prerequisite: Mathematics 380 or equivalent.

561 Mathematical Statistics **3 hrs.**

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.

570 Advanced Calculus **3 hrs.**

This course along with Math 571 constitutes a further study of calculus beyond that covered in Math 122, 123, 222 and 223. The two semester sequence will include an abstract treatment of vector spaces and linear transformations. The gradient, curl, divergence and exterior derivative will be obtained from a single basic derivative. The various multiple integral theorems will appear as special cases of a general Stoke's formula concerning the integration of exterior forms. Prerequisite: Mathematics 380 (530 recommended).

571 Advanced Calculus **3 hrs.**

(see description of Math 570) Prerequisite: Mathematics 570.

580 Number Theory **3 hrs.**

Diphantine equations, congruences, quadratic residues, and properties of number theoretic functions. Prerequisite: Mathematics 380 or equivalent.

598 Independent Study in Mathematics **1 to 3 hrs.**

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.

Physics

George Bradley, Head

David Carley
Stanley Derby
Jacob Dewitt
Ollin Drennan
Allen Dotson
Gerald Hardie
Gustav Hoyer
Haym Kruglak
Robert Miller
Nathan Nichols
Larry Oppliger
Thomas Stark

A major in Physics consists of 32 credit hours with the following 26 hours of required courses:

		S.H.
210	Mechanics and Heat	4
211	Electricity and Light	4
212	Atomic and Nuclear Physics	4
342	Electrical Measurements and Electronics	4
520	Analytical Mechanics	3
540	Fundamentals of Electricity and Magnetism	3
560	Modern Physics I	4

The remaining 6 hours may be taken from the following:

330	Thermodynamics and Kinetic Theory	3
352	Optics	4
470	Historical Development of Concepts of Physical Science	3
498	Special Problems	1–3
552	Applied Spectroscopy	3
561	Modern Physics II	4
598	Selected Topics	1–4

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 the 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. The remaining 8 hours may be selected from any of the courses listed above.

The Physics Department offers four different seminar, colloquium, and club programs for undergraduate and graduate students. 1). The regular Physics Seminar is a series of talks given bi-weekly, usually by visitors from other institutions, on topics of general interest and at a level requiring little physics background. Attendance is expected of all physics majors.

2). The Graduate Colloquium is a weekly program for graduate students and physics staff members, presented usually by members of the WMU physics staff or visitors from other universities, on topics related to their research specialities. 3). An informal graduate-faculty seminar is conducted weekly, usually during the lunch hour, at which graduate students discuss their professional interests. 4). In addition to the above the Department sponsors a student section of the American Association of Physics Teachers. This Physics Club is open to undergraduates who assume responsibility for its program and social functions.

PHYSICS COURSES

108, 109 Physical Science (see General Studies)

100 Acoustics **2 hrs.**

In this course are studied the nature and transmission of sound, how sounds are produced, interference of waves, the physics of hearing, pitch, quality, and loudness of sounds, musical intervals, harmonic series, the physical basis for musical scales, string and wind instruments, vibrating rods and plates, architectural acoustics. This course may not be applied to the fulfillment of either a major or minor in physics.

104 Astronomy **4 hrs.**

This non-mathematical course in astronomy is for all 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 one hour of evening observation per week. It may not be applied to the fulfillment of either a major or minor in physics.

110 General Physics **4 hrs.**

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.

111 General Physics **4 hrs.**

This course follows 110 and consists of studies in electricity, magnetism, light, and atomic and nuclear physics. Prerequisite: Physics 110.

202 Photography **3 hrs.**

This is an elementary course in the theory and use of photographic materials. It is open to all students but is not applicable to a major or minor in physics.

210 Mechanics and Heat **4 hrs.**

This first course of a sequence of three in general college physics 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 or consent of instructor.

211 Electricity and Light **4 hrs.**

This course follows 210 and consists of studies in electricity and light. Prerequisite: Physics 210 or consent of instructor.

212 Atomic and Nuclear Physics **4 hrs.**

This course, with 210 and 211, completes the sequence making up the introductory course in physics. Prerequisite: Physics 211 or consent of instructor.

308 Teaching of Physical Science **2 hrs.**

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.**

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 **4 hrs.**

This course deals with the theory and practice of electrical measurements and electronic circuits, the more important uses of vacuum tubes and transistors. Two lectures and two 2-hour laboratories per week. Prerequisite: Physics 211.

352 Optics **4 hrs.**

This is a course in physical optics in which the main topics discussed are: wave motion, interference, diffraction, velocity of light, polarization, double refraction, lasers. Three lectures and one 3-hour laboratory per week. Prerequisite: Physics 212.

470 Historical Developments of Concepts of Physical Science **3 hrs.**

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, causality, 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.**

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.**

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. Prerequisite: Physics 212, Math IV.

540 Fundamentals of Electricity and Magnetism **3 hrs.**

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. Prerequisite: Physics 212, Math IV.

552 Applied Spectroscopy **3 hrs.**

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, Physics 352, or consent of instructor.

560 Modern Physics I **4 hrs.**

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 differential equations is assumed. Recommended for seniors. Prerequisite: Physics 212, Math IV.

561 Modern Physics II **4 hrs.**

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.**

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.

598 Selected Topics **1-4 hrs.**

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, artificial 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.**

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.**

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 distribution of velocities, canonical ensemble, and Gibbsian ensemble.

630 Classical Mechanics **3 hrs.**

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.**

This course deals with the Hamiltonian method of mechanics and 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.

Psychology

Stanley Kuffel, Head

Eston J. Asher	Paul T. Mountjoy	Dorothy E. Smith
Frank A. Fatzinger	John E. Nangle	Donald H. Thor
John G. Jochem	Jack Nottingham	Henry Von Holt, Jr.
Chris Koronakos	Malcolm H. Robertson	William Yankee
David O. Lyon	Richard H. Schmidt	

General Psychology 200 is a prerequisite to all other courses in this department, except 100 and 102. A major in Psychology may be obtained by completing 24 hours of work in the department, including the following courses: 200, 330, 432, and 510.

A minor in Psychology consists of 15 to 20 hours; which for Education minors will include: 200, 270 and 380; and for Business minors will include: 200, 380 and 440.

Students majoring in Psychology are advised to elect from the Departments of Biology, Mathematics or Sociology.

100 Introduction to Learning and Adjustment 1 hr. Fall, Winter

Psychological principles of effective learning will be presented; methods of note-taking, reading, memorizing, and organization will be discussed. Emphasis will be placed upon problems of personal, educational, and social adjustment. This course may not be counted toward a major or a minor in psychology or in fulfillment of the requirements in the science area.

102 General Psychology for Nurses 2 hrs. Fall

An introductory course intended to fit the needs of students of nursing. Not open to regular students. It covers the recommendations of the "Curriculum Guide for Schools of Nursing".

200 General Psychology 3 hrs. Fall, Winter

An introduction to the field of Psychology. Covers Learning, Motivation, Perception and Individual differences.

220 Psychology of Personality 3 hrs. Fall, Winter

A study of the normal personality with emphasis on personality structure, organization, adjustment. An introduction to theory. Prerequisite: Psychology 200.

270 Developmental Psychology 3 hrs. Fall, Winter

A study of human behavioral development from conception to maturity. Prerequisite: Psychology 200.

330 Elementary Statistics 3 hrs. Fall, Winter

Interpretation and application of statistical techniques useful in the understanding of behavioral research data. Prerequisite: Psychology 200.

380 Psychological Testing **3 hrs. Fall, Winter**

A survey of procedures essential to the selection, administration and interpretation of psychological and educational tests. Prerequisite: Psychology 200.

422 Abnormal Psychology **3 hrs. Fall, Winter**

An introduction to behavior disorders, with particular attention to their development, symptoms and treatment. Prerequisite: Psychology 200.

432 Experimental Psychology **4 hrs. Fall, Winter**

An introduction to current psychological problems and experimental methods through laboratory work in perception, learning and motivation. This course is primarily for majors. Combined lecture and laboratory. Prerequisites: Psychology 200 and 330.

440 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. Prerequisites: Psychology 200 and 380.

510 Advanced General Psychology **4 hrs. Fall, Winter**

Lecture and discussion of general topics in the behavioral sciences. Primarily for the advanced undergraduate major or beginning graduate student. Prerequisite: 9 hours of psychology.

512 Physiological Psychology **3 hrs. Fall, Winter**

A survey of the interrelationships of neurological, physiological, and behavioral processes. Prerequisite: Psychology 200.

516 Psychology of Learning **3 hrs. Fall, Winter**

An introduction to some of the basic principles of learning. Written approval of instructor. Prerequisite: Psychology 200.

530 Statistics **3 hrs. Fall, Winter**

An introduction to basic statistical procedures and concepts. Primarily for education majors. Prerequisite: Psychology 200.

541 Psychology of Economic Behavior **3 hrs. Fall, Winter**

An analysis of psychological theory and practice applied to the study of behavior in purchasing, consumption, selling, marketing, and effects of economic incentives. Stress will be placed on experimental findings and techniques of survey research. Prerequisite: Psychology 200.

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: 9 hours of psychology.

550 Criminal Psychology **3 hrs. Fall**

An examination of modern psychological principles involved in law making, law enforcement, adult and juvenile criminal personalities, correction and treatment methods, predictive measurements and special problems. Prerequisites: Psychology 200 and 422.

560 Introduction to Clinical Psychology **3 hrs. Fall, Winter**

A study of the role of the clinical psychologist. An examination of the current techniques of behavior assessment and behavior modification. Prerequisites: Written approval of instructor and psychology 200.

574 Experimental Social Psychology **3 hrs. Winter**

Methodology of small group research with emphasis upon design and application. Prerequisites: Psychology 200 and 330 or equivalent.

595 History of Psychology **3 hrs. Fall**

The historical and philosophical foundations of contemporary American psychology. Prerequisite: Psychology 200.

598 Special Projects in Psychology **2-4 hrs. Fall, Winter**

PSYCHOLOGY Police Science Curriculum

104 Introduction to Law Enforcement and Public Safety **3 hrs. Extension only**

Philosophical and historical backgrounds; agencies and processes; administrative and technical problems; career orientation.

206 Police Administration **3 hrs. Extension only**

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. Extension only**

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. Extension only**

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.

DIVISION OF SOCIAL SCIENCES

Willis F. Dunbar, Chairman
William Fox

The Division includes the Departments of Economics, History, Political Science, and Sociology and Anthropology.

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 below 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 head of the Department of Sociology and Anthropology. Others planning to major or minor in Social Science should consult with the head of one of the following departments:

Economics (H-P), Political Science (Q-Z), or Sociology and Anthropology (A-G).

Major and minor programs should be arranged in conference with one of the division advisers indicated above by the fourth semester of the student's college career. At this time, each student planning to major or minor in the Division should specify some member of the faculty in one of the departments of the Division as his major or minor adviser. All requests for recommendations will be referred to the major or minor adviser.

The required course in American government and the following General Education courses may be counted towards the major and minor in Social Science:

For the major: Western Civilization (8 hrs.), Man and Society (4 hrs.), and the Non-Western World (4 hrs).

For the minor: Either Western Civilization (4 hrs.) or Man and Society (4 hrs.) and the Non-Western World (4 hrs.).

Requirements for the major in Social Science:

1. A total of 36 hours or more credit in the Division.
2. At least 9 hours credit in 300- or 500-level courses.
3. At least 12 hours credit in one department of the Division.
4. No more than 16 hours credit in any one department of the Division may be used to meet the 36-hour requirement for the major.
5. At least 5 hours in each department of the Division.
6. Students in the education curricula should complete Social Science 300 or Social Science 507 in addition to the 36 hours specified under "1" above.

Requirements for the minor in Social Science:

1. A total of 24 hours or more credit in the Division.
2. At least 6 hours credit in 300- or 500-level courses.

3. In the event the major is in one of the departments of the Division, acceptable courses must be taken in each of the other three departments.

The Social Science minor in the Secondary Education curriculum is open only to students who are majoring in one of the departments of the Division.

DIVISIONAL COURSES

300 Teaching of Social Studies in Secondary Schools 3hrs. Fall, Winter

Definition of objectives; selection, organization, and use of materials; procedures and problems of effective teaching in this area.

504 Social Studies Seminar: England 6 hrs.

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.

504 Social Studies Seminar: East Africa 6 hrs.

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.

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. Winter**

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.

507 Teaching of Social Studies in the Elementary Schools **2 hrs. 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.

Economics

Robert S. Bowers, Head

Pearl Baskerville	David DeShon	Myron Ross
Myrtle Beinhauer	Wayland Gardner	Werner Sichel
Theodore L. Carlson	Louis Junker	Jared S. Wend
John A. Copps	G. V. L. Narasimham	Raymond Zelder

Courses are designed (1) to contribute to general education by providing basic understanding in the operation of 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; and (3) to furnish courses and explore areas of economic thought which are prerequisite to graduate study and are recommended as pre-professional in business administration, engineering, journalism, law, medicine, 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 in the department.

The selection of specific courses for minors and majors depends a great deal upon the student's interest and the kind of work he plans to take up following graduation. For example, the selection of courses for the prospective graduate student might be quite different from those for the person planning to be an accountant; by the same reasoning, a good background of courses for a salesman might be quite different from those sought by a person planning to do personnel work.

