OHIO NORTHERN UNIVERSITY
Bulletin
CATALOG ISSUE
THE GEORGE FRANKLIN AND SARAH CATHRINE GETTY College of Liberal Arts

MARION E. TINSLER, Dean

DIVISIONS AND DEPARTMENTS

DIVISION I: HUMANITIES. (M. SCHMITZ, Director)
1) Art
2) English and Speech
3) Foreign Language
4) Music
5) Philosophy and Religion

DIVISION II: NATURAL SCIENCES. (H. E. HUBER, Director)
1) Biology
2) Chemistry
3) Mathematics
4) Physics

DIVISION III: SOCIAL SCIENCES. (W. E. BINKLEY, Director)
1) Economics and Business Administration
2) History and Political Science
3) Psychology
4) Sociology

DIVISION IV: TEACHER EDUCATION. (C. C. ROBERSON, Director)
1) Elementary Education, including Public School Art
2) Secondary Education
3) Business Education
4) Industrial Arts Education
5) Physical Education
6) Public School Music

A description of all courses in each department of each division will be found on subsequent pages of the catalog, beginning page 42, and listed under the departments in the alphabetical order of the department.
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OBJECTIVES

The objectives of the College of Liberal Arts are: to develop in each student a philosophy which gives meaning to life, apart from its material accomplishments; to cultivate comprehensiveness of thought; to share in the intellectual achievements of mankind; to encourage critical thinking, continued reflection and re-examination of basic ideas and values; to develop skill in finding information and in evaluating such information so as to distinguish fact from opinion; to contribute to knowledge by research and by re-interpretation of the old in the light of the new.

Such a well-rounded, liberal education with stress on moral and spiritual values is designed to develop in the student poise and perspective with which to meet and evaluate life situations; to fit him for responsible citizenship; to give him a scholarly foundation for further study or professional training; and to afford him a rich and full personal life.

ADMISSION STANDARDS

In general, students of good character who show evidence of a capacity to profit by college experience and do the quality of work acceptable for graduation are admitted. To judge this each applicant for admission must be considered on his individual merits. Character, personality traits, attitudes, and desire for learning will be taken into consideration as well as the high school record.

Graduates of first-grade high schools, or the equivalent, and non-graduates with 15 acceptable units of high quality work and recommendation of the high school principal may be admitted. Applicants ranking low in their high school record may be admitted on the basis of the results of achievement and aptitude tests or upon presentation of other evidence of fitness for college work. Those deficient in entrance requirements for the work of their choice may make up the deficiencies by taking the work during their Freshman year either in college or from other approved agencies.

COURSE OF STUDY

From the numerous offerings of courses students may select special groups of studies of curricula which meet their needs, interests and abilities. The student should keep in mind that his later adjustment to changing conditions will depend largely on the in-
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sights and skills developed by a broad general education which emphasizes the fundamental principles involved in the understanding of the various areas of today’s complex life.

THE DEGREE OF BACHELOR OF ARTS

General and Advanced Courses. The curricula leading to the degree of Bachelor of Arts may be divided into two general divisions, general education and advanced education. The first two years are devoted largely to general education, presenting the courses which will furnish the foundation and background for advanced education. The advanced education will consist of the courses which presuppose the completion of the general education as necessary for successfully pursuing these studies. Major and minor work are largely taken on the advanced level, together with advanced electives.

Prescribed: Certain courses are prescribed in the program of general education. These include English Composition, core courses in Social Studies and in Religion-Philosophy, two one-year courses in two of the Natural Sciences, and one year of advanced work in the Humanities, chosen according to the student’s interests.

Major and Minor. At the beginning of the third year the student is ready to choose, if he has not already done so, one division and the department or departments within this division in which he desires to complete his major or minor, or the field of concentration. For example, a prospective chemist would choose Division II—Natural Sciences, Department of Chemistry.

The candidate for a degree must complete in a logical sequence a major of not less than thirty-six quarter hours and a minor of not less than twenty-four quarter hours. The adviser will assist the student in planning the major and minor, or the field of concentration. Candidates for the degree of Bachelor of Arts who expect to teach in the public school must meet the requirements for one major and two minors as specified in the Division of Teacher Education.

More than one departmental major may be completed by the student in which case a minor is not required unless a particular major requires a specific additional minor.

The following are fields in which majors and minors may be established in work for the Bachelor of Arts degree in the College of Liberal Arts:
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MAJOR OR MINOR

Biology 36-24
Chemistry 45-27
Economics and Business Administration 45-27
English 45-27
Foreign Language 36-24
History 45 (including American History) 24
Mathematics 36-24
Music 45-25
Philosophy-Religion 47-24
Physics 36-24
Political Science 36-24
Psychology 36-24
Sociology 45-27

MINOR ONLY

Art 24
Philosophy 24
Religion 24

Sample Curriculum Plan

This is only a suggestion to illustrate the manner in which the Division Prescribed, General Prescribed, major and minor and elective courses may be distributed in a four year plan of study leading to the degree of Bachelor of Arts.

FRESHMAN YEAR

Physical Education
English Composition 9 hrs.
Natural Science or Math. 9 hrs.—15 hrs.
Social Science Core 9 hrs.
Electives 12 hrs.—18 hrs.

TOTAL 45 hrs.

SOPHOMORE YEAR

Physical Education
Literature, Music or Art 9 hrs.
Natural Science 9 hrs.
Philosophy Core 9 hrs.
Electives 18 hrs.

TOTAL 45 hrs.
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JUNIOR YEAR

Major 18 hrs.
Minor 9 hrs.
Electives 18 hrs.
TOTAL 45 hrs.

SENIOR YEAR

Major 18-27 hrs.
Minor 18 hrs.
Electives 0-9 hrs.
TOTAL 46 hrs.

THE DEGREE OF
BACHELOR OF SCIENCE IN EDUCATION

The curricula of candidates for the degree of Bachelor of Science in Education are set up in accordance with the requirements of the State Department of Education for certification. The Director of the Division of Teacher Education or the Professor in Elementary Education carefully advises the student in setting up a curriculum of courses to meet his goal.

The general principles involved in the requirements for the degree of Bachelor of Science in Education are much the same as for the Bachelor of Arts degree. The prescribed courses are the same: English Composition, core courses in Social Studies and in Religion-Philosophy, at least twelve quarter hours in Natural Science and one year advanced work in the Humanities.

The second two years — those of advanced education — are taken in professional courses and in the fields of the student’s major interest. Instead of “majors” and “minors”, the candidate for the Science in Education degree selects “teaching fields”, which are broader fields of concentration than in the case of the major and minor fields of the Arts student.

The Division of Education in cooperation with the other divisions within the College of Liberal Arts offers a program of education including the professional and educational course requirements leading to certification in the following fields:

1. Business Education:
   a. Bookkeeping — Social Business

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b. Salesmanship — Merchandising  
c. Stenography — Typing  
d. Typing

2. Elementary Education

a) Four-Year Degree Program. The Bachelor of Science degree in Elementary Education and a Provisional Elementary Certificate may be obtained by completing 180 quarter hours in courses that are appropriate for an elementary teacher. This Certificate may be renewed upon evidence of satisfactory character and successful teaching experience.

b) Two-Year Cadet Program. Cadet certification is permitted with two years of teacher preparation. To be eligible for such a certificate, the student must have completed ninety-five quarter hours of training in the Elementary Teacher Education program. This Certificate may be renewed only upon evidence of the completion of thirty-six quarter hours of additional training applicable to the degree in Elementary Education.

3. Physical Education leading to a Provisional High School Certificate or a Professional Special Certificate.

4. Industrial Art Education leading to a major or minor in the field of Industrial Arts and the Provisional Certificate.

5. Public School Music:
   a. Four year Provisional in Instrumental Music  
   b. Four year Provisional in Vocal Music  
   c. Four year Special in Vocal and Instrumental

6. Secondary Education
   a. Biological Science  
   b. English  
   c. General Science  
   d. History  
   e. Language  
   f. Mathematics  
   g. Science (Comprehensive major)  
   h. Social Science (Comprehensive major)  
   i. Speech

Any additional information about the teacher education program can be obtained from the Department of Education, Ohio Northern University, Ada, Ohio.
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ASSOCIATE IN ARTS CERTIFICATE

A Certificate of an Associate in Arts is awarded to students enrolling in the special two-year course established in the College of Liberal Arts. At present, special courses of two nine-month academic years are offered in certain of the Liberal Arts Departments. A student who is enrolled in one of these two-year courses will receive college credit which may be transferred to any other university or college; and is eligible to transfer to a full four-year degree program at any time he desires. If the student transfers to the degree program, he is expected to complete the Freshman and Sophomore requirements for the Bachelor's degree which are not all included in the two-year program. The Associate in Arts Certificate is, at present, offered in special secretarial fields, industrial supervision, medical technology, recreational direction, and in commercial art. Further two-year courses with college credit may be developed on sufficient demand. For further information regarding these courses write to the Dean of the College of Liberal Arts.