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

200 Principles of Economics **5 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.

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. Prerequisite: Econ. 200.

500 Managerial Economics **3 hrs. Fall, Winter**

Describes and analyzes the ways in which the tools of the economist can be useful to management. Such basic decisions as those involving demand costs, and capital requirements are considered. Prerequisite: Econ. 200, and statistics or consent of the 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. Prerequisite: Econ. 200.

504 Industrial Structures and Competition **4 hrs. Winter**

This course appraises those parts of extent price theory which are most directly applicable to the industrial sector of the economy. The interest of this course will center on the areas where markets are characteristically monopolistically competitive or obligopolistic. Prerequisites: Econ. 200 and approval of the instructor.

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 merchantilism 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 erroneous schools of economic thought on national policy and economic development. Prerequisite: Econ. 200.

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. Prerequisite: Econ. 200.

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. Prerequisite: Econ. 200, Mathematics 122, 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. 200.

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 worker 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. Prerequisite: Econ. 200.

507 Monetary Theory and Policy **3 hrs. Winter**

This course would concentrate 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. Prerequisite: Economics 200.

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. Prerequisite: Economics 200.

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. Prerequisite: Econ. 200 or Econ. 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. Prerequisite: Econ. 200.

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. Prerequisite: Econ. 200.

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. Prerequisite: Econ. 200. 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. Prerequisite: Econ. 200.

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: Economics 200 and 380.

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. Prerequisite: Econ. 200 or consent of instructor.

586 Economics of the Soviet Union and Eastern Europe **3 hrs. Winter**

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. Prerequisite: Econ. 200.

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 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. Prerequisite: Econ. 200.

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.

History

Willis F. Dunbar, Head

Patrick K. Bidelman
Ernst Breisach
Alan S. Brown
Walter Brunhumer
Richard T. Burke
Albert Castel
Sherwood S. Cordier
Edward O. Elsasser
Robert J. Hahn
H. Nicholas Hamner
Graham P. Hawks
Franklin B. Holder
John T. Houdek
Margaret B. Macmillan
Paul L. Maier
A. Edythe Mange
Gilbert W. Morell
Howard A. Mowen
Andrew C. Nahm
Emanuel Nodel
Dale Pattison
Johannes Postma
Russell H. Seibert
John R. Sommerfeldt
Charles R. Starring
C. David Tompkins
John Yzenbaard

MAJORS AND MINORS

Students who plan to major in History should consult the Department Head as early as possible in their college careers. Those planning a minor should ascertain from the Department Office the advisers for minors and should consult one of these at least as early as the end of the sophomore year.

Requirements for both the major and the minor

Both courses in Western Civilization (General Studies 100 and 101). Students in the Elementary Education curriculum may count 8 hours credit towards the major or minor; those in other curricula may count only 4 hours.

The basic American History courses (210-211). In certain cases, permission may be granted to substitute advanced courses in American history.

In addition to the required number of hours in History, majors and minors in the Elementary Education and Junior High School Curricula are expected to complete 2 courses in Economics, Sociology, Political Science, or Geography. The required course in American government cannot be used to satisfy this requirement. Except for those in the Elementary Education curriculum, courses taken to satisfy a General Studies requirement may not be used to fulfill this requirement.

In addition to the required numbers of hours in History, majors and minors in the Secondary Education curriculum are expected to complete one course in Economics.

Requirement for the minor

At least 18 hours credit in History.

Requirements for the major

At least 24 hours credit in History for students in the education curricula and 30 hours credit in History for those in other curricula.

The following distribution is required:

(1) Two courses in the 500-series
(2) One course in each of the following fields:
  (a) United States, British, or Michigan history
  (b) Ancient, Medieval, or Modern European history
  (c) Asian, Latin American, East European, Russian-Soviet, or African history.

Students planning to teach history in secondary schools are urged to elect Social Science 300 (Teaching of the Social Sciences in the Secondary Schools), and for those majoring in History in the elementary education curriculum, Social Science 506 (Teaching of Social Sciences in the elementary schools) is advised.

Students planning to do graduate work in History are urged to elect two years of foreign language.

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 3 semesters, attained a 3.3 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, and 598, to fulfill all the regular requirements for a History major, and earn a 3.5 point average for all courses counted towards the major.

BASIC COURSES

100 Western Civilization (to 1650) **4 hrs. Fall, Winter**

For description, see Division of General Studies.

101 Western Civilization (since 1650) **4 hrs. Fall, Winter**

For description, see Division of General Studies.

210 The United States to 1877 **3 hrs. Fall, Winter**

A mature approach to American history from colonial beginnings to the end of the Reconstruction.

211 The United States since 1877 **3 hrs. Fall, Winter**

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. Fall, Winter**

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.

316 Economic History of the United States **3 hrs. Fall, Winter**

This course is planned especially for students planning on a career in business.

321 History of the Negro in American Life **3 hrs. Winter**

A survey of the history of the Negro in the United States from colonial times to the present and an appraisal of Negro contributions to American life.

340 Russia to 1917 **3 hrs. Fall**

Political, economic, and cultural development of Russia in the Kievan, Muscovite, and Imperial periods.

341 The Soviet Union **3 hrs. Fall, Winter**

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. Fall**

A survey of British history from about 1500 to 1815.

343 Great Britain and the British Commonwealth **3 hrs. Winter**

Great Britain since 1815 and the evolution of the British Commonwealth of Nations.

344 Eastern Europe **3 hrs. Winter**

Social, political, and economic developments in Czechoslovakia, Poland, Hungry, Rumania, Yugoslavia, and Albania from the 10th century, A.D. to the present.

345 The Baltic Region **3 hrs. Fall**

The history of the Finns, Estonians, Latvians, and Lithuanians from the earliest times to the present.

349 The Ancient Near East **3 hrs. Winter**

A cultural study of archaeology, early man, and the ancient civilizations of the Sumerians, Babylonians, Egyptians, Hittites, Phoenicians, Hebrews, Assyrians, and Persians.

350 Ancient Greece **3 hrs. Winter**

Aegean civilization, the Homeric Age, Athenian and Spartan civilizations, Hellenism, and the achievements and cultural legacy of the Greeks.

351 Ancient Rome **3 hrs. Fall**

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. Fall**

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. Winter**

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. Fall**

The colonization of America by Spain and Portugal, and the development of Latin America to the end of the wars of independence.

371 The Latin American Republics **3 hrs. Winter**

Latin America since independence, with special stress on foreign relations.

380 The Early Far East **3 hrs. Fall**

A study of political, social, economic, and cultural history of Far Eastern peoples in pre-modern times.

381 The Modern Far East **3 hrs. Winter**

European expansion into the Far East, its effect on Far East cultures, the decline of colonialism and rise of nationalism.

HONORS AND INDEPENDENT STUDY COURSES

390 Introduction to the Study of History 2 hrs. Fall

The history, methods, and philosophy of historical studies. Consideration of bibliographies and subjects for independent study. This course is designed for students planning to work for Honors in History.

470 Independent Reading in History 2-3 hrs. Fall, Winter

Reading on some selected period or topic, under 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 Research in History 2-3 hrs. Fall, Winter

Research on some selected period or topic under 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.

ADVANCED COURSES (Courses dealing with a restricted chronological period or special phase of history)

I. Intellectual History

506 Intellectual History of Western Man to 1550 2 hrs. Fall

A study of the leading ideas and intellectual movements in western civilization from the earliest times to about 1550.

507 Intellectual History of Western Man Since 1550 2 hrs. Winter

Modes of thought and expression characteristic of the Renaissance; the scientific revolution of the 17th century; classicism and the baroque in literature and the arts; the 18th century Enlightenment; liberalism and nationalism in the 19th century; materialism and socialism, formation and leading features of the contemporary world view.

509 American intellectual history 4 hrs. Fall

The development of American thought from colonial times to the present. The writings and ideas of leading American philosophers, educators, theologians, political scientists, economists, and scientists will be read and discussed.

II. United States History

510 Field Course in Michigan History 3 hrs. Summer, 1966

Preliminary readings and lectures, followed by about 16 days of bus travel through Lower and Upper Michigan visiting places of historic interest. Priority given to students seeking credit. Prerequisite: either History 310 or Geography 510.

511 Historical Museums Workshop **3 hrs. Not offered 1965-66**
Lectures, demonstrations, field trips, reading, discussion, and work experiences in museum theory and techniques. Prerequisite: a college course in American history or Michigan history.

516 Constitutional History of the U.S. to 1877
3 hrs. Not offered 1965–66
The development of constitutional theory and practice, with emphasis on the establishment of the governmental system and federal-state relations.

517 Constitutional History Since 1877 **3 hrs. Not offered 1965-66**
Continuation of Course 516 down to the present, with emphasis on federal regulation of the economy and civil rights.

518 History of United States Foreign Relations **3 hrs. Fall**
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. Fall**
The English colonies in America, both continental and island, 1607-1763, with emphasis on the development of institutions and imperial policy and administration.

521 Era of the American Revolution **3 hrs. Fall, Winter**
The causes, character, and consequences of the American Revolution.

522 The Early National Period, 1789-1848 **4 hrs. Fall**
The establishment of the national government; political, social, and cultural development; Jacksonian democracy; westward expansion.

524 The Civil War and Reconstruction **3 hrs. Winter**
Causes and course of the Civil War; its significance and aftermath.

532 From Reconstruction to the Great Depression: 1877-1929
4 hrs. Fall
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. Winter**
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

541 The U.S.S.R. in World Affairs **3 hrs. Not offered 1965-66**
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. Winter

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.

544 Medieval England 3 hrs. Fall

English history during the Middle Ages, especially the period after the Norman conquest; the development of economic, social, religious, and governmental institutions.

545 Victorian England 3 hrs. Winter

The character of Victorian England and its impact on the world.

547 Twentieth century Britain 3 hrs. Not offered 1965-66

British development since 1900 and the changing character of the Empire and Commonwealth.

IV. European History

552 The Medieval Church 3 hrs. Fall

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 Social and Economic History of the Middle Ages 3 hrs. Winter

The feudal system, the role of merchants and bankers, education, life in the town, medieval science and the arts.

554-555 The Renaissance and Reformation 4 hrs. Fall

554: The Renaissance: life, thought, and art of the period; humanism, social and economic life in Renaissance Europe.

555: The Reformation: The break-up of the Medieval church and its significance.

557 17th Century Europe 3 hrs. Winter

The Thirty Years War and the shifting of power relationships; colonial enterprise and colonialism; absolutism; the rise of science; the baroque spirit.

558-559-The Old Regime, the French Revolution and Napoleon 4 hrs. Fall

558: The Old Regime: the development of absolutism; institutions, life, and thought of the 18th century with special emphasis on France.

559: The French Revolution and the Napoleonic era; the overthrow of the French monarchy; the rise and fall of the Napoleonic Empire; the spread of revolutionary principles throughout Europe.

560 Continental Europe, 1815-1914 4 hrs. Fall

The reaction following the Napoleonic wars; revolutions in behalf of liberalism and nationalism; the emergence of new states; the growth of nationalism and imperialism.

562 Europe from 1914-1945 **3 hrs. Fall, Winter**

The origins and nature of World Wars I and II; the Great Depression; rise of Fascism, Nazism, and Communism.

563 Europe since 1945 **3 hrs. Fall, Winter**

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 Mexican History **3 hrs. Winter**

The evolution of Mexico from the Wars of Independence to the present, with special attention to relations with the United States.

575 Canadian History **4 hrs. Fall**

A survey of canadian history from the time of the earliest French settlement to the present, with emphasis on Canada's political and economic development within the British Empire and Commonwealth.

VI. The Far East and Africa

580 China since 1912 **3 hrs. Not offered 1965-66**

The impact of the West on China before and after the Revolution of 1912; transition from Nationalism to Communist China; origins and growth of Communist China, its impact on world peace, its aims and aspirations.

581 Modern Japan **3 hrs. Winter**

The opening of Japan to the West; the rise of Japanese militarism; World War II; the Allied occupation; Korea under Japanese rule; domestic and foreign affairs since World War II.

588 Africa in the 20th Century **3 hrs. Winter**

Political, social, and economic developments in Africa south of the Sahara, 1885 to the present; the rise and fall of colonialism in Africa and the emergence of independent states.

VII. General Courses

592 The Literature of History **2 hrs. Winter**

Selected writings of great historians with the purpose of evaluating different approaches to history, the use of sources, handling of controversial matters, and developing appreciation of good history.

593 The Philosophy of History **2 hrs. Fall**

An inquiry into the conscious and unconscious attitudes towards history, which, when systematized, are philosophies of history. The thought and positions of such thinkers as St. Augustine, Ibn Khaldun, Marx, Dilthey, Spengler, Toynbee, and Jaspers.

594 War in the Modern World **3 hrs. Fall, Winter**

The evolution of military theory and doctrine; modern mobile warfare; guerilla and revolutionary warfare since World War II; strategic problems in the era of ballistic missiles.

SERVICE COURSES (Courses designed especially for students in the education curricula)

299 Representative Americans **3 hrs. Fall**

Reading and discussion of biographies of representative Americans selected from different fields, such as business, science, education, the arts, politics, and diplomacy. Especially for students in the elementary education curriculum.