COMBINATION CURRICULA

Arts-Engineering

During the first three years the student is registered in the College of Liberal Arts and must secure a minimum of 145 quarter hours of credit. Upon the successful completion of the fourth and fifth years in the College of Engineering, with a quality point average of one or better, the degree of Bachelor of Arts is granted. Upon fulfilling the requirements as specified in his selected Engineering curriculum, the student will also be awarded the appropriate degree in Engineering.

Students entering with advanced credits from another college must be in residence three quarters (the third year) and complete a minimum of forty-five quarter hours in the College of Liberal Arts in this University.

Students entering the Arts-Engineering curriculum must conform to the rules and regulations of the College of Liberal Arts. By complying with these regulations it will be possible for the student to secure both the degree of Bachelor of Arts and the appropriate Engineering degree in five years.

Arts-Nursing

For the student who is preparing to enter a school of nursing the following curriculum is suggested. Upon the completion of three
years of work at Ohio Northern and graduation from an accredited school of nursing the University will award the Bachelor's degree.

Graduate nurses who complete this curriculum will also be awarded the Bachelor's degree. Some modification of the curriculum may be made to fit their interests and objectives.

Arrangements have been made for a combined curriculum in Liberal Arts and Nursing with Memorial Hospital, Lima, Ohio. Students who elect this combination curriculum will be expected to do better than average quality work while in college and to have those personal and social qualities which are so essential to success in the field of nursing. This curriculum should be of special interest to young women of northwestern Ohio.

ARTS-LAW

Law schools require a minimum of three years of college work for admission. It is strongly recommended that the student plan to complete a total of 135 quarter hours, exclusive of Physical Education, and to cover the prescribed and group elective courses as well as a major of "300" or "400" courses in the Social Sciences. A broad liberal education is the best foundation for the study of Law. The fourth year is taken as the Freshman year in Law School. Upon the successful completion of the Freshman year in Law with a cumulative quality point average of 1.0 or better the degree of Bachelor of Arts is granted. After two more years of successful work in the College of Law, the degree of Bachelor of Laws is granted.

It should be noted that a student admitted upon advanced credit from another college must be in residence three quarters (the third year) and complete a minimum of forty-five quarter hours in the College of Liberal Arts in this University.

Students entering upon the Arts-Law curriculum must meet the regular entrance requirements and conform to the rules and regulations of the College of Liberal Arts.

PRE-PROFESSIONAL CURRICULA
LEADING TO THE BACHELOR OF ARTS DEGREE

DENTISTRY AND MEDICINE

With a steadily increasing number of qualified applicants applying for admission to colleges of Dentistry and of Medicine, it is strongly recommended that the student looking forward to professional training in these fields plan to complete four years of under-
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graduate work with a high scholastic average. We offer curricula leading to the Bachelor of Arts degree which afford the appropriate foundation courses for later professional training in these professional fields.

Our counseling follows the recommendation of the many professional schools which advise a well-rounded Liberal Arts education with emphasis on social studies as well as on courses specifically preparatory to the study of medicine.

Religious Education and Pre-Theology

The suggested outline of studies which we offer will be found to meet the pre-professional requirements of practically all theological schools. Many seminaries urge that the student have a thorough knowledge of the social sciences and include in their suggestions at least one natural science. This outline includes a broad and liberal course which will enable the student to appreciate his graduate studies to the fullest extent. The courses given plus the emphasis throughout upon Christian idealism will bring about a realization of the most important aim of this department which is to produce for the world well equipped, spiritually-minded young men who will minister to the needs of their communities in every possible way.

Foreign and Public Service

The demand for well-prepared officials in the United States Foreign Service and in the Public Service of the federal and state governments is at the greatest peak in American peace-time history. To properly prepare for work in these fields a student should plan to continue with graduate education after receiving his degree of Bachelor of Arts. Ohio Northern University offers an inter-departmental major in International Relations and a departmental major in Political Science to prepare students for the Foreign Service and for Public Service. The Dean of the College of Liberal Arts should be consulted for the curricula outline in these fields.

General Regulations

1. The student may not register for more than seventeen hours of academic work unless he has received a rating of "B" or better in the preceding quarter, in which case the Dean may grant permission for extra hours.
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2. The student must notify the Dean of his choice of a major before registering for the Junior year. The Dean will then name an advisor for the student.

3. No course for which the student has received a "D" is acceptable toward a major.

4. Seniors taking courses in the "100" series will not receive full credit. Seniors selecting "100" courses should consult the Dean.

5. Juniors and Seniors are required to schedule the majority of their courses from the "300" and "400" group.

6. Not more than one-fourth of any curriculum leading to a degree may be taken in extension courses.

7. Application for Senior rating and graduation must be made to the Registrar at the end of the Junior year.

HOW COURSES ARE NUMBERED

Courses are numbered in "100", "200", "300" and "400" series. With the exception only of students who have had special prerequisites, Freshmen may take courses only in the "100" series. Students of Sophomore rank are not permitted to take "300" and "400" courses unless it is recommended by the advisor and allowed by the Dean of the college. Students of Junior and Senior rank are required to take at least eighty percent (80%) of their schedule among courses of "300" and "400" classification unless modification of this requirement is permitted by the Dean in an individual case upon the recommendation of the advisor.

The last digit of the course number designates the quarter in which the course is given: "1" indicates it is given in the Fall; "2" indicates a Winter Quarter course; and "3" indicates a Spring Quarter course. When a course ends in "0" it may be given any quarter.

The middle digit identifies the course in the series in the department.

CLASSIFICATION OF STUDENTS

For purposes of classification the minimum requirements for Sophomore standing are thirty-eight quarter hours of academic work; for Junior standing, eighty-four hours; for Senior standing, 130 credit hours.

WARNING AND PROBATION

It should be the aim of each student to maintain a scholarship rating equivalent to at least one quality point for each credit hour.
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This is the minimum graduation standard throughout the University.

Should a student receive less than one quality point per hour in any quarter he will be warned by the Academic Council that he is in precarious academic standing. Should he succeed in bringing his work up to a one-quality-point standing during the next quarter, he will be taken off "warning"; should he fail to achieve a one-quality-point average during the quarter he is on "warning", he is placed on probation for the following quarter. At the end of the quarter of probation, he will be removed from probation, or placed on warning, or dismissed from the University at the judgment of the Academic Council, based on the measure of success or the failure of the student during the quarter of probation.

GRADUATION

As a condition of graduation with the Bachelor's degree, a student must complete 186 quarter hours (including six hours of Chapel), and six credits of Physical Education, this being the equivalent of sixteen class exercises per week for twelve quarters. The student must have a cumulative qualitative point average of at least 1.0.

A residence period of the last three quarters and the completion of at least forty-five quarter hours, with at least forty-five quality points, elected largely from "300" and "400" courses in the College of Liberal Arts of this University are minimum requirements for a student admitted on advanced standing.

Students of unusual ability may, upon petition and with the consent of the Faculty of the College of Liberal Arts, complete their work in less than twelve quarters. Applicants for this privilege should have an average of 2.6 quality points per hour: high distinction rank. No student however shall be allowed to graduate unless he has at least eleven quarters work and has been in residence at Ohio Northern University the last three quarters before graduation.
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THE CORE CURRICULUM

C-1, C-2, C-3. ENGLISH COMPOSITION 3 hours
These three quarters, constituting a year's work for the Freshman are designed to develop in the student the basic skills of writing and speaking the English language. The three quarters are required of all Freshmen.

C-11, C-12, C-13. BASIC PRINCIPLES OF SOCIAL SCIENCE 3 hours
An integrated study of the fields of sociology, economics, political science and anthropology.

C-31, C-32, C-33. HISTORICAL STUDY OF PHILOSOPHY AND RELIGION 3 hours
A study of religion and philosophy as a developing body of convictions by which man has attempted, in every age, to solve the problems and mysteries of life. A one-year unit of study designed and recommended for meeting the Philosophy-Religion requirements for graduation.
THE DEPARTMENTAL COURSES
The staff member first named in each department serves as chairman.

Art

MRS. YOUNKMAN

101-102-103. ART EDUCATION 2 hours
These courses are designed to meet the needs of teachers in the primary grades, various media of expression are used: pencil drawing, color, lettering, posters, projects, perspective, design, diction and appreciation. The work is integrated with other elementary school activities, dramatics, athletics, music and social activities.

111-112-113. FREEHAND DRAWING 3 hours
Work in life, still life and the antique as a means of expression, emphasizing the various possibilities and limitations of the black and white mediums, with problems in composition.

121-122. DESIGN 3 hours
Course is planned to present basic elements of design, using line and two- and three-dimensional design problems, in black and white and color as a means of expression. Six periods per week.
Special problems in design, theory, and presentation. Ceramic, textile, metallic, stone, wood, and combined materials are considered for decorative and structural elements.

201-202-203. HISTORY AND APPRECIATION OF ART 3 hours
(201) Prehistoric Art to Byzantine Art, 500,000 B.C. to 313 A.D.
(202) Early Christian Art to Italian Renaissance, Fourth to Fifteenth Centuries
(203) Flemish Art to Twentieth Century Art, Fourteenth Century to Twentieth Century

221-222-223. CERAMIC ART 3 hours
(221) Introduction to pottery making. Forming and decorative processes, glazing and firing. Hand building and use of potter’s wheel.
(222) Introduction to the art phases of the ceramic field. Processes and their application.
(223) Decorative processes, glazing and firing.
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231-232-233. Water Colors 3 hours
Still life, models and landscape. Emphasis on composition and color.