569 Background for Recent European History **2 hrs. Winter**

For seniors and graduate students not majoring in History. The movement towards European unity; the cold war; currents of contemporary thought; economic development; changing political and cultural patterns.

Political Science

William V. Weber, Head

Robert J. Batson
Mary J. Bullock
Samuel I. Clark
Roland H. Ebel
Milton Greenberg
Nita G. Hardie
Robert W. Kaufman
C. I. Eugene Kim
George Klein
Helenan S. Lewis
Richard L. McAnaw
James E. Nadonly
Roy Olton
Claude S. Phillips, Jr.
Jack C. Plano
William A. Ritchie
Robert D. Smith
Leo C. Stine
Frank L. VanVoorhees

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) make clear the role which individuals and organized groups can play in the political process; and (7) demonstrate 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 American Government 3
250 International Relations 4
340 or 342 Comparative Government 4
One course in theory 4 or 5

In addition to the requirements, students must choose 14 or 15 hours of additional work in at least two fields with no more than 9 hours in any one field. It is recommended that students in a teaching curriculum choose American Government as one of their fields.

The minor core requirements are:

200 American Government 3
250 International Relations 4
340 or 342 Comparative Government 4
Plus 9 hours of electives

Core requirements may be waived with the written permission of the Head 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 124 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 Institute of Public Affairs is a program of Western Michigan University aimed at bringing to all of Southwestern Michigan, the research expertise and the instructional skills of the university staff as they can be applied to public problems. The Institute has the function of being a bridge between the knowledge and skills of the academic community and the public where democratic solutions of current problems must be made.

The Michigan Center for Education in Politics offers a series of activities which are designed to interest the student in practical politics. The headquarters was permanently established at Western in 1964. The program, directed by Dr. Robert W. Kaufman, includes legislative internships, summer internships, senior party training seminars, and political issues. Some activities accommodate large numbers of students, while others especially the intern programs are selective and highly competitive. Qualified, interested students are invited to make further inquiry at the Michigan Center headquarters in Sangren Hall.

AMERICAN GOVERNMENT

200 American Government **3 hrs. Fall, Winter**

An introductory survey of American national, state, and local government. This course introduces the basic principles and theories of American government, explores the political process, describes the structure, and illustrates its functions. This is the basic course in political science and is generally a prerequisite for other courses in political science.

302 State and Local Government **4 hrs. Fall, Winter**

A study of the governing processes and institutions in the local living place and of the state governments in the United States. Comparison of policy-making, services extended, financial resources, administrative arrangements in rural, urban, metropolitan governments as well as the states. Counties, towns, townships, villages, special districts, and cities will be examined. Prerequisite: 200 or equivalent.

500 Municipal and Urban Government **4 hrs. Fall, Winter**

An intensive analysis, with library and field research exercises, of the ecology, legal powers and limitations, administrative structure, decision-makers, and process of government in urban America. Alternative arrangements for governing metropolitan areas will be examined and compared. Prerequisite: 302 suggested.

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 interrelationships 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: 324 suggested.

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 determinations. Prerequisite: 200 or a course in Economics.

PUBLIC ADMINISTRATION

330 Public Administration 5 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 or 302.

530 Problems of Public Administration 3 or 4 hrs. Winter

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.

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.**

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.

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. Prerequisite: 200 or a course in world history or equivalent.

350 American Foreign Policy **4 hrs. Fall**

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.

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.

554 International Law and Organization **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.

POLITICAL THEORY

360 History of Political Philosophy **5 hrs. Fall, Winter**

An introduction to the political thought of the Ancient, Medieval and Modern World. The works of the great political philosophers will be studied in their historical setting. 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 political problems.

560 Comparative Political Idealogies **4 hrs. Fall**

A consideration of the functions of ideology in various political systems. Communism, Fascism, and Democracy are directly considered.

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.

598 Studies in Political Science **1 to 4 hrs. Fall, Winter, Spring, Summer**

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 Head of Department and instructor.

Sociology and Anthropology

Leonard C. Kercher, Head

Elizabeth E. Baldwin
John W. Barkey
Donald H. Bouma
Milton J. Brawer
J. Ross Eshleman
William Garland
Paul B. Horton
Chester L. Hunt
David M. Lewis
Helenan S. Lewis
Robert F. Maher
Jerome G. Manis
Nellie N. Reid
James A. Schellenberg
Herbert L. Smith
Robert Jack Smith
Subhash R. Sonnad
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 anthropology; and (4) to stimulate interest in and provide prerequisite study for the profession of social work.

The Department of Sociology and Anthropology offers three majors as follows:

Major in Sociology—(24 hours) Courses 200, 582 and one of 210, 230 or 330 with no less than 18 hours being in sociology courses.

Major in Anthropology—(24 hours) Courses 200, 230 and 330 with no less than 18 hours being in anthropology.

Combined Major in Sociology and Anthropology—(30 hours) Courses 200, 230, 330, 582 with at least 12 hours in each of the two fields, sociology and anthropology.

In addition, the department offers three minors, with the following requirements:

Minor in Sociology—(18 hours) Courses 200, and one of 210, 230 and 330 with no less than 12 hours being in sociology.

Minor in Anthropology—(18 hours) Courses 200, 230 and 330 with no less than 12 hours being in anthropology.

Minor in Social Work—(15-20 hours) Selected from courses 260, 362, 364, 462, 463, 560, 580, 582.

A student majoring in either sociology or anthropology is not permitted to minor in the other, and a student in the combined major may not minor in either. Courses 504 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 the instructor in social work, Mrs. Nellie Reid.

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 or in work at Merrill-Palmer should consult Dr. Leonard C. Kercher, Room 2406, Sangren. Those who wish to learn more about the anthropology major or minor should see Dr. Robert F. Maher. For the combined major, the student may contact either Dr. Kercher or Dr. Maher.

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 Milton Brawer, Assistant 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 4 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. 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.

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 **2 hrs. Fall, Winter**

A study of race and inter-group relations, stressing (1) the meaning of race, (2) the nature and roots of race prejudice, race discrimination, and inter-group conflict, and (3) the character and effectiveness of various means of adjustment to the problem. Prerequisite: Soc. 200.

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 indivdual 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.

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*600 Social Dynamics of Human Behavior is a foundational course in sociology at the graduate level.

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.

ANTHROPOLOGY

230 Introduction to Anthropology 4 hrs. Fall, Winter

An introduction to the principal fields of anthropological study in terms of their concern with the nature of man as it is revealed in his development as a creator and user of culture.

330 Cultural Anthropology 4 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 structural and functions of culture are considered along with its relationships to environment, society, and the individual.

334 Peoples and Cultures of North Africa and the Middle East 3 hrs.

A study of the cultures of nomadic and sedentary groups from Morocco to Afghanistan, including consideration of religious, colonial, and nationalistic influences. Prerequisite Soc. 200 or 230 or 330.

335 Peoples and Cultures of Sub-Saharan Africa 3 hrs.

A survey of the cultures, ecology and prehistory of the peoples of sub-Saharan Africa. Prerequisite: Soc. 200 or 230 or 330.

336 Peoples and Cultures of Asia 3 hrs.

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: Soc. 200 or 230 or 330.

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: Soc. 200 or 230 or 330.

341 The Archeology of North America 3 hrs. Fall

The prehistoric development of man and culture in the New World north of Mexico. Prerequisite: Soc. 230 or consent of instructor.

344 The Rise of Civilization in the Near East 3 hrs.

Cultural developments in the Near East from the beginnings of agriculture to the emergence of urban civilization, including comparative data

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*600 Social Dynamics of Human Behavior is a foundational course in sociology at the graduate level.

from both the Old and the New World which bear upon the genesis of urban societies. Prerequisite: Soc. 230 or consent of the instructor.

347 Human Evolution **3 hrs.**

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.

532 Culture and Personality **2 hrs.**

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: Soc. 200 or 330, or 600, or consent.

533 Changing Social Systems—Sub-Saharan Africa **2 hrs.**

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 330 or consent of instructor.

534 Peasant Societies in Cross-Cultural Perspective **3 hrs.**

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: Soc. 330 and one of 334, 335, 336, 337 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: Soc. 230 and 330 or consent.

537 Politics in Primitive Societies **3 hrs.**

Theoretical and descriptive analysis of the political aspect of primitive societies; the relation of politics to technological development, habitat, and social organization. Prerequisite: Soc. 330 or consent of instructor.

538 Law in Primitive Societies **3 hrs.**

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: Soc. 330 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.

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. Interpretative visits to varied types of social work agencies are made.

362 Family and Child Adjustment **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.

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. The class will observe a community organization agency by visits to its meetings and offices.

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. Prerequisite: Social Work curriculum and consent of instructor.

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. Prerequisite: Soc. 462, 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

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.

573 The Sociology of Political Behavior **3 hrs. Winter**

Systematic sociological theory and research applied to the study of American political behavior, including such topics as power, decision making, leadership, and communications. Prerequisite: 9 hours sociology and 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 industrial relations with emphasis on the characteristics of modern industrial organization including mass production, bureaucratic structure, and specialization, and their consequences for society; a consideration of the power relationships between unions, management, and government.

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 1965-66.

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 Introduction to Social Statistics **3 hrs. Fall**

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 if 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 to be taken by students planning to take 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. Not to be taken by students who had 290. Prerequisite: Soc. 200 or equivalent.

490 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**

Provide 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 preparation 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.

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.

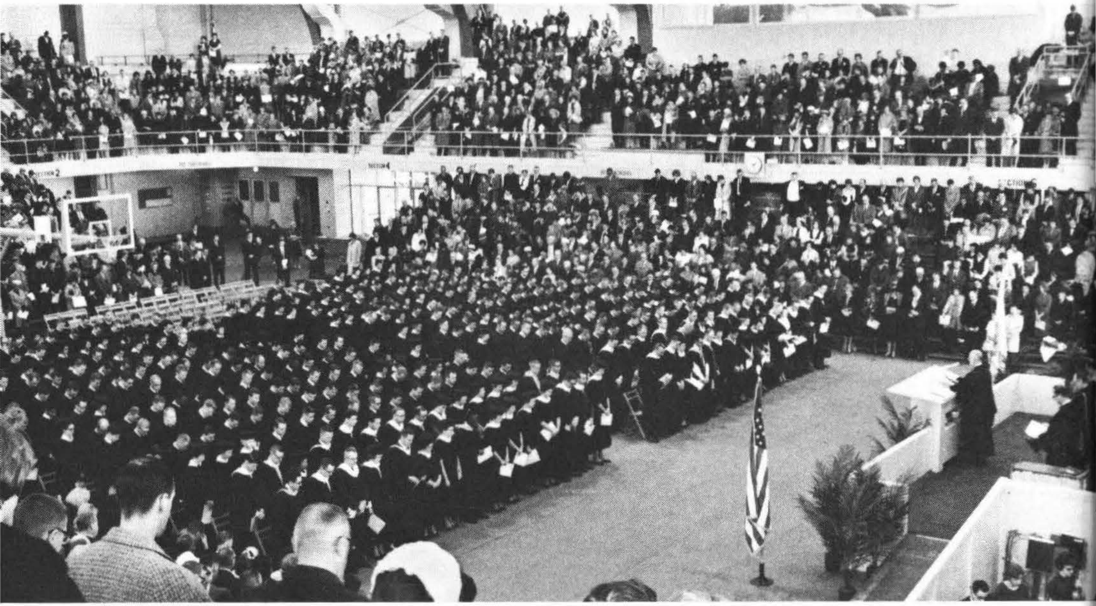
School of Graduate Studies

GEORGE G. MALLINSON,
Dean

LEO C. STINE,
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. Since then programs that lead to the Master of Arts degree in Biology, Blind Rehabilitation, Chemistry, Economics, English, Geography, History, Home Economics, Language, Librarianship, Mathematics, Medieval Studies, Music, Occupational Therapy, Physics, Political Science, Psychology, Sociology and Speech Pathology have been developed. The Master of Business Administration degree is also offered.

A Specialist in Education degree is now offered for completion of a sixth-year program in School Administration; including Directors of Curriculum, Guidance, Special Education, School Psychological Examiner, and in certain subject matter areas.

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 1 (1965 only)	Summer Session
August 1	Fall Semester
December 1	Winter Semester

Foreign students must apply for admission one month before the above dates.

ADMISSION — TYPES

1. Admission Without Reservations. This type of admission is awarded to the student whose previous academic record merits such consideration and who satisfactorily passes the English examination and meets the requirements for the curriculum selected. 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 grade-point average of at least 2.6 for the last two years of undergraduate work is normally required for admission. A few students may be admitted by the Admissions and Standards Committee whose undergraduate record falls below that point. 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 to a program before being granted admission without reservation.

2. Tentative Admission Pending Receipt of the Bachelor's Degree. A student may receive tentative admission during the final semester of his undergraduate work. Final admission will be determined when a transcript is submitted giving evidence of satisfactory completion 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 six hours or less to complete the requirements for the Bachelor's degree, may seek admission to the School of Graduate Studies during 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. A student who does not desire to enroll in a degree program but wishes to enroll in courses may secure admission as a non-degree student. A transcript of his undergraduate work must be submitted. A non-degree student need not take the English examination. The School of Graduate Studies gives no assurance that work taken as a non-degree student will be counted toward graduation or that the student will be later accepted into a degree program.

5. 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 six hours of graduate work with the stipulation that his admission will be reviewed after the completion of the six hours. This admission will also require an English examination.

6. 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.

ADMISSION — 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.

2. Determine from Section I of the *Bulletin* the type of admission that is desired.

3. Select from Section II of the *Bulletin* the program of study that will be pursued.

4. Return the Application for Permission to Enroll six weeks before registration.

5. Request the Registrar of all colleges previously attended to send transcripts of credits to the School of Graduate Studies, Western Michigan University. Transcripts are also due six weeks before registration.

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 day of each term.

RE-ENTRY

Students who have once been admitted to the School of Graduate Studies need not file for re-entry so long as they attend classes on campus at least once during the past two years. Those who wish to register for classes should file for re-entry by notifying the Graduate Office of their intention three weeks before the date the student desires to register.

Students who have taken classes only by extension must file for admission to take courses on campus by notifying the Graduate Office of their intention three weeks before the date the student desires to register.

GENERAL REQUIREMENTS FOR A MASTER'S DEGREE

(Units may add other requirements)

1. Admission
   - 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 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
   - a. An application for Candidacy for the Master's degree is required during the semester in which the tenth hour of graduate credit at Western Michigan University is being completed.
   - 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 courses taken on campus. A 3.0 overall average is also required.
3. Graduation
   - a. Diploma Application

     A diploma application must be submitted no later than the final registration date of the semester in which the student expects to complete his work for the Master's degree.

b. Minimum Credit Hours

Completion of a program of study outlined by an adviser 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 summer (5 semester hours minimum) or one semester (10 semester hours minimum) of residence on campus is required. Students who are employed over a twelve-month period may register for four consecutive semesters of on-campus work in lieu of the five or ten 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 if all of that work is taken in the residence center. 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. 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 6 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 the grade was B or better.
2) The student's adviser verifies that the credits contribute to the student's program of study.
3) The School of Graduate Studies approves the credits for transfer.

g. Time Limit

All work accepted for the degree program must be elected within six years prior to the date of completion of the degree.

Graduate School News is a newsletter published once each term to report on the activities of the School of Graduate Studies. The newsletter is distributed to students who have an active enrollment status and to their graduate advisers. It will include important information which will supplement the information given above.

SPECIALIST DEGREE

The Sixth-Year Programs lead to the degree Specialist in Education and are offered in the nine areas of General School Administration, Elementary School Administration, Secondary School Administration, School Personnel Administration, School Business Management, Director of Curriculum, Guidance and Personnel Services, Special Education, School Psychological Examiner and in certain subject matter areas. The degree is awarded after satisfactory completion of a minimum of 60 semester hours of graduate work beyond the Bachelor's degree.

The Specialist in Education degree is designed to produce educational leaders who are competent persons, broadly and deeply educated, and well-versed in the professional qualifications required of their respective educational tasks. With this in mind and considering the individual plans of each applicant, a flexible curriculum has been designed to meet the personal needs of the students. It is anticipated that most candidates for the Sixth-Year Program will have already earned Master's degrees. No student is accepted, except in the subject matter programs, until he has completed 20 hours of graduate level work. The program, however, is conceived as a well-articulated Fifth- and Sixth-Year Program, covering a minimum of two years, or 60 hours, of graduate work. For those student's entering with only 20 hours, the Master's degree may be awarded on completion of a minimum of 10 additional hours if all other institutional requirements for that degree are met. The degree of Specialist in Education is awarded upon successful completion of the entire program.

The applicant for admission to the Specialist in Education degree program must:

1. Be admitted to the School of Graduate Studies; have earned a Master's degree or completed a minimum of 20 semester hours at a recognized graduate school with an academic average of at least 3.25 (A=4, B=3) in all graduate work; Applicants may achieve a 3.25 average by submitting more than 30 semester hours; however, only 30 hours will count as part of the Sixth-Year program.
2. Have achieved an acceptable score on the appropriate tests of a standardized examination.
3. Have demonstrated competence in English usage.
4. Secure a favorable rating from a three-member interviewing team representing the School of Education prior to the completion of the first term of registration at the University.
5. Present evidence of potential leadership ability.

After admission to the program, the applicant must complete the requirements of his curriculum with an overall graduate average of 3.25 or better.

The applicant must have completed at least one year of successful teaching experience prior to the completion of the program. In certain non-administrative curricula equivalent experience may be accepted.

Application for Candidacy for the Specialist in Education degree must be initiated at the end of the semester when 40 graduate hours are completed.

The minimum acceptable residence requirement for the Specialist in Education degree is a planned full-time campus load for at least one semester or two half-semesters, including courses, seminars and a supervised internship or field project.

Librarianship

Jean Lowrie, Head

Esther Carter	Edward Warner
Martin Cohen	Laurel Grotzinger

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 sequence 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 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

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 200	3
4. Social Sciences	
American Government	3
History electives	6
Sociology 200	4
5. Librarianship	
Introduction to Librarianship 100	2
Organization of Library Materials 230	2
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	
Total hours required for this curriculum	124 hours

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.

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*Courses open to students in other departments.

230 Organization of Library Materials 2 hrs. Fall, Winter

Methods of organizing various types of materials such as books, periodicals, pamphlets and audio-visual aids for effective use in relation to the demands of schools and of the community. Emphasis is placed upon practical methods of keeping essential business records, book buying, processing and distributing books and with a minimum of routine in schools and in small public libraries.

Upperclassmen and Graduate Students

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.

***516 Elementary School Library Materials** 3 hrs. Winter

Problems in the selection and evaluation of books, periodicals, films, recordings and other materials for children with special emphasis on the content areas in the elementary school curriculum. Methods of stimulating interest in reading with attention to the retarded as well as to the gifted child. For teachers, parents, librarians and others who work with children. Prerequisite: 282 Children's Literature or the equivalent.

520 Field Assignment and Seminar 2 hrs. Fall, Winter

An assignment in selected cooperating libraries for the purpose of giving the student experience in the organizational and administrative activities in specific types of libraries as basis for understanding their function and the principles underlying policy. The assignment may precede the opening of college or may be carried on during the term. Laboratory period for discussion of problems is held throughout the term. Term project also required of graduate students enrolled.

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 headings and in cataloging non-book materials.

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*Courses open to students in other departments.

531 Technical Processes: Instructional Materials Centers 4 hrs. Fall

An introductory course in classification and cataloging in which emphasis is placed on processing materials for the instructional materials center. Includes processing of books and other printed matter and audio-visual materials. Includes also principles of application of the Dewey Decimal Classification system, the assignment of subject headings, adaptation of printed catalog cards and introduces various methods of processing audio-visual materials both for individual schools and centralized processing for systems. Includes 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 of conducting group book discussions with young people. Open to students in the Education Department and to others who expect to work with youth.

***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.

Scholarships and Grants

The scholarship program at Western Michigan University is intended to provide the means to reward academic excellence and to alleviate financial need. Students in all curricula may apply for scholarships ranging in monetary value from $50 to $1,100 per year.

Students at Western also have the opportunity to apply for scholarships in their special fields of interest through the various academic departments. These scholarships, many of which are described on the following pages, are offered by private 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 and Loans, Western Michigan University. They are also obtainable at most Michigan high schools at the office of the principal.

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*Open to non-librarianship students.

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 $1,100 per year, offered annually to a limited number of outstanding students 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.

ASIAN STUDIES—The Asian Studies Committee offers scholarships covering student fees. Scholarships are restricted to students who have at least a minor in Asian Studies. Application should be made to the Asian Committee, c/o Dr. Chester Hunt, Department of Sociology.

ALVIN M. BENTLEY FOUNDATION SCHOLARSHIPS—The Alvin M. Bentley Foundation grants three Bentley Scholarships to incoming freshmen who are graduates of Michigan High Schools. The scholarships are one-year awards in the amount of $750 for a resident student, and $500 for a commuting student to be used to support scholastically able and financially needy students. The scholarship may be renewed once.

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 provide $90 per semester 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—This scholarship is open to incoming freshmen with good scholastic ability, character, personality, and citizenship. The applicant should be active in extra curricular activities, indicate seriousness of purpose and have financial need. Applicants must be February or June graduates of their high school and 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 office of Scholarships and Loans.

DETROIT EDISON COMPANY SCHOLARSHIP—This scholarship is open to freshmen entering Western from an area serviced by the Detroit Edison Company. Based on scholastic ability, character, personality, citizenship, and extra curricula activities, seriousness of purpose, and financial need. Applicant must be a February or June graduate of his high school. Amount of the award is $400 per year and is renewable once. Apply to the office of Scholarships and Loans.

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 scholarships are awarded annually for a period of four years to prospective freshmen who present outstanding scholastic and extra-curricula records from high school and show promise of continued success. Recipients are determined by the scholarship committee. The amount of the award is based on need which is determined by the College Scholarship Service and Western Michigan University. Apply to the office of Scholarships and Loans.

KALAMAZOO POLISH-AMERICAN CLUB SCHOLARSHIP — One Scholarship for four years will be awarded to a graduating 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.

THE STANDARDS BOARD SCHOLARSHIP—$250 for the year will be given to a girl who has displayed good academic standing and leadership qualities. She must have been a Western student for at least one year. Applications must be made to the Scholarship Chairman, Standards Board.

UNIVERSITY SCHOLARSHIPS—Western Michigan University annually grants a limited number of scholarships to outstanding and financially deserving freshmen. The scholarships range in value from $100 to $500 per year.

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

KALAMAZOO ACCOUNTANT'S ASSOCIATION SCHOLARSHIP—One award for student fees and automatic membership in the Kalamazoo Accountant's 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.

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

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 aptitudes, endeavor and financial need. The award is $100. 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 pleasing 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.

EDUCATION

THE ELIZABETH R. STEWART 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 Trustees Scholarships. Applications must be made to the Scholarship office and forwarded to the Michigan Congress of Parents and Teachers by July 1.

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.

INDUSTRIAL EDUCATION

ATLAS PRESS SCHOLARSHIP—Two scholarships offered by the Atlas Press Company to stimulate interest in Industrial Education. Open to any high school graduate in Michigan in Industrial Education curriculum who has had at least one course in Industrial Education. One award is for $400 and another for $100. Apply to the office of Scholarships and Loans.

MICHIGAN EDUCATION ASSOCIATION SCHOLARSHIP — This scholarship in the amount of $500, is awarded annually to a worthy and outstanding teacher candidate in each of the institutions of higher education in Michigan whose program of teacher preparation meets the standards of and is approved by the National Council for Accreditation of Teacher Education. The recipient must be a full-time student who has completed his basic requirements and has been accepted in the Teacher Education program. He must be an active member of the local Student Education Association chapter, and must have earned a grade point average of 2.5 or better. First consideration is given to juniors and seniors; second consideration to full-time graduate students. Candidates should apply to the Dean of School of Education prior to May 1.

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 inquires to Dr. Kristen Juul, Director, Special Education, Western Michigan University.

ENGINEERING AND TECHNOLOGY

ENGINEERING TECHNOLOGY

ASTME SCHOLARSHIP—The American Society of Tool Engineers offers $150 per semester to second semester freshmen, sophomores, juniors and seniors enrolled in either the Mechanical Engineering or Drafting and Design Curriculums. Apply directly to the Engineering and Technology Department.

CENTRAL MICHIGAN AFS SCHOLARSHIP—The Central Michigan Chapter of the American Foundrymen's Society offers two $125 scholarships per semester to juniors and seniors enrolled in the Mechanical Engineering Technology Curriculum, 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 $125 per semester to juniors and seniors enrolled in the Mechanical Engineering Technology Curriculum, who have a direct interest in the foundry 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.

OCCUPATIONAL THERAPY

EDNA BURIAN SKELTON SCHOLARSHIP FUND in occupational therapy is in the amount of $1,000. 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 sophomores, juniors and seniors, including advanced standing students. Grants will be made to freshmen when circumstances warrant and funds are available. Students should earn a minimum 2.5 grade average. Apply to the department of Occupational Therapy.

ELKS FOUNDATION—Offered to students engaged in specialized training in cerebral palsy, occupational therapy, physical therapy, and speech. The amount of the award varies to $1,200. Applications should be submitted to the Elks Foundation, 16 Court Street, Boston, Massachusetts.

KALAMAZOO SCHOOL ALUMNI ASSOCIATION SCHOLARSHIP—One scholarship is given to a beginning occupational therapy student with a definite need for a period of one year. A second scholarship is given under the same circumstances but may be retained for two years. One scholarship pays $100 for one year. The two-year scholarship pays $100 each semester. Apply to the Department of Occupational Therapy.

MICHIGAN OCCUPATIONAL THERAPIST ASSOCIATION—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 award is $100 and two awards are given annually. Apply to the Department of Occupational Therapy.

NATIONAL ASSOCIATION OF AMERICAN BUSINESS CLUBS—For juniors or seniors in occupational therapy who exhibit a definite need and who have at least a C average. The amount of the award varies. Applications should be submitted to Mr. W. Edinburgh, Executive Secretary, National Association of American Business Clubs, 207 Duke Building, Box 762, Danville, Illinois.

THE OFFICE OF VOCATIONAL REHABILITATION GRANT—Offered to juniors and seniors, advanced standing and clinical students in occupational therapy.

UNITED CEREBRAL PALSY GRANT—Two awards of $90 per student are given. The applicant must be an occupational therapy junior or above and exhibit scholarship as well as need. Apply to the Department of Occupational Therapy.