241-242-243. Oil Painting 3 hours
Still life, landscape, composition, painting from life.

251-252. Commercial Art 3 hours
Principles of lettering and its application to commercial design. Illustrative drawing with pen and ink, pencil, wash and other mediums. Composition and introduction to the various phases of commercial art. Prerequisite: 111-112.

321. Northern Painting 3 hours
Flemish paintings from the Van Eycks to the beginning of the sixteenth century: German painting from the early fifteenth century through Duerer, Gruenewald and Holbein.

440. Special Art Problem 1 – 4 hours
Open only to the advanced student who is adequately prepared, in the opinion of the instructor, to pursue special work under the instructor’s supervision.

Biology

Professor Huber, Assistant Professor Yingling, Mr. Bowden

The aims of this Department are to enable the student to understand better the life world in which he lives, to prepare for the teaching field, to obtain a biological foundation for the study of medicine, dentistry, nursing and other professional courses requiring a knowledge of biology, and to qualify for admission to graduate work.

A student who plans to complete a major in Biology is advised to include a year of Chemistry, one year in Physics, Statistics, and courses in Psychology and Sociology, and have a reading knowledge of German and French if graduate work is anticipated. A course in Philosophy is strongly recommended.

Students majoring in Biology must include Courses 302, 303, 304, 321, 423, 450, and 440. Majors in Biology are expected to include a year of Chemistry, one year in Physics, courses in Psychology and Sociology, Statistics, and have a reading knowledge of German and French if graduate work is anticipated. A course in Philosophy is strongly recommended.
Students who minor in Biology must complete twenty-seven hours in this Department, including Courses 113, 302, 304, 321, and 430.

111-112-113. General Biology 3 hours
These introductory courses give consideration to fundamental biological principles and concepts manifested in plant and animal life. Considerable emphasis is given to human biology. Discussion, 2 hours; laboratory, 3 hours.

213. Local Flora 3 hours
A systematic study of the vascular plants, both native and introduced. A field course supplemented by greenhouse and herbarium studies. To be arranged. No prerequisite. (Formerly 110).

233. Physiology 3 hours

351. Physiology 4 hours
Brief courses in human physiology dealing with digestion, respiration, excretion, metabolism, foods, endocrines, muscles, reproduction, and the nervous system. Demonstrations and laboratory.
Prerequisite: General Biology 111-113.

301. Comparative Vertebrate Anatomy 5 hours
A comparative study of the anatomy of fishes and amphibians. Careful dissections are made of the different systems and the relationships noted. Discussion, 3 hours; laboratory, 6 hours. (Formerly 206).
Prerequisite: General Biology 111-113.

302. Mammalian Anatomy 5 hours
A thorough dissection of a typical mammal with a careful correlation of structure and function. The Course is designed especially for Physical Education and pre-professional students. Discussion, 3 hours; laboratory, 6 hours. (Formerly 213).
Prerequisite: Comparative Vertebrate Anatomy 301.

303. Vertebrate Embryology 5 hours
This Course is fundamentally important to students who expect to teach Zoology, study Medicine, or from a cultural standpoint who wish to know something of the origin and development of the human body. Laboratory work is confined largely to the frog and the chick, with occasional reference to the pig. Discussion, 3 hours; laboratory, 6 hours. (Formerly 218).
Prerequisite: Mammalian Anatomy 302.
311. **Plant Anatomy**  
This Course deals with the development and structure of the plant body.  
*Prerequisite:* General Biology or Local Flora.

312. **Introduction to Plant Physiology**  
This Course consists of a critical study of some of the functional processes of plants.  
*Prerequisite:* General Biology or Local Flora.

323. **Invertebrate Zoology**  
A course dealing with a series of invertebrates. 2 hours discussion; 3 hours laboratory.  
*Prerequisite:* General Biology.

402. **Laboratory Technique**  
Methods of collecting, killing, preserving and preparing materials for demonstration and laboratory purposes are considered. A microscopic study of various plant and animal tissues is made. Lecture and class work 1 hour; laboratory 6 to 8 hours. Time schedule to be arranged. Open to Seniors majoring in Biology. (*Formerly* 219).

423. **Introduction to Ecology**  
Studies of plants and animals in relation to their environment, dealing with general principles of bio-ecology. Field studies are emphasized.  
*Prerequisite:* Local Flora or Invertebrate Zoology.

430. **Heredity**  
A study of the principles of inheritance in plants and animals. The inheritance of human traits is given considerable emphasis, and the problems of eugenics are considered. Laboratory exercises with plant and animal materials are included.  
*Prerequisite:* General Biology 111-113.

433. **Evolution**  
A course dealing with the development of the organic world, and an examination of the evidences of evolution and of the theories attempting to explain the method of evolution.  
*Prerequisite:* General Biology 111-113.

440. **Biological Problems**  
Minor investigations for qualified Seniors who are taking a major or minor in Biology. By arrangement any quarter. (*Formerly* 240).
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Chemistry

ASSOCIATE PROFESSOR VAN ATTA,
ASSOCIATE PROFESSOR MASON, ASSISTANT PROFESSOR BRADLEY

The objectives of this Department are to provide the fundamental principles and techniques of chemistry for those students who require such knowledge as a foundation for study in related fields such as pharmacy, medicine, dentistry, engineering, biology, etc., and to provide adequate technical training for students who contemplate industrial work or graduate study in Chemistry.

Students majoring in Chemistry must complete a minimum of forty-five quarter hours within the Department including Chemistry 123, 201-2, and 312. Mathematics is recommended as a minor; a year of Physics is required. A reading knowledge of scientific German is advisable. Since technical training alone is not sufficient for a liberal education, work in the Humanities exclusive of the required English, Religion, and History Courses is expected.

Students who minor in the Department of Chemistry must complete a minimum of twenty-seven quarter hours within the Department including Chemistry 123, 201-2 and 312.

101. Survey of Chemistry 3 hours
102. Survey of Chemistry 3 hours
103. Survey of Chemistry 3 hours

These courses consist of brief introductions to the major concepts of chemistry and include surveys of the applications of chemistry to everyday life; food, textile, and body chemistry and the more important industrial processes are discussed. Frequent demonstrations illustrate the subject matter presented. These courses may be elected to fulfill a part of the requirements of the Division of Natural Sciences of the College of Liberal Arts. Discussion and demonstration, 4 hours per week.

111. General Chemistry 4 hours
112. General Chemistry 4 hours

These courses constitute a careful study of the fundamental laws of chemistry and of the common elements and their compounds; the mathematical approach is utilized with emphasis on the development of the scientific method of reasoning. The laboratory experiments are designed to illustrate the major concepts discussed.
Designed primarily for Physical Science, pre-Medical and pre-Pharmacy students. Lecture and quiz, 3 hours; laboratory, 3 hours per week.

Prerequisites: Chemistry 111 is prerequisite to Chemistry 112.

123. Qualitative Analysis 5 hours
An introductory study in the semi-micro qualitative analysis of acids, bases, and salts, with emphasis on the salts of the common metallic elements. The theory is based on the principles of ionization, mass action and chemical equilibria; laboratory work is arranged to accompany and illustrate the classroom discussion of these and other principles. Lecture and quiz, 3 hours; laboratory, 6 hours per week.

Prerequisite: Chemistry 102 or 112.

201-202-203. Introductory Physical Chemistry 2 hours
A study of the theoretical principles of chemistry with occasional problem assignments illustrating the various physical concepts discussed. These include atomic and molecular structure and properties, the gas laws, chemical equilibria, pH and buffer systems and hydrolysis, thermochemistry, and introductory material in connection with kinetic studies and colloid chemistry. Discussion, 2 hours per week.

Prerequisite: Chemistry 123. Chemistry 201 and 202 are prerequisites for Chemistry 202 and 203, respectively.

211-212-213. Quantitative Analysis 4 hours
Course 211 is a study of the fundamentals of volumetric methods of chemical analysis. Neutralimetric, precipitimetric and redoximetric titrations are followed with indicators and instruments. Course 212 covers the theory and fundamentals of gravimetric methods of analysis, including some alloy and rock analysis. More advanced techniques of chemical analysis are introduced in Course 213, with special emphasis on instrumental methods including colorimetric, potentiometric and polarographic methods as well as electrodeposition. Lecture and quiz 2 hours; laboratory, 6 hours per week.

Prerequisites: Chemistry 123. Chemistry 211 and 212 are prerequisites for Chemistry 213, but 211 is not required for 212.

301-302-303. Organic Chemistry 4 hours
Course 301 is an introductory course devoted principally to a
study of organic nomenclature and the simpler saturated and unsaturated open chain carbon compounds. Course 302 is a continuation of 301 including aliphatic compounds of multiple and mixed functions; stereochemistry and the carbohydrates are discussed briefly and aromatic compounds are introduced. Course 303 includes the discussion of aromatic compounds, alicyclic and heterocyclic compounds including dyes, proteins and physiologically active substances. Lecture and quiz, 3 hours; laboratory, 4 hours per week.