PAPER TECHNOLOGY

Approximately 60 scholarships having a total yearly value of about $36,000 are available 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 into the department also are eligible. Applications should be made to the head of the Department of Paper Technology.

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..

Scholarships to Michigan residents have a four-year value of $2,375 with allowances of $500 in the freshman year; $500 in the sophomore year; $625 in the junior year; and $750 in the senior year. Out-of-state residents receive an additional $300 a year to compensate for the non-resident differential in student fees.

As of January, 1965, the following corporations, foundations, associations and individuals are the major direct supporters of the Paper Technology Scholarship program.

Louis Calder Foundation
Appleton Coated Paper Co.
Appleton Wire Works Corp.
Beloit Corp.
Bergstrom Foundation
The Black-Clawson Co.
Lewis H. Breyfogle (in memoriam)
Cameron Machine Co.
The Champion Paper Foundation
Consolidated's Civic Foundation, Inc.
Container Corporation of America
Continental Can Co.
Corn Products Sales Co.
Dow Chemical Co.
The Dunn Paper Co.
Fletcher Paper Co.
Fox River Paper Corp.
French Paper Co.
Georgia Kaolin Co.
P. H. Glatfelter Co.
D. S. & R. H. Gottesman Foundation
A. H. Harman (in memoriam)
Hercules Powder Co.
J. M. Huber Corp.
Improved Machinery, Inc.
Kalamazoo Paper Co.
Kimberly-Clark Foundation
KVP-Sutherland Paper Co.
Mac Sim Bar Paper Products Co.
Chas. T. Main, Inc.
Marathon Foundation, Inc.
The Mead Corp.
Menasha Corp.
Minerals & Chemicals Philipp Corp.
Mosinee Paper Mills Co.
National Gypsum Co.
National Lead Foundation
Nopco Chemical Co.
Packaging Corp. of America
Papermaker's Felt Association
Lockwood Trade Journal Co.
The Paper & Packaging Association
Rayonier Foundation
Rice Barton Corporation
Russell H. Savage
St. Regis Paper Co.
Salesman's Association of the Paper Industry
Scott Paper Co.
Simpson-Lee Paper Co. (Norman Bardeen Memorial)
Stein, Hall & Co., Inc.
Stowe-Woodward, Inc.
Thilco Foundation, Inc.
Watervliet Paper Co.
Weyerhaeuser Paper Co.
Whiting-Plover Paper Co.

PETROLEUM DISTRIBUTION

CENTRAL MICHIGAN OILMEN'S CLUB—A scholarship 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 scholarship 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 scholarship 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 scholarships contact the Head, Department of Distributive Education.

SCIENCE

COMPETITIVE SCIENCE SCHOLARSHIPS—In connection with annual Science Day, a prospective freshman may compete for four scholarships ranging in value from $180 to $400 a year. They may be renewed annually provided the student carries a major in science or mathematics and maintains a satisfactory grade average.

JOHN E. AND EDWIN S. FOX SCHOLARSHIP—Open to beginning freshmen who show promise in the field of physics and who have maintained a 2.5 average in high school. The amount of the award is up to $500. It is not renewable. Application should be made to the Scholarship Office by April 1 and should be accompanied by a recommendation from the instructor in physics or mathematics.

JOHNSON FOUNDATION SCHOLARSHIP—Since September, 1953, the S. C. Johnson and Sons, Inc., of Racine, Wisconsin, has presented to a senior majoring in chemistry a scholarship of $500. The actual granting of the scholarship is administered by the Chemistry Department.

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 $300. These stipends may be continued for students maintaining a high scholastic record. Applications will be made on the regular University application form.

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 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.

UPJOHN COMPANY MERIT SCHOLARSHIP—The company is sponsoring a minimum of ten national merit scholarships. Eight are for students who plan to major in pharmacy, engineering, pre-medicine, or in one of the chemical or biological sciences, including one or more scholarships at Western Michigan University for science students from Southwestern Michigan. Two scholarships 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.

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 should be made to the Office of Scholarships and Loans.

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 and jobbers or employees who are high school graduates and interested in careers in petroleum. The grants cover tuition, fees and books. For information, contact the Head, Department of Distributive Education.

VETERANS' CHILDREN—Children of deceased or totally disabled veterans of the Armed Services may apply for waiver of students fees on the basis of need in the same manner as required of other applicants for scholarship assistance. For information concerning application procedures, write to Educational Consultant, Department of Public Instruction, Lansing, Michigan. For information concerning need analysis write to the Office of Scholarships and Loans, Western Michigan University.

FINANCIAL ASSISTANCE

Please address requests for information to the Student Aid Office. All funds are administered by the Committee on Students Loans. Unless otherwise indicated, a semester's residence is required before a loan is made.

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.

MICHIGAN LIBRARY ASSOCIATION, CONSTANCE BEMENT FUND —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 in Western Michigan University, who provided the sum of $500 for this purpose.

EMELIA GOLDSWORTHY CLARK ART FUND—This fund was established in 1920 by Mrs. Emelia Goldsworthy Clark, former head of the Art Department at Western Michigan University. The fund, as long as money is available, is intended to provide tuition for a year for a gifted Kalamazoo Central High School or University High School Art Student. Recommendations are made by the head of the Art Department.

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.

FRENCH STUDENT LOAN FUND—The fund was started in 1944 by Miss Marion Tamin in tribute to the students of French who have made the supreme sacrifice on the battlefields of the world, insuring thus the liberation of France.

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.

CARL H. KIZER MEMORIAL LOAN—Established by Helen E. (Kizer) Wood and Fred Kizer. Eligible students may borrow a maximum of one semester's student fees. Apply to the Distributive Education Department.

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.

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.

NATIONAL DEFENSE STUDENT LOAN FUND—Loans are available to Western Michigan University students under the National Defense Education Act, Title II. This act is administered by the United States Office of Education. Loans from this National Defense Student Loan Fund shall be made reasonably available to all eligible applicants. An "eligible" applicant is a student who is enrolled or has been accepted for enrollment as an undergraduate or graduate student, has filed an application for a loan from the fund, is in need of the amount of the loan to pursue his course of study, and in the case of an applicant for admission to the University, is capable in the opinion of the University of maintaining a satisfactory academic record, or in the case of a student attending the University, has already established such a record.

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.

GRAND RAPIDS AND DETROIT PANHELLENIC SOCIETY LOAN FUND—The Grand Rapids and Detroit Panhellenic Society has established a permanent Student Loan Fund for emergency or long term loans available to deserving women students to continue their education. It is preferred that this fund be loaned to sorority members but if they have no use for it, it can be loaned to any needy woman student.

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 $50. 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 Departmnt.

ROTARY STUDENT LOAN—A short-term loan fund available to foreign 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 upper-classman with a point-hour ratio of at least 2.5. The loans are non-interest bearing.

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.

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.

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.

W.M.U. 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 per cent is charged, and notes not exceeding one year are accepted.

AWARDS

DEPARTMENTAL

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, accidently 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. Required qualifications are on file in the Office of the Registrar.

ENGLISH—The George Sprau Award in English is given to the graduating senior with the best grades in English throughout his university career.

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.

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 is an annual award of $25 and a letter of commendation given by the Alumni Association to an outstanding senior in the department 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 of $50 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 and $10 cash is awarded to the best freshman student in physics.

POLITICAL SCIENCE—The D. C. Shilling Award was 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 $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.

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.

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:

EDUCATION—University Elementary and High School are housed here.

ELECTRONICS—Houses classrooms for Department of Engineering and Technology.

HEALTH SERVICE—Two floors of this building are devoted to the University Health Service. Also housed are the Psycho-Educational and Speech clinics.

INDUSTRIAL EDUCATION—Industrial Education Department and University Print Shop.

MAINTENANCE—Headquarters for physical plant services, safety and security.

MECHANICAL TRADES—A 1941 gift from the W. E. Upjohn Unemployment Trustee Corporation of Kalamazoo, this structure houses much of the Department of Engineering and Technology.

NATURAL SCIENCE—Occupied by the School of Business and University High School.

SCHOOL OF BUSINESS—The former general library building, now completely remodeled for the School of Business. A Business library for east campus classes is included in the structure.

THEATRE—Center for campus dramatic and speech activities. The auditorium, with a completely equipped stage, seats 350.

WALWOOD UNION—East campus student center provides a snack bar, cafeteria, meeting rooms and the ballroom. The Alumni Association and student publications also have their offices here.

SPEECH ANNEX—University High School art department and offices for the speech department.

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, and classrooms for language and literature.

ARCADIA—The Department of Occupational Therapy is housed here.

DISTRIBUTIVE EDUCATION—Distributive Education and Dramatics.

DWIGHT B. WALDO LIBRARY—This is the main library building, and in addition to its book collection, includes the Department of Librarianship, the university of Audio-Visual Center, and television studios.

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

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.

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-sized 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.

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

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

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

STUDENT AND FACULTY HOUSING

Archie Potter, A.M., Director of Housing.

EAST CAMPUS RESIDENCE HALLS

LAVINA SPINDLER HALL—202 women; Mrs. Lilas Blakney, director.

HENRY VANDERCOOK HALL—208 men; Mr. and Mrs. Joe Serra, directors.

WALWOOD HALL—117 men; Mr. and Mrs. Patrick Bidelman, directors.

WEST CAMPUS RESIDENCE HALLS

HUGH M. ACKLEY HALL—271 men; Mr. and Mrs. Charles Richards, directors.

HOWARD BIGELOW HALL—428 men; Dr. and Mrs. Conrad Hill, directors.

LEOTA C. BRITTON HALL—249 women; Mrs. Margaret Willis, director.

BERTHA DAVIS HALL—241 women; Mrs. Esther Thompson, director.

BLANCHE DRAPER HALL—254 women; Mrs. Eunice Bennett, director.

EDITH EICHER HALL—271 women; Mrs. Marian Strait, director.

ERNEST BURNHAM HALL—247 women; Mrs. Lillian Dressel, director.

FRANK ELLSWORTH HALL—428 men; Dr. and Mrs. Richard Pippin, directors.

ELMWOOD APARTMENTS—192 units for married students.

ANNA FRENCH HALL—285 women; Mrs. Edith Lake, director.

WALLACE GARNEAU HALL—257 men; Mr. and Mrs. Phillip Bruce, directors.

THEODOSIA HADLEY HALL—271 women; Mrs. Mary Friedli, director.

LeROY H. HARVEY HALL—271 men; Mr. and Mrs. Jack Fox, directors.

THEODORE HENRY HALL—420 men; Mr. and Mrs. C. N. VanDeventer, directors.

JOHN C. HOEKJE HALL—418 men; Mr. and Mrs. William Yankee, directors.

HILLSIDE APARTMENTS—32 units for faculty and staff.

ALICE L. LeFEVRE HALL—257 women; Mrs. Thelma Barnard, director.

GRACE AND MARY MOORE HALL—290 women; Mrs. Lucille Yost, director.

NORTH VALLEY APARTMENTS—96 units for married students.

D. C. SHILLING HALL—268 men; Mr. and Mrs. Bruce Kocher, directors.

LYDIA SIEDSCHLAG—247 women; Mrs. Katharine Chapman, director.

SMITH BURNHAM HALL—258 women; Mrs. Ruth Stevens, director.

ZIMMERMAN HALL—253 women; Mrs. Gladys Hartwick, director.

ATHLETIC FACILITIES

HYAMES FIELD—An excellent collegiate baseball layout. Permanent seating is provided for 2,500 people.

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 practice.

INTRAMURAL FIELDS—Two recreation fields adjacent to the married student housing facilities in North 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 10,000 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 North Valley.

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

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

OTHER FACILITIES

GEOGRAPHY AND GEOLOGY SUMMER FIELD CAMP—The camp is located on Round Lake in northwestern Schoolcraft County in Michigan's Upper Peninsula. It offers an ideal setting for study in the areas of field geography, field geology and conservation.

KLEINSTUCK WILDLIFE 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.

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 of the Student Association. This committee, consisting of students with a faculty advisor, will charter petitioning groups when prerequisites stated by the Committee on Student Life are met.

No organization is authorized to operate on the campus of Western Michigan University which has either in its constitution or its ritual any restrictions based upon race, creed or national origin.