Prerequisites: Chemistry 123. Chemistry 301 and 302 are prerequisites for Chemistry 302 and 303, respectively.

312. Chemical Literature

2 hours

This is essentially a library problem course designed to give the student experience in the use of a scientific library. Discussion, 2 hours per week.

Prerequisite: Chemistry 123.

321. Advanced Qualitative Analysis

2 hours

A study of the laboratory techniques and theoretical principles governing the qualitative analysis of many of the less familiar elements. Laboratory work is done on the semi-micro scale and the applications of spot tests and special reagents are introduced. Discussion, 1 hour; laboratory, 4 hours per week.

Prerequisites: Chemistry 123.

323. Inorganic Chemistry

3 hours

A course devoted to the discussion of the chemical and physical properties of compounds of elements other than carbon with emphasis on those elements forming complex compounds. The laboratory work is primarily concerned with the preparation of many of the types of compounds discussed. Lecture and quiz, 2 hours; laboratory, 3 hours per week.

Prerequisites: Chemistry 213.

401-402-403. Physical Chemistry

2 hours

These Courses are primarily concerned with the solution of problems arising from physico-chemical measurements, with emphasis on chemical thermodynamics, electrochemistry, chemical kinetics and the phase rule. Discussion, 2 hours per week.

Prerequisites: Chemistry 202, 213, 303; Mathematics 203; Physics 213. Chemistry 401 and 402 are prerequisites to Chemistry 402 and 403, respectively.
411-412-413. EXPERIMENTAL PHYSICAL CHEMISTRY 1 hour

These are laboratory courses designed to give the student experience in the principles and operation of the various methods encountered in securing physical measurements. Chemistry majors should take these courses concurrently with Courses 401, 402 and 403. Courses 411 and 412 are not prerequisites for 412 and 413, respectively. Laboratory, 3 hours per week.
Prerequisites: Chemistry 202, 213, 303.

422. ADVANCED QUANTITATIVE ANALYSIS 2 hours

A laboratory course in which more advanced methods of analysis are performed than those encountered in Courses 211, 212 and 213. Complex analyses are emphasized and organic elemental analysis is introduced. Laboratory, 6 hours per week.
Prerequisites: Chemistry 213, 303.

432. ORGANIC QUALITATIVE ANALYSIS 2 hours

An introductory study in the qualitative analysis of organic compounds based primarily on separation by solubility classifications. Identifications are confirmed by preparation of derivatives and determination of their physical properties. Discussion, 1 hour; laboratory, 4 hours per week.
Prerequisites: Chemistry 123, 303.

440. CHEMISTRY PROBLEMS 1–3 hours

Minor investigations in chemistry for qualified Seniors who are majoring or minoring in the Department of Chemistry. Consult the Department Chairman.
Note: Courses in Biochemistry are listed in the College of Pharmacy.

Economics

ASSOCIATE PROFESSOR McCARTY; ASSOCIATE PROFESSOR RITZ
MR. SMITH; MISS HUGHES

The objective of the Department is to prepare the student with a general practical knowledge of the field of economics and business administration. Emphasis is placed upon educating the student in a comprehensive view of economic theory and general business administration rather than any particular specialized function within these fields. However, it is possible for the student to direct his studies, depending upon his needs, to emphasize either economic
theory or general business administration. A combination degree in Business Administration and Secretarial Studies may be obtained upon approval by the Head of the Department of Economics. See Business Education, page 54 for listing of courses.

Students majoring in the Department of Economics and Business Administration must take forty-five quarter hours within the Department. They must include Economics 131, 132, 133; Economics 201, 202, 203; Economics 303; Economics 313; Economics 352, 353. In addition, Psychology 201 will be required of all Economics majors. Other courses within the Department recommended to majors are: Economics 372, 373; Economics 391, 392, 393; and Economics 411, 412, 413. In addition, it is strongly advised that majors plan at least one five hour course in Mathematics as they will find it an invaluable tool to the understanding of advanced economic theory; and a requirement for graduate study at most of our larger universities. All majors must take one course each quarter of the Junior and Senior year within another department of the Division of Social Sciences.

Students who minor in the Department of Economics and Business must complete Economics 201, 202, 203. A minor consists of twenty-seven hours within the Department and should include, but is not required, Economics 303 and 381 for a fuller understanding of the field.

A two year course of study leading to the Associate of Arts Certificate is offered in specialized secretarial fields. Students should consult the Chairman of the Department for details.

131-132-133. PRINCIPLES OF ACCOUNTING 3 hours

Fundamental process of accounting applied to service, trading, and manufacturing concerns; preparation of working papers and financial statements from properly arranged accounts in general ledger; practice sets for representative business concerns completed. (Required of all Economics majors)

200. ECONOMICS OF BUSINESS 5 hours

A study of the operating principles of economic life. Tracing the role and decisions of business in production for the market and the distribution of these products. Course will utilize discussion pattern and many audio-visual aids.

201-202-203. PRINCIPLES OF ECONOMICS 3 hours

A survey course with an analytic description of our economic
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system. An introduction is made to the price system, supply and demand factors, money and banking, government in the economy, the role of producers and consumers, and the analysis of income and employment. (Required of all Economic majors — must be taken in sequence for credit)

301. Intermediate Accounting 5 hours
General financial accounting theories with problem illustrations and applications. Classification of accounts, balance sheet forms, items and analysis of balance sheet, depreciation, goodwill, bonds and sinking funds, amortization, surpluses and reserves, statement of affairs, partnerships, and insurance.
Prerequisite: Economics 301.

302. Advanced Accounting Problems 5 hours

303. Statistics 5 hours
Principles and methods of gathering and interpreting data. This survey includes sampling, tabulation, graphs, averages, probability and error, dispersion, trends, cycles, correlation, variance, and index numbers. (Required of all Economic majors)

311. Business Organization 3 hours

312. Industrial Organization 3 hours
A study of the various types of business and industrial organizations, both simple and complex. Throughout the course, emphasis is placed on recent trends in management, and methods required for administrative, managerial and industrial control.
Prerequisite: Economics 133 and 203, or permission of Department.

313. Business Law I 3 hours
The legal aspect of common business transactions involved in the making of contracts, the formation and legal results of agencies, and various employment relationships, the law governing the marketing of goods as it relates to personal property, and negotiable instruments. (Required of all Economic majors)
321. Business Law II
   Business organizations; security relations; real and personal property; trade regulations.
   Prerequisite: Economics 313. (1)

332*. Marketing
   3 hours
   This course presents a practical and thorough study of marketing activities including the moving of goods and services from the producer to the consumer. An analysis of selling, buying, traffic management, storage, financing, risk management, and standardization.
   Prerequisite: Economics 203.

333*. Transportation
   3 hours
   Historical and current economic problems of transportation. Valuation, rates, and regulation.

341. Personnel Problems
   3 hours
   An introduction to the scientific principles, practices, problems, and points of view of modern personnel management.

342. Labor Problems
   3 hours
   Economic analysis of past and present-day problems of labor; history and development of labor unions in United States; parts played by business management and government, representing the public interest.
   Prerequisite: Economics 203.

343. Labor Law
   3 hours
   A practical course detailing all law and regulation which affect labor relations; emphasis is placed on National Labor Relations Act, Wage and Hour legislation, government contracts and Social Security.
   Prerequisite: Economics 342.

352-353. Money and Banking
   3 hours
   A study of the organization and operation of the American banking institutions. Includes theories of money and credit; commercial banking practices; reserve banking, monetary and banking laws; money market; money and credit in the world economy.
   Prerequisite: Economics 203 (Required of all Economic majors)

372-373*. Public Finance
   3 hours
   A survey of business finance. The various forms of business organ-
ization and instruments of corporate finance are analyzed. Business promotion, types of securities, financial planning, expansion, and consolidation are studied.

Prerequisite: Economics 203 and 301 or permission of Instructor.

372-373*. PUBLIC FINANCE 3 hours
Forms and principles of taxation; fiscal policies and principles of public finance.

Prerequisite: Economics 203.

381. FEDERAL INCOME TAX 5 hours
Federal taxation and income tax reporting.

382. COST ACCOUNTING 5 hours
Accounting for manufacturing enterprises with emphasis on job order process and standard costs accounting.

Prerequisite: Economics 301.

391-392*. ECONOMIC HISTORY 3 hours
A critical analysis of the development of economic thought from Greek and Hebrew writers to modern economists. Particular emphasis given to the works of Adam Smith, Mathus, Ricardo, Marx, Marshall, Keynes and our modern day American economists. Attention is given to the influence of environment and political thought. Text and original sources.

Prerequisite: Economics 203 or permission of the Instructor.

393*. BUSINESS CYCLES 3 hours
An introduction to cyclical behavior, business cycle theories and proposed methods of control.

401. BUDGETING 5 hours
Procedure for estimating income and expenses; the organization for controlling those expenditures and measuring the operating efficiency of the organization.

Prerequisite: Accounting 302.

402*. AUDITING 5 hours
Principles and accepted procedures of auditing accounting records and statements, with special emphasis given to making of working papers and the writing of audit papers for making a complete audit.

Prerequisite: Economics 301.
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411-412*. Comparative Economic Systems 3 hours
An analysis of the economic functioning of Capitalism, Socialism, Communism, and Fascism. Emphasis placed on a comparison and evaluation of their strong and weak points. The relationship of theory to practice. Open to all University Junior and Senior students.

413*. Advanced Economic Theory 4 hours
An analytical approach to the problems of value; price; distribution.
Prerequisite: Economics 203 and 353.

423*. International Trade and Finance 3 hours
Examination of the bases of international trade. The influence of tariffs, trade agreements, exchange controls, international lending, war and reconstruction. The structure and function of the International Monetary Fund and the International Bank for Reconstruction and Development.
Prerequisite: Economics 203.

* Not offered in 1953-54.

BUSINESS EDUCATION

101-102-103. Typewriting 3 hours
A series of courses designed to give the student a practical working knowledge of the typewriter combined with a study of the business letter, office forms, compositions, rough drafts, and tabulation, with special emphasis on statistical and legal typewriting. A high degree of accuracy and speed is required.

111-112-113. Shorthand 3 hours
Basic courses in Gregg Simplified Shorthand, by the functional method, designed to give the student a thorough foundation in principles, and practice in reading and writing at a satisfactory rate.

211-212. Shorthand and Transcription 3 hours
Advanced courses with emphasis on speed and accuracy in production. High degree of efficiency is required. (Formerly 115, 116, 117).
Prerequisite: Shorthand 112.

221. Office Machines 2 hours
Study and use of such office machines, as dictaphone, mimeograph, calculator, etc. (Formerly 210).
222. Office Practice 3 hours
Theory and actual practice in office work both in class and laboratory. (Formerly 129).

223. Office Practice 3 hours
A study of the secretarial profession with special emphasis on office mail, communication, travel, business reports, office organization, and the financial and legal duties of the secretary combined with the application of theory in a University office. One class meeting and the clock-hours of work experience each week. (Formerly 130).

Prerequisites: Shorthand 211, Typewriting 103, and Office Practice 222 or equivalents.

331. Methods in Teaching Business Subjects 3 hours
Study of methods and techniques of teaching business subjects in the high school with special emphasis on Typewriting, Shorthand, Bookkeeping, and General Business. Required for business teachers. (Formerly 230).

440. Supervised Teaching in Business Education 6 hours
Prerequisite: Methods 331. Required for business teachers.

Education

ASSOCIATE PROFESSOR ROBERSON
ASSISTANT PROFESSOR HANSON

See page 34 for description of curricula and degrees.

INTER-DEPARTMENTAL COURSES

121. Introduction to Education 1 hour
To help prospective teachers make intelligent decisions relating to their own qualifications in the various fields of teaching. The teaching profession; personal and social qualifications essential to good teaching; relative supply and demand in various fields.
Required of all Freshmen in the Division of Education.

222. Educational Psychology 3 hours
Interpretation of the fundamental psychological facts, principles, and theories applying to education; pupil growth, development and adjustment; problems of learning; relative influence of nature and nurture; statistical procedures. (Formerly 135).
Prerequisite: Psychology 201 or permission of the Instructor.
223. Educational Psychology: Child Development 3 hours
   Characteristics of the child at different levels of maturity; physical, mental and emotional growth; growth and organization of meanings; control of social and ethical behavior; development of personality. (Formerly 136).
   Prerequisite: Psychology 201 or permission of the Instructor.

401. Principles of Teaching 5 hours
   Fundamental principles of teaching and learning. Attention is given to current trends in education; developing units of work; utilizing latent creative abilities; meeting individual needs; managing the daily program, evaluating pupil growth and development.

402. School Administration and Organization 5 hours
   Designed to give an introductory overview of the administration and organization of education in the United States; federal, state and local administration; financing public education; the teaching staff; pupil personnel; administration and organization of the elementary, junior, and senior high schools; Ohio school laws; buildings and equipment. (Formerly 252).

403. History and Philosophy of Education 5 hours
   A survey of ancient, mediaeval, and modern education with the object of developing an appreciation and understanding of modern educational theories and practices.
   Courses 401, 402, and 403 make a logical sequence which should be completed during the Junior year. These three Courses follow the series in Educational Psychology completed during the Sophomore year.

ELEMENTARY EDUCATION

101-102-103. Art Education 3 hours
   See Department of Art.

111. Music Literature and Appreciation 3 hours
   See Department of Music.

112. Introduction to Music 3 hours
   See Department of Music.

113. Music Education 3 hours
   See Department of Music.
123. SCIENCE FOR THE ELEMENTARY TEACHER 5 hours

Content, methods and principles underlying the teaching of Science in the elementary grades. Special emphasis will be given to the organization and use of materials in the teaching of Elementary Science.

210. ELEMENTARY HANDWORK AND HOBBIES 3 hours

See Industrial Arts. (Formerly 233).

233. CHILDREN'S LITERATURE 3 hours

A study from the literary and educational point of view of the best of literature for the elementary school children; the place of literature in the education of the child; principles involved in the teaching of Literature with stress on its integration with other school activities. (Formerly 138).

241. TEACHING OF READING 5 hours

Principles and techniques of teaching Reading in the elementary grades. Attention will be given to reading readiness, phonics, oral and silent reading, diagnostic and remedial measures, evaluation of textbooks and tests. (Formerly 241-242).

251. FUNCTIONAL ARITHMETIC 3–5 hours

A comprehensive study of the basic concepts in Arithmetic. A survey of the fundamental processes with special emphasis upon problem solving. Not required of students who pass a comprehensive examination in Arithmetic.

252. TEACHING ARITHMETIC 5 hours

Methods and principles underlying the teaching of Arithmetic in the elementary grades; diagnosis and remedial work; preparation and evaluation of materials of instruction.

301. THE ELEMENTARY SCHOOL CURRICULUM 5 hours

Designed for student teachers (in order) to help them develop learning situations in the classroom that are in harmony with basic psychological principles of learning.

312. TEACHING OF THE LANGUAGE ARTS 3 hours

Problems and methods of teaching oral and written expression, handwriting and spelling and their relation to other subjects in the curriculum. Attention is given to the organization and administration of a functional language arts program; diagnostic and remedial measures preparation and evaluation of materials of instruction. (Formerly 239).
313. Teaching of the Social Studies in the Elementary Schools 3 hours
   Objectives, methods, modern tendencies and evaluation in History, Geography, Civics, and related fields, planning of experience units and materials of instruction.

320. Arts — Crafts 3 hours
   See Industrial Arts. (Formerly 235).

380. Student Teaching in the Elementary Schools 9–12 hours
   Eight hours student teaching is required of all candidates for the State Elementary Four-Year Provisional Certificate. The work consists of planning and teaching under supervision in the elementary grades. The following prerequisites are required. 1. Have a minimum scholarship rating of 1.25 quality points per scheduled hour. 2. Approved by Director of Teacher Education. (Formerly 268).

410. Remedial Reading 3 hours
   Causes of reading difficulties; the diagnosis and remedial treatment of each type of disability; a study of diagnostic tests. (Formerly 242).

SECONDARY EDUCATION

350. Teaching of Secondary School
   Senior standing. (Formerly 250).

Teaching of English 3 hours
   Effective devices and methods employed in teaching English in the high school; methods of teaching Literature, Grammar, oral English, and Composition; evaluation and selection of textbooks, visual materials and library references; extra-curricular programs; objective tests. Winter

Teaching of History and Social Sciences 3 hours
   Purposes and aims in the teaching of History and the Social Sciences; evaluation of integrated courses in the Social Sciences; selecting and organizing materials; methods of procedure; objective tests. Winter

Teaching of Mathematics 3 hours
   Reorganization of Mathematics in secondary schools; evaluation of Arithmetic, Algebra, Geometry and unified Mathematics; selecting and organizing materials; objective tests. Fall
Teaching of Languages

Work is adapted to meet the needs of students majoring in the different languages. Aims and methods of teaching languages; study of direct and indirect methods, recent trends; evaluation of textbooks; suggestions for projects; organizing language clubs; objective tests. Spring

Teaching of the Natural Sciences

Designed for students who are preparing to teach one or more of the natural sciences. The work is adapted to meet the needs of the individual student. Selection and organization of subject matter; planning of laboratories; choice of equipment and textbooks; improvised equipment; selected projects in the different sciences; objective tests. Spring

Teaching of Speech

Effective methods of teaching Speech in the elementary and secondary schools. Special attention is given to the place of speech in extra-curricular programs, debate, dramatics and radio. Fall

480. Student Teaching—Junior and Senior High Schools 6 hours

Student teaching is required of all candidates for the State Secondary Four-Year Provisional Certificate. The following prerequisites are required:

1. Have a Senior rank. 2. Have a minimum scholarship rating of 1.25 quality points per scheduled hour. 3. Have complete courses in Educational Psychology, Principles, and Special Methods. 4. Teach either major or minor subjects. 5. Approved by the Director of Teacher Education.