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

STUDENT ORGANIZATIONS

STUDENT GOVERNMENT

Student Association (All Students)
  Executive Cabinet (Pres., V. Pres., and Standing Committee Directors)
  Senate (V. Pres., and Representatives)—legislative body
  Student Court of Appeals (Justices)—interpret student constitution
University Student Center Board—plans activities of student center
Women's Discipline Committee
Men's Discipline Committee
Associated Women Students (All undergraduate women)
  Activities Board—plans social program
  Standards Board—promotes high social and academic standards
Men's Union Board (All undergraduate men)
  Committees: Social, Culture, Recreation, Publicity, and Misc. Problems
Residence Halls Association—council for residence halls
Inter-Fraternity Council—council for social fraternities
  Inter-Fraternity Council Judicial Bd.—discipline board for fraternities
Panhellenic Council—council for social sororities

HONORARY ORGANIZATIONS

Alpha Lambda Delta (Women's Hon. selected as freshmen)
Beta Beta Beta (Hon. Biology)
Epsilon Pi Tau (Hon. Industrial Education)
Kappa Delta Pi (Hon. Education)
Kappa Rho Sigma (Hon. Mathematics)

Mortar Board (Hon. Senior Women)
Omicron Delta Kappa (Hon. Senior Men)
Phi Eta Sigma (Hon. Freshmen Men)
Phi Mu Alpha Sinfonia (Hon. Music Fraternity)
Pi Omega Pi (Hon. Business Education)
Pi Theta Epsilon (Hon. Occupational Therapy)
Scabbard and Blade (Hon. R.O.T.C.)
Sigma Alpha Iota (Hon. Music Sorority)
Sigma Alpha Tau (Hon. Aviation)
Sigma Tau Chi (Hon. Business Society)
Tau Kappa Alpha (Hon. Forensic)
Western Honorary Accounting Society

SERVICE ORGANIZATIONS

Alpha Phi Omega (Service Fraternity)
Campus Red Cross
Circle K (Kiwanis Affiliate)
Kalamazoo Tutorial Project (Tutor elementary and junior high school students)
Veterans Club
World University Service

PUBLICATIONS AND COMMUNICATIONS

Brown & Gold (Annual)
Calliope (Literary magazine)
Peripatos (Literary magazine)
Tart (Humor magazine)
Toga Talk (Fraternity newspaper)
WIDR Radio Station (Student operated residence hall radio station)
Western Herald (Campus newspaper)
Western Review (Literary newspaper)

DEPARTMENTAL AND PROFESSIONAL

Affiliates of the American Chemical Society
Alpha Beta Alpha (Librarianship)
Alpha Kappa Psi (Business Fraternity)
American Foundrymen's Society
American Society of Tool & Manufacturing Engineers
Cercle Francais, Le (French Club)
Council for Exceptional Children
Delta Sigma Pi (Business)
Der Deutsche Verein (German Club)
Distributive Teacher Education Club
Ecos Espanoles (Spanish Club)
English Club

Gamma Theta Upsilon (Geography)
Geology & Earth Science
Graphic Arts Society
Home Economics Club
Industrial Education Association
Industrial Management Society
Institute of Electrical & Electronics Engineers
Occupational Therapy Club
Pershing Rifles (ROTC)
Phi Beta Lambda (Future Teachers)
Phi Epsilon (Physical Education—Women)
Physical Education for Majors and Minors (Physical Education—Men)
Pre-Law Society
Pre-Med Club
Sigma Alpha Eta (Speech & Hearing)
Sigma Phi Omega (Food Distribution)
Social Work Club
Society for Advancement of Management
Student Education Association
Ts'Ai Lun (Paper & Pulp Society)
WMU Collegiate Chapter, American Marketing Association
Western Rangers (R.O.T.C.)

SOCIAL FRATERNITIES

Alpha Phi Alpha
Beta Tau Colony
Delta Chi
Delta Sigma Phi
Delta Upsilon
Kappa Alpha Psi
Phi Kappa Tau
Phi Sigma Epsilon
Phi Sigma Kappa
Pi Kappa Alpha
Sigma Alpha Epsilon
Sigma Delta
Sigma Phi Epsilon
Sigma Tau Gamma
Tau Kappa Epsilon
Theta Xi

SOCIAL SORORITIES

Alpha Chi Omega
Alpha Kappa Alpha
Alpha Omicron Pi
Alpha Phi
Alpha Sigma Alpha
Chi Omega
Delta Sigma Theta
Delta Zeta
Phi Mu
Sigma Kappa
Sigma Sigma Sigma

MEN'S RESIDENCE HALLS

Ackley Hall
Bigelow Hall
Ellsworth Hall
Garneau Hall
Harvey Hall
Henry Hall
Hoekje Hall
Shilling Hall
Vandercook Hall
Walwood Hall

WOMEN'S RESIDENCE HALLS

Britton Hall
Davis Hall
Draper Hall
Eicher Hall
Ernest Burnham Hall
French Hall
Hadley Hall
LeFevre Hall
Moore Hall
Siedschlag Hall
Smith Burnham Hall
Spindler Hall
Zimmerman Hall

RELIGIOUS ORGANIZATIONS

Baptist Student Fellowship
Beta Sigma Psi (Lutheran Fraternity)
Campus Christian Fellowship (Baptist, Congregational, Evangelical and Reformed, Disciples of Christ, Presbyterian)
Canterbury Club (Episcopalian)
Christian Science
Gamma Delta (Lutheran)
Geneva Club (Reformed & Christian Reformed)
Hillel Foundation (Jewish)
Inter-Varsity Christian Fellowship
Kappa Phi (Methodist Women)
Liahona Fellowship (Reorganized Church of Jesus Christ of the Latter Day Saints)
Lutheran Student Association
The Navigators (Protestant)
Religious Council
St. Thomas More St. Parish Organization (Catholic)
Sigma Theta Epsilon (Methodist Fraternity)
Wesley Foundation (Methodist)

SPECIAL ACTIVITIES AND INTEREST

African Student Union
Amateur Radio Club
Asian Society
Carnival—1965
Cheerleaders
Conservative Club
Gambiteers, The (Chess Club)
Homecoming
Ice Hockey Club
International Club
Jazz Classical Symphony Series
Miss WMU Pageant
Omega Chi Gamma (Off Campus Women)
Senior Class
Ski Club

Sky Broncos (Aviation Interests)
Slavic Club
Spring Arts Festival
University Dancers
"W" Club (Varsity Letter Winners in Athletics)
Water Sprites (Swiming Activities for Women)
Western Wives Club (Wives of Students)
Women's Glee Club
Women's Recreation Association
WMU Republicans (Young Republicans)
Young Democrats

Miscellaneous Information

ALUMNI

Western Michigan University has granted degrees and/or certificates to more than 31,000 individuals. An additional 60,000 former students have received part of their educational training here. All are considered alumni and are eligible to membership in the Alumni Association.

Homecoming, fund-raising drives, and other similar ventures are properly attributed to the Alumni Office. Part of the work of the office dictates that the University keep up-to-date with graduates who change addresses, transfer jobs, receive promotions, marry, and initiate the dozens of other personal actions which require records work.

Nearly 29,000 W.M.U. alumni have a current address listed in the Alumni Office. Of these, nearly 6,100 are dues-paying members of the Alumni Association.

The Association, with 21 chartered clubs throughout the country, helps gain scholarship loan funds and grants, aids in the recruiting of superior and talented students, and serves as an informed capable body through which the needs and objectives of the University can be interpreted to the citizens of the state and nation. Clubs, on the average, hold twice-a-year social meetings while officers and workers pursue their voluntary efforts on behalf of the Western the year-'round.

Membership in the Alumni Association includes a subscription to the University Magazine and News Letter. The quarterly magazine contains a section devoted to individual and club alumni activities.

The Association Board of Directors and the Alumni Council meet on campus several times each year to plan activities for the future.

Graduating seniors receive a year's free membership in the Alumni Association to keep them in close touch with campus events.

About 700 of Western's alumnae are members of Alpha Beta Epsilon. This is a sorority having 18 chapters in various cities of Michigan and Indiana. A chief activity of each chapter is to maintain one or more outstanding students at Western by means of a fine scholarship program.

Alumni plans and programs are studied and put into effect whenever the Alumni Relations Office learns of the need and desire for certain activity.

ATHLETICS

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

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

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 themselves 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 Student Personnel and Guidance Services and by members of the faculty. After causal factors have been identified, treatment is provided.

READING IMPROVEMENT FOR COLLEGE STUDENTS AND ADULTS

Four 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.

DEBATING — FORENSICS — DRAMATICS

Opportunities are offered for participation in all or any of the following activities: (1) Debate—separate programs for women and men offer experience in debating current issues with other colleges. (2) Forensics—extemporaneous speaking, oratory, discussion and various activities and contests are held on local, state, and national bases. (3) Dramatics—activity in theatre includes the production of at least six major plays per year including two productions for children in addition to an active student studio production program. In none of the above activities is it necessary to belong to an organization or to be enrolled in any classes in the speech curriculum or to be a speech major or minor.

EMPLOYMENT FOR STUDENTS

Students interested in earning money off campus to assist in payment of expenses will be given advice and detailed information upon application to the Student Aid Adviser, Office of Student Affairs, Room 228, Administration Building. Employment in Residence Halls or Food Services, limited to students who live on-campus, usually is taken care of by direct application to the directors of those units. Students interested in other types of on-campus employment may contact the Personnel Office, Room 143, Administration Building. Generally, part-time employment on the campus is limited to twenty hours per week. Students with point-hour ratios of less than 1.8 are not eligible for campus employment.

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.

LIBRARIES

DWIGHT B. WALDO LIBRARY—Western Michigan students are served by Dwight B. Waldo Library which houses nearly a quarter million volumes and receives over 3,000 periodicals, of which 2,000 are bound for permanent retention.

The library, built at a cost of $1.5 million and opened in 1958, is a tribute to the late President Waldo, first head of the University. It also houses the Department of Librarianship and the Audio-Visual Center.

The main library conducts a Business Library in the School of Business building on the East Campus. This library contains basic reference works and materials related to East Campus courses. Currently more than 300 general and specialized periodicals and newspapers are received. A Music Library is maintained on the second floor of Harper Maybee Music Hall. A branch of the main library, this unit has about 6,000 volumes devoted to music, 61 periodicals and more than 5,000 phonograph records. Music listening rooms are a part of this library.

Education books and periodicals from the main library collection were combined with those of the former Educational Service Library during August, 1964, in the new Educational Resources Center in Sangren Hall, which includes audio-visual materials for Education students.

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. In 1964 the collection consisted of about 2,500 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.

EDUCATIONAL RESOURCES CENTER

The 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 offered by the University.

MUSIC

The Band, in addition to its appearance at athletic events, gives concerts on and off the campus. Any student with adequate playing ability on a band instrument is eligible for membership. The Orchestra presents concerts both on the campus and in other cities of the state. It joins each year with the choral groups to present the Christmas program. Any student with reasonable proficiency in any orchestra instrument is eligible for membership.

An important part in the musical life of the university is played by the Glee Clubs and Choirs. The Men's Glee Club, Women's Glee Club, the University Choir, the Campus Chorale, and the University Singers aim to develop and maintain a high standard of choral ensemble singing. They make a number of appearances on the campus, at high schools throughout the state, and with organizations like the Kalamazoo Symphony Orchestra. The University Singers is designed for students with little choral experience, but many of the students in this organization later find their way into the Glee Clubs, the University Choir, and the Campus Chorale.

PLACEMENT SERVICE

Western Michigan University has operated a free 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, business, industry, social agencies and governmental services.

Active communication is maintained between the University and hundreds of employing officials. Information concerning employment trends and general job opportunities is made available. Alumni are always welcome to use the placement service free of charge. Summer employment contacts for students are also maintained. The Placement Office is located on Western's West Campus, one block west of Leslie H. Wood Hall on Knollwood Avenue.

PUBLICATIONS

The *Western Herald,* the student newspaper, is published Tuesdays, Wednesdays and Fridays during the fall and winter semesters and the spring session and once a week during the summer session. 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 and distributed to all students without charge in the spring. 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.

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.

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, the FM voice of Western Michigan, is the only university-operated FM stereo radio station in Michigan. Through the generosity of the Kalamazoo Foundation, alumni and listeners, the station improved its facilities in 1965, adding 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 to 36,000 watts, 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 Michigan Association of Broadcasters.

TELEVISION

Closed-circuit television is a medium of transmission for seven courses. It is also used in several performance skills courses to permit the student to observe himself by means of video tape recordings.

Television service was started in 1960 and its use is being broadened constantly. In addition to preparing tapes for classroom use, the service produces educational programs for distribution to commercial television stations.

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.

R.O.T.C.

The United States Army has established a Reserve Officer Training Corps Unit at Western Michigan University, which offers the student an opportunity to prepare for military service and to occupy positions of leadership in the Armed Forces. Students pursue a General Military Science course including subjects common to all branches of the army.

The first two years of R.O.T.C. comprise the Basic Course, and the final two years the Advanced Course. Those college sophomores who have not completed the basic course may qualify for the advanced course by taking a six-weeks summer camp prior to their junior year. Uniforms and textbooks are furnished. Advanced Course students receive a monetary allowance of approximately $40 each month.

Transfer students and other students, including Western Michigan University sophomores, may qualify for the Advanced Course by attending a Basic R.O.T.C. Summer Camp in lieu of the Basic R.O.T.C. Course. See the Professor of Military Science for details.

Upon completion of the R.O.T.C. course, and summer camp training, students will apply for appointment as Second Lieutenant, United States Army Reserve or Regular Army. Enrollment in R.O.T.C. together with an acceptable scholastic average will entitle a student to apply for a draft deferment so that he may complete his college training without interruption after he has completed one semester of R.O.T.C.

Organizations sponsored by the Military Science Department are the Scabbard and Blade Society, Cadet Rifle Team, Cadet Band, Pershing Rifles and a Counterguerrilla Unit. Membership in these organizations is open only to R.O.T.C. cadets. The drill team of Pershing Rifles and the Cadet Rifle Team compete with teams from other colleges and universities in the Middle West. The Scabbard and Blade Society sponsors the formal Military Ball for members of the Brigade of Cadets and conducts an R.O.T.C. orientation program for high school seniors. The Cadet Band plays for the Annual Review and for other functions to which it is invited. The Counterguerrilla Unit studies all aspects of unconventional warfare emphasizing field training.

A limited number of scholarships are available for qualified students enrolled in the Military Science program. See the Professor of Military Science for details.

MPATI

Western Michigan University has been designated as a resource institution by the Midwest Program on Airborne Television Instruction. At present, the University is using MPATI telecasts in its campus school and in the Educational Resources Center. Opportunities for observation and information regarding MPATI instruction and scheduling can be obtained in the Educational Resources Center.

FELLOWSHIPS

WESTERN MICHIGAN GRADUATE FELLOWSHIPS—Graduate fellowships are awarded each year on the campus, permitting persons to pursue fulltime graduate study towards the master of arts degree, with specialization in education. These fellowships carry a stipend of $2,000 plus fees for two semesters. Applications should be filed by March 1 with the graduate office.

STATE COLLEGE FELLOWSHIP—A State College Fellowship is offered each year to a graduate of the university by the Horace Rackham School of Graduate Study at the University of Michigan.

GRADUATE FELLOWSHIPS AND ASSISTANTSHIPS—These are available in the leading universities, including Western Michigan University, for students who have a high scholarship record and who show promise of success in graduate work. Application should be made to the graduate school of the student's choice.

MOTOR VEHICLES

Detailed regulations covering the use of motor vehicles on campus are available from the Office of Safety and Security. In general, only certain upperclass students 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 include fines from $20 to $50, all students should become acquainted with the regulations.

HEALTH SERVICE

This service is offered to all undergraduate students carrying a minimum of 9 semester hours and to all graduate students carrying a minimum of 7 semester hours when students are present on the campus and classes are in session. It 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 Administration Building. 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 medicine 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 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 Records 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

All undergraduate students, except those who are age 21 by December 31 of a given school year, must live in approved housing. Approved housing includes University residence halls, fraternity houses, houses or apartments where students are living with parents or spouse, and certain off-campus housing facilities which have been approved, prior to occupancy, by the Office of Student Affairs. All students of freshman standing who are not living at home must live in residence halls insofar as space is available.

Undergraduate students who are age 21 by December 31 of a given school year, may live in places of their own choosing, provided no breach of housing contract with the University or private householder is involved, and in the case of women, parental permission is obtained and application for such privilege is cleared through the Office of Student Affairs prior to occupancy of such facilities. Parental permission blanks are available upon request from the Office of Student Affairs.

Graduate and married students are expected to find a place of their choice; there are no on-campus residences available for the woman graduate student.

In any case, a student must give the proper address of place of residence (not just a preferred mailing address) at time of registration and must file promptly any changes or corrections in the Office of Student Affairs.

CONDUCT AND DISCIPLINE

The rules and regulations covering student conduct are developed by the Committee on Student Life, a student-faculty committee. The policies approved by this group will be published in *The Code of Student Life*. The rules and regulations appearing in this Code will be developed under the philosophy reflected in a statement made by the committee:

> "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 committees. Decision of student boards may be reviewed by the University Discipline Committee.

IDENTIFICATION PHOTOGRAPH

Each student on campus is required to have an identification card on which is located his photograph.

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.

Faculty

1964 - 1965

Adams, David W., 1965-63; 1964, Assistant Professor of Education
B.A., Ohio Wesleyan; M.A., New York
Adams, Ethel G., 1946, Professor of Music
B.A., Ball State; M.A., Columbia
Adams, Sam B., 1946, Associate Professor of Music
B.A., Kentucky; M.A., Columbia
Adams, Phillip D., 1964, Assistant Professor of English
B.A., Western Michigan University; M.A., Ohio
Alavi, Yousef, 1958, Associate Professor of Mathematics
B.S., M.S., Ph.D., Michigan State
Allen, Francis W., 1953, Assistant Librarian
B.S., Colby; B.A.L.S., M.A.L.S., Michigan
Alvarez, Elsa, 1964, Assistant Professor of Language
Ph.D., Havana
Anderson, Agnes E., 1943, Assistant Professor of Business Education
B.S., Ferris Institute; M.S., Tennessee
Anderson, Robert H., 1957, Associate Professor of Chemistry
B.A., Baker; M.A., Ph.D., Columbia
Ansari, Nazir A., 1964, Assistant Professor of Management
B.Com., M.Com., Banaras Hindu; Ph.D., Illinois
Ansel, James O., 1949, Professor and Director of Rural Life and Education
B.A., Western Michigan University; M.A., Northwestern;
Ed.D., Columbia
Anton, Thelma E., 1946, Assistant Professor of English
B.A., Michigan; M.A., Middlebury
Archer, Hugh G., 1939, Associate Professor of Education
B.A., Central Michigan; M.A., Michigan
Argyropoulos, Triantafilos, 1964, Instructor in Art
B.S., M.F.A., Michigan
Asher, Eston J., Jr., 1954, Professor of Psychology
B.S., Kentucky; M.S., Ph.D., Purdue
Austin, James, 1963, Coordinator of Student Teaching, Muskegon
B.A., M.A., Michigan
Bach, Shirley, 1964, Research Associate in Chemistry
B.S., Queens College; Ph.D., Wisconsin
Bahlke, Harold O., 1962, Assistant Professor of English
B.Ed., Wisconsin State; M.A., Ph.D., Minnesota
Bailey, Fred, 1958, Coordinator, Field Services Office, Muskegon
B.S., M.A., Western Michigan University
Bailey, Keith D., 1955, Assistant Professor, Campus School
B.S., M.A., Western Michigan University

Baker, Lee O., 1954, Professor and Head, Department of Agriculture
B.S., Wisconsin State; Platteville; M.S., Wisconsin;
Ed.D., Michigan State

Baldwin, Elizabeth E., 1964, Assistant Professor of Anthropology
B.A., Wellesley; M.A., Radcliffe

Barkey, John W., 1964, Assistant Professor of Sociology
B.A., Nebraska; M.A., Northwestern

Barraclough, Clifford A., 1963, Instructor in Language
B.A., Buffalo; M.A., Washington

Barrett, John T., 1962, Assistant Professor of Speech
B.S., Northwestern; M.F.A., Columbia

Bartley, Lynwood, 1963, Instructor in English
B.S., Eastern Michigan University; M.A., Western Michigan University

Bartoo, Harriette V., 1948, Professor of Biology
B.A., Hiram; Ph.D., Chicago

Bate, Harold L., 1964, Associate Professor of Speech
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

Beall, Ruth, 1964, Instructor in Speech
B.A., Valpariso; M.A., Pittsburgh

Becker, Albert B., 1937, Professor of Speech
B.A., Western Michigan University; M.A., Michigan; Ph.D., Northwestern

Beeler, Fred A., 1946, Professor of Mathematics
B.S., Alaska; M.A., Indiana; Ph.D., Michigan

Beeler, Isabel, 1946, Foreign Student Advisor
R.N., Ford Hospital; B.S., M.A., Michigan

Beinhauer, Myrtle T., 1957, Associate Professor of Economics
B.A., M.A., Drake; Ph.D., Minnesota

Beloof, Elmer R., 1946, Associate Professor of Music
B.Mus., B.S., Illinois; M.A., Ed.D., Columbia

Beloof, Margaret Felts, 1946, Associate Professor of Music
B.M., Oberlin; M.A., Minnesota

Bendix, John L., 1955, Associate Professor of Industrial Education
B.S., Stout State; M.A., Minnesota

Benne, Max E., 1964, Instructor in Education
B.S., M.S., Michigan State

Bennett, Charles B., 1964, Assistant Professor of Distributive Education
B.S., M.A., Michigan State

Berger, Owen L., 1947, Associate Professor of Music
B.M., M.M., Boguslawski College of Music; B.S., M.A., Columbia

Berkey, Ada E., 1947, Music Librarian
B.A., Mount Holyoke; A.B.L.S., Michigan; M.A., Iowa

Bernaciak, Joel, 1962, Instructor in English
B.A., Aquinas; M.A., Michigan

Berndt, Donald C., 1962, Assistant Professor of Chemistry
B.S., Ph.D., Ohio State

Bessom, Margery L., 1963, Associate Professor of Home Economics
B.S., Simmons; M.A., Columbia; Ph.D., Ohio State

Betz, Robert L., 1961-62; 1963, Assistant Professor of Education
B.A., Albion; M.S., Illinois; Ph.D., Michigan State

Beukema, Henry J., 1943, Professor of Engineering and Technology
B.S., Western Michigan University; M.A., Michigan

Bidelman, Patrick K., 1964, Instructor in History
B.S., M.A., Western Michigan University

Black, Donald J., 1952, Assistant Professor of Engineering and Technology
B.A., Kalamazoo; B.S., Valparaiso Technical Institute; M.A., Western Michigan University

Blagdon, Charles A., 1957, Assistant Professor of General Business
B.A., Kalamazoo; M.A., Michigan State

Blasch, Donald, 1961, Director, Blind Rehabilitations Programs and Associate Professor of Education
B.E., Northern Illinois; M.A., Chicago

Bodine, Gerald L., 1957, Assistant Professor of Education
B.S., Wisconsin State, Milwaukee; M.A., Northwestern

Boles, Harold W., 1961, Professor of Education
B.S., Indiana State; M.A., Ph.D., Ohio State

Bonow, Walter Burnett, Drafting Advisor, WMU-AID Project, Technical College, Ibadan, Nigeria; B.S.M.E., Antioch.

Booker, Gene S., 1960, Associate Professor of Management
B.S., Ball State; M.A., Ph.D., Indiana

Borr, Earl, 1957, Assistant Professor, Campus School
B.S., M.A., Western Michigan University

Bosma, Ruth L., 1953, Assistant Professor, Campus School
B.A., M.A., Western Michigan University

Bouma, Donald H., 1960, Professor of Sociology
B.A., Calvin; M.A., Michigan; Ph.D., Michigan State

Bourquin, Maurice H., 1961, Instructor in Language
B.A., Connecticut

Boven, Donald E., 1953, Associate Professor of Physical Education, Men
B.S., M.A., Western Michigan University

Bowen, Harry W., 1962, Assistant Professor of Speech
B.A., Westminster College (Pa.) M.A., Ohio State; Ph.D., Pittsburgh

Bowers, Robert S., 1937, Head, Department of Economics
B.A., Kansas Wesleyan; M.A., American; Ph.D., Wisconsin

Boyd, David J., 1964, Instructor in Accounting
B.B.A., Notre Dame; M.B.A., Detroit

Boyle, Richard F., 1964, Instructor in Geography and Geology
B.S., Kent State; M.S., Oregon State

Boynton, James W., 1924, Associate Professor of Chemistry
B.A., Western Michigan University; M.S., Michigan

Bradley, George E., 1951, Head, Department of Physics
B.A., Miami; M.S., Ph.D., Michigan

Brail, Frederick R., 1964, Assistant Professor of Education
B.S., Central Michigan; M.A., Ohio State

Brawer, Milton J., 1960, Assistant Professor of Sociology
B.A., Harvard
Breed, Sterling L., 1956, Assistant Professor, Counseling
B.S., M.A., Western Michigan University
Breisach, Ernst A., 1957, Associate Professor of History
Matura, Realgymnasium Knittelfeld and Vienna VII; Ph.D., Vienna; Dr. rer. oec., Hochschule fuer Welthandel
Brewer, Richard D., 1959, Associate Professor of Biology and Director, Charles C. Adams Center for Ecological Studies
B.A., Southern Illinois; M.S., Ph.D., Illinois
Breyfogle, William D., 1961, Instructor, Campus School
B.S., Western Michigan University; M.A., Michigan
Brink, Lawrence J., 1940, Associate Professor of Industrial Education
B.A., Western Michigan University; M.A., Michigan
Brinkmann, Joseph B., 1964, Assistant Professor of Engineering and Technology
B.M.E., General Motors Institute; M.S., Worcester Polytechnic Institute
Brown, Alan S., 1955, Professor of History and University Archivist
B.A., M.A., Ph.D., Michigan
Brown, Charles T., 1948, Professor of Speech
B.A., Westminster; M.A., Ph.D., Wisconsin
Brown, Donald J., 1960, Assistant Professor of Chemistry
B.S., Ph.D., Syracuse
Brown, Donald R., 1961, Reference Librarian
B.A., Ursinus College; M.A., Illinois; M.S., Wisconsin
Brown, Helen, 1947, Assistant Professor of Physical Education, Women
B.S., M.A., Northwestern
Brown, Russell W., 1951, Assistant Professor of Music
B.P.S.M., Oklahoma State; M. Mus. Ed., Notre Dame
Bruce, Phillip L., 1963, Assistant Professor of Industrial Education
B.S., M.S., Kansas State College of Pittsburg; Ed.D., Missouri
Brune, Elmer J., 1956, Associate Professor of Engineering and Technology
B.S., M.A., Western Michigan University
Brunhumer, Walter J., 1957, Associate Professor of History
B.A., M.A., Marquette; Ph.D., Northwestern
Bryan, Roy C., 1937, Professor of Education
B.A., Monmouth; M.A., Ph.D., Columbia
Buckingham, Willis J., 1964, Instructor in English
B.A., Harvard; M.A., Wisconsin
Buelke, John A., 1949, Professor of Education
B.S., Wisconsin State, Oshkosh; M.A., Northwestern; Ed.D., Cincinnati
Bullock, Donald P., 1963, Instructor in Music
B.M.E., M.M., Colorado
Bullock, Mary J., 1962, Instructor in Political Science
B.A., M.A., Western Michigan University
Burdick, William L., 1949, Professor of General Business
B.A., Milton; M.B.A., Ph.D., Wisconsin