The work consists of planning and teaching under supervision either in the junior or senior high school, at least one hour a day or the equivalent of six hours a week for one quarter. Six hours credit is given for approximately seventy-two hours of teaching and two one-hour conference periods per week throughout the quarter. Student teaching is offered during the Fall, Winter and Spring Quarters. By arrangement.
The work is arranged with three chief ends in view: first, to provide the student with such skill in writing and speaking that he may express his ideas clearly and effectively; second, to give the student a knowledge of literature so that he may read with critical ability, understanding, and appreciation; and third, to offer advanced work to those who are planning to specialize in the teaching of English.

Students majoring in English are advised to minor in French or German, and to elect a year of English History. A minor may be completed in History.

A major in English consists of a minimum of forty-five hours, including the following courses: English 101, 102, and 103 (Composition); English 201, 202, and 203 (Introduction to English Literature); English 311, 312, and 313 (Shakespeare); and English 322 (Chaucer). One year of a modern foreign language is required for candidates for the A.B. degree.

A minor in English consists of a minimum of twenty-seven hours, including English 101, 102, and 103 (Composition), and English 201, 202, and 203 (Introduction to English Literature).

99. ENGLISH REVIEW Non-Credit

This course is required of all students who need special instruction in English.

C-1, C-2, C-3. COMPOSITION 3 hours

These three quarters, constituting a year's work for the Freshman are designed to develop in the student the basic skills of writing and speaking the English language. The three quarters are required of all Freshmen.

201-202-203. INTRODUCTION TO ENGLISH LITERATURE 3 hours

In these three quarters some of the principal works of the major English writers are studied. This Course, or Art 201-2-3, or a foreign language is required of all Sophomores.
College of Liberal Arts

211-212-213. American Literature 3 hours
In these three quarters some of the principal works of the major American writers are studied.

221-222-223. Journalism 3 hours
These are practical courses providing basic knowledge of newspaper organization, procedures, and techniques.

311. Shakespeare 3 hours
The early comedies and histories are studied. Some attention is also given to the poet's life and the medium in which he worked.

312. Shakespeare 3 hours
The sonnets, the later histories, the early tragedies, and the foremost comedies are treated.

313. Shakespeare 3 hours
In this quarter the realistic comedies, the later tragedies, and the dramatic romances are studied.

English 311, 312, and 313 are required for a major in English.

322. Chaucer 3 hours
The Canterbury Tales and some of the shorter poems are read. The lingual, social, and historical backgrounds of the poems are also treated. English 322 is required for a major in English.

323. Milton 3 hours
Paradise Lost is studied in detail. Paradise Regained, Samson Agonistes, and the minor poems are treated as fully as time will allow.

331*. The Drama 3 hours
This quarter is devoted to a study of representative plays of the Classic, Medieval, and Renaissance periods, the seventeenth and eighteenth centuries, and the Romantic era.

332*. The Drama 3 hours
In the first half of the second quarter, the development of realism and naturalism is studied. The second half comprises plays representing a departure from realism.

333*. The Drama 3 hours
A study of modern drama in England, Ireland, and America constitutes the final quarter.

371. World Literature 3 hours
A study in English translation of the masterpieces of Greek and Roman writers.
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372. World Literature
A study in English translation of some of the principal works of the major Italian, Spanish, German, and French writers from the Middle Ages to the middle of the eighteenth century.

373. World Literature
A study in English translation of some of the principal works of the major German, French, Norwegian, and Russian writers from the middle of the eighteenth century to the present day.

380. College Grammar
This is an intensive study of descriptive English which includes diagramming. It is recommended for English majors and prospective teachers of English.

400. English Problems
A qualified Senior majoring in English may undertake a research project supervised by a member of the Department. Total credit may not exceed three hours.

* Not given in 1953-1954.

SPEECH

Courses in Speech are designed:

1. To enhance the student’s use of the tools of oral communication in order that he may be better enabled to participate as an active member in a democratic community.

2. To provide an opportunity for the student to experience a variety of activities which make a direct contribution to satisfactory living.

3. To direct the training of selected students in the various areas of speech education.

One major field of study and one minor field of study are offered in Speech. The requirements for the major are Courses 101, 301, 303, English 331, 332, 333, and additional courses selected from the departmental offerings to complete a total of thirty-six hours. The requirements for the minor are Courses 101, 231, 251, 262, 303, and additional courses selected from the departmental offerings to complete a total of twenty-four hours.

101. Elements of Speech
A first course designed to explore the various areas of oral language experience.
102. **Public Speaking**

Beginning Public Speaking. Speech construction, principles, and practices. Analysis of speaking conditions. Emphasis is on delivery. **3 hours**

103. **Public Speaking**

A continuation of 102 with the emphasis on organization of materials. **3 hours**

150. **Speech Improvement**

Designed to aid those who wish to improve the individual speech pattern. Attention is given to the elements of voice and diction, and the elimination of speech defects. (Formerly 107). **3 hours**

200. **Theater Workshop**

An opportunity for students interested in the various areas of drama to project individual solutions through the medium of a group project. Credit per quarter 1 hour, maximum 3 hours. Laboratory fee. (Formerly 231). **1–3 hours**

231. **Fundamentals of Play Production**

A study of the elements of production from the standpoint of the producer-director. The special problems of the elementary and secondary school are given consideration. Developments of a group project. Laboratory fee. (Formerly 131). **3 hours**

251. **Speech Re-education**

A study of the problems of defective speech, causes and diagnosis. Students are required to observe speech work in the Ada schools. Speech re-education areas of value to the elementary and secondary school classroom teacher are given special consideration. (Formerly 141). **3 hours**

260. **Radio Workshop**

An opportunity for students interested in the various areas of radio to project individual solutions through the medium of a group project. The work of the course provides for the participation of WLOK, Lima. Credit per quarter 1 hour, maximum 3 hours. (Formerly 281). **1–3 hours**

262. **Literary Interpretation**

A study of narrative, dramatic and poetic literature for oral interpretation. An analysis of the materials for meaning and interpretative potential for the student. (Formerly 161). **3 hours**
301. Debate 3–9 hours
Intensive study and debate of a contemporary problem or the intercollegiate debate question. The forms of debate are reviewed and evaluated. Credit per year 3 hours, maximum 3 years, 9 hours. (Formerly 212).

303. Discussion 3 hours
An analysis of the forms of discussion, round table, panel, forum and the techniques of discussion, research, fact, opinion. The work of the quarter centers about the discussion of a contemporary problem. (Formerly 211).

351. Advanced Speech Re-education 3 hours
Analysis of current techniques for the correction of speech disorders, functional and organic. Students participate in supervised clinical work in the Ada schools. (Formerly 241). Prerequisite: 251 or the equivalent.

Foreign Language

Professor Schmitz, Assistant Professor Faust

The ultimate educational value of knowing foreign languages and literatures is that it helps the student to cultivate a greater breadth and comprehensiveness of thought, to arrive at a more thorough understanding of a foreign culture, and to lead to a deeper knowledge of the English language and the American cultural heritage.

The various courses in French, German, and Spanish are designed to meet both cultural and practical needs, promoting proficiency in understanding, speaking and writing the foreign language. Lectures, discussions and written work in the majority of the courses are carried on in the foreign language, so that linguistic proficiency may be acquired along with the study of literature.

A language laboratory provides opportunity for practice with recording machinery. If a student expects to do graduate work or to specialize in Science, he should have a working knowledge of German or French, or both.

Elementary and intermediate courses in French, German and Spanish may be counted as Upper Division Courses if taken during the Junior or Senior year. Students desiring to take a major in foreign languages should arrange details with Professor Schmitz.
FRENCH

101-102-103. Elementary French
   Pronunciation and the essentials of grammar. Basic vocabulary
   and idioms. Elementary reading, based on French life, customs and
   manners. Ear training and oral practice; simple conversation suited
   to the needs and abilities of the class.

201-202-203. Intermediate French
   Review and further elements of grammar. More advanced reading
   (short stories, plays and novels), with abundant conversational prac-
   tice. Occasional lectures about French life, history, architecture, art
   and civilization, illustrated through films or lantern slides.

301-302-303. Advanced French Conversation and
   Composition
   Discussion of selected topics to develop diction, and free composi-
   tion to acquire command of an idiomatic everyday vocabulary. Re-
   corded conversational dialogues on a variety of topics useful to the
   student or traveler in France, and transcribed drills in pronuncia-
   tion are made available for individual practice. Current French
   periodicals are read and discussed. Laboratory exercises and pho-
   netic apparatus are employed.

   Prerequisite: French 201-203.

311-312-313. Survey of French Literature
   A study of the main literary currents and characteristic monu-
   ments of the great periods of French literature. Lectures, class dis-
   cussions, reading of representative masterpieces, reports.

321-322-323. Nineteenth Century Literature
   A study of the main literary currents in the nineteenth century,
   both in prose and poetry, such as Romanticism, Realism, Natural-
   ism, the Parnassus, Symbolism, etc., through typical and selected
   texts, accompanied by illustrated lectures on French life, history, art,
   and civilization, intended as a background for assigned readings.

   Prerequisite: French 201-202-203, 311-312.