Burge, Georgiann, 1948, Assistant Professor of English
B.A., North Texas State; M.A., Michigan
Burke, John T., 1962, Professor and Head, Department of Accounting
B.S., Carroll College; M.A., Ph.D., Michigan State; C.P.A., State of Wisconsin
Burke, Richard T., 1964, Instructor in History
B.A., M.A., Boston
Bush, Blanche O., 1960, Instructor, Psycho-Educational Clinic
B.A., M.A., Western Michigan University
Butler, Charles H., 1937, Professor of Mathematics
M.A., Chicago; Ph.D., Missouri
Butler, Herbert, 1960, Assistant Professor of Music
American Conservatory of Music; Eastman School of Music; B.M., M.M., Indiana
Buys, William E., 1964, Associate Professor of Speech
B.A., Albion; Ph.M., Ph.D., Wisconsin
Byle, Aruon D., 1963, Instructor in Industrial Education
B.S., M.A., Western Michigan University
Cacciola, Roseann, 1963, Instructor in English
B.A., Tennessee Wesleyan; M.A., Vanderbilt
Cain, Mary A., 1962, Assistant Professor of Education
B.A., Michigan; M.A., Western Michigan University
Callan, Edward T. O'D., 1957, Professor of English
B.A., Witwatersrand; M.A., Fordham; D.Litt., et Phil., South Africa
Calmette, Elva, 1963, Instructor in Language
B.A., B.Ed., M.A., San Marcos, Peru
Carley, David D., 1964, Assistant Professor of Physics
B.A., Western Michigan University; M.S., Michigan; Ph.D., Florida
Carlson, Bernadine P., 1953, Instructor in English
B.A., M.A., Western Michigan University
Carlson, Norman E., 1963, Assistant Professor of English
B.A., Carleton; M.A., Ph.D., Rutgers
Carlson, Raymond C., 1961, Coordinator of Student Teaching, Muskegon
B.A., Albion College; M.A., Michigan
Carlson, Theodore L., 1947, Professor of Economics
B.A., Augustana; M.A., Ph.D., Illinois
Carter, Elwyn F., 1945, Head, Department of Music
B.A., Alma; M.A., Ed.D., Columbia
Carter, Esther M., 1957, Assistant Professor, Librarianship
B.A., Earlham; M.S.L.S., Illinois
Castel, Albert E. III, 1960, Associate Professor of History
B.A., M.A., Wichita; Ph.D., Chicago
Cattonar, Joann L., 1964, Instructor in English
B.A., Vassar; M.A., Cornell
Chahbazi, Louise, 1962, Assistant Professor, Counseling Bureau
B.A., Lake Erie College; M.A., Western Michigan University
Chambers, Bill M., 1960, Assistant Professor of Physical Education, Men
B.A., Kentucky; M.A., Marshall

Chance, Faye S., 1953, Assistant Professor, Campus School
B.S., M.S., Ball State
Chapman, Barbara, 1963, Instructor in Home Economics
B.S., M.A., Western Michigan University
Chartrand, Gary T., 1964, Assistant Professor of Mathematics
B.S., M.S., Ph.D., Michigan State
Chiara, Clara R., 1949, Professor of Education
B.S., Miami; M.A., Western Reserve; Ph.D., Ohio State
Chow, Chuen-Tyi, 1964, Instructor in Geography and Language
B.A., National Taiwan; M.A., Minnesota
Christensen, Arthur L., 1959, Assistant Professor, Campus School
B.A., Michigan; M.A., Western Michigan University
Christenson, Elmer J., 1957, Assistant Professor, Campus School
B.A., M.A., Michigan State
Clark, Samuel I., 1948, Director of Honors and Professor of Political Science
B.A., Ph.D., Chicago
Clysdale, J. Patrick, 1958, Assistant Professor of Physical Education, Men
B.S., M.A., Western Michigan University
Cohen, Martin, 1960, Assistant Professor, Librarianship
B.A., Harvard College; B.S., Simmons College; M.A., Boston Teachers College
Cole, Roger L., 1959, Assistant Professor of Language
B.A., M.A., Ph.D., Michigan
Combs, William W., 1962, Assistant Professor of English
B.A., Mississippi; M.A., Ph.D., Harvard
Conrad, Maynard M., Special Lecturer in Occupational Therapy
B.S., Kalamazoo College; M.D., Northwestern
Copps, John A., 1959, Associate Professor of Economics
B.S., Ph.D., Wisconsin
Cordier, Sherwood S., 1956, Assistant Professor of History
B.A., Juniata; M.A., Yale; Ph.D., Minnesota
Couch, Peter D., 1963, Assistant Professor of Management
B.A., M.A., Illinois
Crawford, Frances M., 1963, Instructor in Education
B.S., Bob Jones; M.Ed., Virginia
Crisman, Golda L., 1947, Assistant Professor, Campus School
B.A., Western Michigan University; M.A., Michigan
Cudney, Milton R., 1964, Assistant Professor, Counseling Bureau
B.S., Western Michigan University; M.A., Michigan; Ph.D., Ohio State
Cummings, John W., 1962, Instructor in Engineering and Technology
B.S., Lewis College; M.A., Chicago Teachers College
Dales, George G., 1953, Associate Professor of Physical Education, Men
B.S., Miami; M.A., Michigan
Daniels, James E., 1963, Assistant Professor of Accounting
B.S.B.A., Kansas State; M.B.A., Arkansas
Dannenberg, Raymond A., 1956, Associate Professor of Distributive Education
B.S., Western Michigan University; M.A., Ph.D., Michigan,

Darling, Susan K., 1964, Instructor in Occupational Therapy
B.S., M.A., Western Michigan University

Davenport, James A., 1957, Assistant Professor of Education
B.A., M.A., Western Michigan University; Ed.D., Columbia

Davidson, Robert, 1964, Lecturer in Music

Davis, Donald A., 1959, Director, Counseling Bureau and Professor of Education
B.A., U.C.L.A.; M.S., Southern California; Ph.D., Michigan State

Davis, Ruth M., 1961, Assistant Professor of Physical Education, Women
B.S., M.Ed., Bowling Green

DeBoer, Marvin E., 1957, Assistant Director of Field Services and Associate Professor of Speech
B.A., Franklin College; M.A., Ph.D., Northwestern

Decker, William A., Special Lecturer, Occupational Therapy
B.S., M.D., Wayne State University

DeFelice Philip, Mechanical Technology Advisor, WMU, AID Project, Technical College, Ibadan, Nigeria
B.S., Western Michigan University; M.A., Michigan

DeMeyer, Hazel M., 1946, Education Librarian, Educational Resources Center
B.A., Western Michigan University; B.S.L.S., Columbia

Denenfeld, Philip S., 1956, Professor of English
B.A., Wayne State; M.A., Ph.D., Northwestern

Derby, Stanley K., 1955, Professor of Physics
B.S., Chicago; M.S., Ph.D., Michigan

DeShon, David S., 1964, Instructor in Economics
B.A., William Jewell; M.B.A., Kansas City

Deur, Raymond C., 1943, Assistant Professor, Campus School
B.S., Western Michigan University; M.A., Michigan

DeVoogd, Lawrence R., 1955, Assistant Professor, Campus School
B.A., Hope; M.A., Western Michigan University

DeWitt, Jacob P., 1957, Associate Professor of Physics
B.A., Hope; M.S., Iowa

Diehm, Robert A., 1955, Professor of Paper Technology
B.S.A., Purdue; M.S., Ph.D., Rutgers

Dirkse, Lamont, 1963, Coordinator of Student Teaching, Muskegon County
B.A., Hope; M.A., Northwestern

Donaho, Melvin W., 1964, Instructor in Speech
B.S., M.Ed., Illinois

Doolittle, F. William, 1964, Associate Professor of Men's Physical Education
B.S., Ohio State; M.A., Eastern Michigan

Dopheide, William R., 1956, Assistant Professor of Speech
B.S., Western Michigan University; M.S., Pennsylvania State

Dotson, Allen C., 1964, Assistant Professor of Physics
B.A., Wake Forest; Ph.D., North Carolina

Douglas, Paul H., 1964, Instructor in English
B.A., Connecticut; M.A., Oregon

Douglass, Eleanor N., 1948, Assistant Professor of Physical Education, Women
B.S., Boston; M.A., Western Michigan University

Drennan, Ollin J., 1964, Director, General Studies Science and Associate Professor of Physics
B.A., N.E. Missouri State Teachers; B.S., Missouri Valley; M.S., Bradley; Ph.D., Wisconsin

Dunbar, Willis F., 1951, Head, Department of History
B.A., Kalamazoo; M.A., Ph.D., Michigan

Dye, Robert P., 1958, Director of Broadcasting and Assistant Professor of Speech
B.A., Kalamazoo; M.A., Western Michigan University

Earl, Homer, 1956, Consultant in Field Services
B.S., Central Michigan; M.A., Michigan

Ebel, Roland H., 1960, Associate Professor of Political Science
B.A., Wheaton; M.A., Northwestern; Ph.D., Michigan State

Ebert, Frances H., 1963, Assistant Professor of Physical Education, Women
B.S., Wisconsin State, Lacrosse; M.A., Indiana

Edwards, Adrian C., 1964, Assistant Professor of General Business
B. Commerce; St. Francis Xavier; M.B.A., Detroit

Egland, George O., 1954, Assistant Professor of Speech
B.A., M.A., Iowa

Eichenlaub, Val L., 1962, Assistant Professor of Geography
B.A., Western Michigan University; M.A., Michigan; Ph.D., Ohio State

Eisenbach, Joseph J., 1961, Professor of Education
B.S., B.A., Kansas State Teachers College; M.S., Kansas State; Ed.D., Wayne State.

Ellin, Joseph S., 1962, Assistant Professor of Philosophy
B.A., Columbia; M.A., Ph.D., Yale

Ellinger, Herbert E., 1944, Associate Professor Engineering and Technology
B.S., Western Michigan University; M.A., Michigan

Elsasser, Edward O., 1955, Professor of History
B.A., Bethany, (W. Va.); M.A., Clark; Ph.D., Chicago

Elwell, Albert R., 1964, Coordinator of the Testing Services
B.A., Maine; M.A., Ph.D., Michigan State

Embertson, Richard E., 1956, Assistant Professor of Marketing
B.B.A., B.S., M.A., Minnesota

Emblom, William J., 1959, Assistant Professor of Philosophy
B.A., Baldwin-Wallace; M.A., Ph.D., Illinois

Engelke, Hans, 1961, Order Librarian
B.M., M.M., Chicago Musical College; M.A., Chicago; Ph.D., Southern California

Engels, Carl J., 1953, Science and Mathematics Advisor, WMU-AID Project, Technical College, Ibadan Nigeria, Assistant Professor, Campus School
B.S., Wisconsin State, Oshkosh; M.A., Michigan

Engemann, Joseph G., 1960, Assistant Professor of Biology
B.A., Aquinas; M.S., Ph.D., Michigan State
Engle, Kenneth B., 1962, Associate Professor of Education
B.A., Western Michigan University; M.A., Ed.D., Michigan State
Engstrom, Robert H., 1959, Assistant Professor of Art
B.A., M.A., Michigan State
Erickson, Robert L., 1963, Associate Professor of Speech
B.A., Omaha; M.A., Nebraska; Ph.D., State University of Iowa
Eshelman, J. Ross, 1963, Assistant Professor of Sociology
B.A., Manchester; M.S., Ph.D., Ohio State
Everett, Frederick, 1960, Associate Professor of Accounting
B.A., State College of Iowa; M.A., State University of Iowa; C.P.A., State of Iowa
Falk, Arthur, 1964, Instructor in Philosophy
B.A., Fordham; M.A., Yale
Farnan, Lindsay G., 1948, Associate Professor of Industrial Education
B.S., New York State; M.S., Iowa State University of Science and Technology, Ames
Farrow, Vern L., 1963, Assistant Professor of Education
B.S., B.Ed., M.Ed., Seattle; Ed.D., Oregon
Fatzinger, Frank A., 1951, Professor of Psychology
B.A., M.A., Lehigh; Ph.D., Purdue
Faunce, L. Dale, 1956, Vice President for Student Services and Professor of Education
B.S., Western Michigan University; M.A., Michigan; Ed.D., Michigan State
Faustman, Marcella S., 1949, Associate Professor of Music
B.S., M.A., Columbia
Feirer, John L., 1940, Head, Department of Industrial Education
B.S., Stout State; M.A., Minnesota; Ed.D., Oklahoma
Ferkany, Edward A., 1964, Instructor in Men's Physical Education
B.S., M.S., Bowling Green State
Fidler, Wendall B., 1951, Associate Professor of Distributive Education
B.S., Ohio State; Ed.M., Pittsburgh
Fillingham, Wallace F., 1964, Assistant Professor, Campus School
B.S., M.A., Western Michigan University
Fink, Robert R., 1957, Assistant Professor of Music
B.M., M.M., Michigan State
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