331-332-333. History of French Civilization
   Conducted in English. Open to all students.
   General survey of the development of French civilization from
   the Roman conquest to modern times. The political, artistic, liter-
ary, and scientific activities of the French people in the formation of their national life and their contribution to human progress.

402. FRENCH FOR MUSIC STUDENTS 1 hour

Emphasis is placed upon correct and expressive pronunciation in speaking and singing. Reading of songs, librettos, operas.

GERMAN

101-102-103. ELEMENTARY GERMAN 3 hours

Pronunciation and spelling. Oral approach, leading to a thorough study of the essentials of German grammar with written exercises. Basic vocabulary. Elementary reading, based on German life, customs and manners. Simple conversation suited to the needs and abilities of the class.

201-202-203. INTERMEDIATE GERMAN 3 hours

Review of grammar, vocabulary and idioms. More advanced reading (short stories, novels, easy scientific material) with conversation. Occasional lectures about German history, music, architecture, painting, etc., illustrated through films or lantern slides.

221-222-223. SCIENTIFIC GERMAN 3 hours

The objective is to enable the student to use German in professional or graduate work. The technique of reading advanced German and its application; abundant practice in intensive and extensive reading of scientific material. Emphasis on special needs and interests of each individual student according to his field of study.

Prerequisite: German 101-103.

301-302-303. SURVEY OF GERMAN LITERATURE 3 hours

Basic monuments of German literature from the earliest times to the present. Lectures, class discussions, reading of representative masterpieces, reports.

Prerequisite: German 101-103, 201-203.

311-312-313. LESSING, GOETHE, SCHILLER 3 hours

Although the course emphasizes literary appreciation rather than practice in the language, considerable opportunity is offered in the discussions for such practice.

Prerequisite: German 201-203, 301-303.

321-322-323. MODERN GERMAN LITERATURE SINCE 1890 3 hours

Reading and discussion of plays, fiction and poetry of such au-
thors as Hauptmann, Schnitzler, Kaiser, Thomas Mann, Werfel, Hesse, Dehmel, Rilke and George.

Prerequisite: German 201-203, 301-303.

331-332-333. GERMAN CONVERSATION AND COMPOSITION 3 hours
Discussion of selected topics to develop diction, and free composition to acquire command of an idiomatic everyday vocabulary. Recorded conversational dialogues on a variety of topics useful to the student or traveler in Germany, and transcribed drills in pronunciation are made available for individual practice. Current German periodicals are read and discussed. Laboratory exercises and phonetic apparatus are employed.

Prerequisite: German 101-103; 201-203.

341-342-343. HISTORY OF GERMAN CIVILIZATION 3 hours
A survey of the main contributions to Western civilization as represented by characteristic periods and movements. The English lectures, illustrated by slides, motion pictures, music recordings etc., though diverse in nature, have sufficient unity to constitute a connected picture of German civilization in many of its aspects, and display a correlation between German history, philosophy, literature, music, art, science, etc.

401. GERMAN FOR MUSIC STUDENTS 1 hour
Emphasis is placed upon correct and expressive pronunciation in speaking and singing. Reading of songs, librettos, operas.

SPANISH

101-102-103. ELEMENTARY SPANISH 3 hours
Pronunciation and spelling. The essentials of grammar, basic vocabulary and idioms. Elementary reading, based on Spanish and Latin-American life, customs and manners. Ear training and oral practice; simple conversation suited to the needs and abilities of the class.

201-202-203 INTERMEDIATE SPANISH 3 hours
Review and further elements of grammar. More advanced reading (short stories, plays and novels), with abundant conversational practice and review and vocabulary and idioms. Occasional lectures about Spanish and Latin-American life, history, architecture, art and civilization, illustrated through films and lantern slides.
221-222-223. Commercial Spanish 3 hours
The writing of business letters of all types, reports and advertisements forms the basis of this Course.
Prerequisites: 201-203, 301-303.

301-302-303. Survey of Spanish Literature 3 hours
A study of the background, main trends and chief authors in the literature of Spain, from the beginnings to the present, with special emphasis on the Golden Age, lectures, class discussions, outside reading and reports.

311-312. Spanish Conversation and Composition 3 hours
Discussion of selected topics to develop diction, and free composition to acquire command of an idiomatic everyday vocabulary. Recorded conversational dialogues on a variety of topics useful to the student or traveler in Spain, Mexico and Latin America, and transcribed drills in pronunciation are made available for individual practice. Current Spanish periodicals are read and discussed. Laboratory exercises and phonetic apparatus are employed.
Prerequisite: 201-203.

331-332-333. Theatre of the Golden Age 3 hours
A study of the origin, formation and development of the Spanish comedia. Representative works of Lope de Vega, Calderon, Tirso de Molina, and Alarcon will be analyzed with special emphasis on individual characteristics.
Prerequisites: 201-203, 301-303.

341-342-343. Hispanic Civilization 3 hours
Conducted in English. Open to all students.
An integrated picture of the political, economic, social, geographical, and cultural forces which have shaped Spain and Latin America.

ITALIAN

403. Italian for Music Students 1 hour
Emphasis is placed upon correct and expressive pronunciation in speaking and singing. Reading of songs, librettos, operas.

LATIN

101-102-103*. Elementary Latin 3 hours
These courses are designed for those who have not had Latin in high school. Given upon sufficient demand.
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201-202-203*. INTERMEDIATE LATIN 3 hours
Reading from various Latin writers. Given upon sufficient demand.
Prerequisite: Elementary Latin 101, 102, 103 or two units of high school Latin.
*Not given in 1953-1954.

History and Political Science

PROFESSOR BINKLEY, PROFESSOR HILLIARD,
ASSOCIATE PROFESSOR HICKMAN

The History Courses stress the evolution of human institutions with a view to developing an understanding of our present civilization. Students majoring in History must take courses in both American and European History and electives in the allied social sciences, particularly Political Science, Sociology, Psychology and Economics. It is the policy of the Department to recommend no graduate for the teaching of History who has not taken nine hours in American Government in addition to the hours of his History major.

HISTORY

The most appropriate sequence of courses for a major in History would be History of Western Civilization 111, 112, 113; History of the United States 211, 212, 213; History of England 321, 322, 323; Recent American History 361, 362; or Constitutional History of the United States 331, 332, 333; and Recent European History 371, 372, 373. In addition to the thirty-six hours required for the major in History the student must complete nine hours in American Government.

111. History of Western Civilization to 1517 3 hours
112. History of Western Civilization: 1517 to 1815 3 hours
113. History of Western Civilization:
    1815 to the Present Time 3 hours
An introductory survey of European history. The Mediaeval background, the Renaissance, the rise of international rivalry, the World War and its aftermath. Open to Freshmen.

211. History of the United States to 1829 3 hours
212. History of the United States: 1829 to 1876 3 hours
College of Liberal Arts

213. History of the United States: 1876 to the Present 3 hours
A study of the political, social and economic development of the United States from the colonial period to the present time. Not open to Freshmen. (Formerly 113, 114, 115).

303. History of Ohio 3 hours
The political and cultural evolution of the state from prehistoric times to the present. (Formerly 212).
Prerequisite: History 211, 212, 213, or consent of the Instructor.

321. English History to 1603 3 hours

322. English History: 1603-1815 3 hours

323. English History: 1815 to the Present Time 3 hours
A general introductory study of the English people in their political, social and institutional development, followed by a survey of the growth of the British Empire and evolution of the British Commonwealth of Nations. (Formerly 104, 105, 106).

331-332-333*. Constitutional History of the United States 2 hours
A survey of the constitutional development of the United States from the colonial period to the present time. (Formerly 224, 225, 226).
Prerequisite: Political Science 201, 202, 203, and History 211, 212, 213.

341-342*. American Foreign Relations 3 hours
The inception, development and present interpretation of the outstanding foreign policies of the United States; the emergence of the United States as a world power; the trend from isolationism. (Formerly 245, 246).
Prerequisite: History 211, 212, 213.

343*. Modern History of the Far East 3 hours
A study of China and Japan since 1840 with attention given to other neighboring nations as they affect the overall political and cultural development of the Far East.
Prerequisite: History 111, 112, 113.

351-352. Ancient History 3 hours
The development of civilization from pre-history to the fall of Rome. Emphasis is placed upon the early pre-Greek Oriental civilization and the cultural and political contributions of the period.
358*. LATIN AMERICA 3 hours
The conditions in Spain and Portugal leading to Latin American colonization, and the growth of the cultural and political institutions of Latin America. The struggle for independence, and the rise of the modern Latin American Republics.

361-362. RECENT AMERICAN HISTORY 3 hours
An investigation and intensive study of some of the major movements of United States history since 1900. (Formerly 216, 217, 218).
Prerequisite: History 211, 212, 213.

371-372-373. RECENT EUROPEAN HISTORY 3 hours
Europe and its relations with the rest of the world since 1914: imperialism; the alliance system; World War I; the war debt and reparations problems; the rise of the Soviet Union and the fascist powers; the great depression; relations with the Middle-East and the Far-East; World War II; the Cold War.
Prerequisite: 111, 112, 113.

440. HISTORY PROBLEMS 3 hours
Individual investigation on a specific problem. Open to qualified Seniors majoring in History. (Formerly 254).

*Not given in 1953-1954.

POLITICAL SCIENCE

The courses in Political Science are designed to prepare the student for the intelligent performance of the functions of citizenship, for entrance into public service, for the study of Law, and for graduate study in this field. Those majoring in Political Science are advised also to pursue courses in Sociology, Psychology, History and Economics.

101-102-103. INTRODUCTION TO POLITICAL SCIENCE 2 hours
An approach to the field of political science through the study of current problems both domestic and foreign. Cannot be used as partial requirements of eighteen hours in Social Science. (Formerly 104, 105, 106).

201-202-203. AMERICAN GOVERNMENT 3 hours
A study of the origin, development, structure, and functions of national, state and local governments in the United States. Sophomore course. (Formerly 101, 102, 103).
312. Municipal Government 3 hours
A study of the principal problems of municipal government in the United States. (Formerly 204).
Prerequisite: Political Science 201, 202, 203.

322. Municipal Government 2 hours
A course designed especially for students of Civil Engineering. (Formerly 205).

331-332. Comparative Government 3 hours
A study of the governments of England, France, Germany, and Russia. (Formerly 208, 209).
Prerequisite: Political Science 201, 202, 203, or consent of the Instructor.

341*. American Political Parties 3 hours
A brief survey of the development of political parties in the United States followed by an investigation of the psychological, sociological, and practical aspects of the phenomena of political parties. (Formerly 210).
Prerequisite: Nine hours of Political Science or the consent of the Instructor.

353*. American Political Theories 3 hours
The development of American political theories from the colonial period to the present with a view to providing a basis for rational approach to the solution of our present political problems. (Formerly 212).
Prerequisite: Nine hours of Political Science or the consent of the Instructor.

363. Public Administration 3 hours
A study of the problems and fundamental principles of administration in modern governments, national, state and local. (Formerly 214).
Prerequisite: Political Science 201, 202, and 203 or the consent of the Instructor. M.W.F. 10:00.

371*. International Relations 3 hours
372*. International Relations 3 hours
A study of the forces which determine the foreign policies of the major world powers. An introduction to diplomatic procedures; the sources of power; the organization and functions of the United Nations. (Formerly 215, 216).
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379*. CONTEMPORARY INTERNATIONAL PROBLEMS 3 hours
An analysis of contemporary problems with a view to methods of pacific settlement. The Department of State problem method is used.

383. EUROPEAN POLITICAL THEORIES 3 hours
A survey of the development of political philosophy from the period of Ancient Greece to modern times. (Formerly 230).
Prerequisite: Political Science 201, 202, 203, or the consent of the Instructor.

391*. SOCIAL FORCES IN AMERICAN GOVERNMENT 3 hours
An investigation of the part played by interest and pressure groups and ideologies in the determination and execution of public policies. (Formerly 231).

450. POLITICAL SCIENCE PROBLEMS 3 hours
Individual investigation in the field of political science. Open to qualified Seniors majoring in this Department. (Formerly 251).

* Not given in 1953-1954.

Industrial Arts

ASSISTANT PROFESSOR LOWMAN

The Department of Industrial Arts offers courses for all students in the University and especially for those interested in becoming teachers of industrial subjects in the public schools, those students interested in preparing for industrial vocations and engineering. The courses offer training in the basic skills and current practices in working with woods, metals, plastics, leather and many other materials.

101-102-103. INDUSTRIAL ARTS ORIENTATION LABORATORY 3 hours
An orientation course in Industrial Arts, required of all majors and minors. Covers briefly the fundamental tools and operations for each area.

111-112. DRAWING 3 hours
Courses offered in College of Engineering.

113. DRAWING 4 hours
Primarily intended for students majoring in Industrial Arts and Elementary Education. The Course includes the care and use of
drawing equipment, orthographic projections, isometric drawings, oblique drawings, perspective drawings, charts, maps, lettering, and other topics. (Formerly 115).

200. WOOD TURNING

201. WOODWORK I
Use, name and care of fundamental hand tools. Use and characteristics of the common woods. The marking of joints and their application in simple projects. (Formerly 114).
Prerequisite: Drawing 111.

202. WOODWORK II
Use and care of fundamental power machines. Basic operations and procedures in cabinet making. (Formerly 116).
Prerequisite: Woodwork 201.

203. WOODWORK III
Advanced cabinet making with carving, inlaying or other types of surface decoration. (Formerly 117).
Prerequisite: Woodwork 202.

204. ELEMENTARY HANDWORK
The making of projects, toys and games for the primary and intermediate grades using the coping saw and a few simple tools. The construction of projects which could be carried on in the regular classrooms using salvage material such as orange crates, boxes, and plywood scraps. Not open to Industrial Arts majors and minors. Open to all other students at any class level. (Formerly 233).

212. WOOD FINISHING
The study, preparation, and application of various finishing materials to different kinds of woods and other materials. (Formerly 120).

300. WOODWORK IV
Advanced cabinet making with emphasis on power machine work using jigs and fixtures. Arranged by permission. Any quarter. (Formerly 118).
Prerequisite: Woodwork 203.
301. **Metalwork I**  
Practice in basic operations of sheet metal, bench metal, art metal, casting, soldering and brazing. Hand and machine tool operations. *(Formerly 210).*

302. **Metalwork II**  
Advanced theory and practice as listed in Course 210. *(Formerly 220).*  
**Prerequisite:** Drawing 111 and 112.

311. **Materials of Industry**  
A study of industrial materials, their characteristics, sources and uses. Field trips to industrial plants. Reports and displays. *(Formerly 231).*

314. **Crafts and Hobbies**  
Work in copper, brass, wood, plastic, leather, and other materials, in the construction of suitable projects. Readings and reports. *(Formerly 235).*

323. **Industrial Arts Organization and Methods**  
Methods of teaching Industrial Arts, objectives, lesson plans, organization, instructional material, readings and reports. Visits to high school shops. Open to Industrial Arts majors and minors of Junior or Senior standing. *(Formerly 251).*

343. **Shop Planning and Equipment**  
The making of floor plans, selection, arrangement and maintenance of equipment for the small general shop. *(Formerly 252).*  
**Prerequisite:** Same as and to accompany 323.

350. **Special Problems in Industrial Arts**  
Time to be arranged. Offered any quarter. *(Formerly 260).*

355. **Pattern Making and Foundry**  
Theory and practice of pattern making and founding of non-ferrous metals.

400. **Woodturning II**  
Continuation of Woodturning 200 on an advanced level. Fall, Winter, Spring.

403. **Metalwork III**  
Theory and practice of arc and acetylene welding. Practice in casting non-ferrous metals and pattern making. *(Formerly 221).*
411. Elementary Electricity

Study of the fundamental principles of electricity. The application of these principles in the laboratory construction of transformers, electric motors, and other similar projects. Readings and reports. (Formerly 222).

412. Photography

Study of cameras, photographic materials, development and theory of development, printing processes and many other topics. One lecture and one two-hour laboratory period each week. Time to be arranged. (Formerly 225).

450. Student Teaching in Industrial Arts Education

(Formerly 242).

Mathematics

Associate Professor Harp, Assistant Professor Godderz,
Mr. Eppley

The aim of this Department is to offer courses primarily as part of a liberal education, as requirements for Engineering students and for prospective graduate students in Mathematics and Physics. In all courses the theory developed is followed by application to exercises and practical problems when possible.

Students majoring in Mathematics are advised to follow the sequence of courses. Courses in Calculus may be counted as Upper Division Courses. Those planning to major or do graduate work in this field are expected to complete Courses 320, 321, 322, and 403 or their equivalent. Physics is recommended as a minor. A reading knowledge of German or French is advised.

81. Beginning Algebra

For those who have had no Algebra in high school. No credit toward degree. Subfreshman level. (Formerly 90).

82. Plane Geometry

For those who have no entrance credit in Plane Geometry. No credit toward degree. Subfreshman level. (Formerly 91).

83. Solid Geometry

This Course is the equivalent of high school Solid Geometry. Subfreshman level. (Formerly 92).

Prerequisite: One unit of Algebra and one unit of Plane Geometry.
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100. Intermediate Algebra 2 hours
For students entering with two units in Mathematics (one year of Plane Geometry and one year of Algebra).

111-112-113. Mathematical Analysis 3 hours
A one year terminal course covering the fundamentals of algebra, trigonometry, analytic geometry, and the calculus of elementary algebraic functions.
Prerequisite: 1½ years of Algebra.

121. College Algebra 5 hours
Systems of equations involving quadratics, ratio, proportion, variation, progressions, mathematical induction, binominal theorem, inequalities, complex numbers, theory of equations, logarithms.
(Formally 101).
Prerequisite: One and one-half units of high school Algebra, and one unit of Plane Geometry, or Mathematics 111.

122. Trigonometry 5 hours
The fundamental principles of the subject are developed and applied to trigonometric reductions and to the solutions of triangles. Numerous exercises in the field of geometry, physics, and mechanics are studied.
(Formally 102).
Prerequisite: Plane Geometry and one and one-half units of high school Algebra.

123. Analytical Geometry 5 hours
The purpose of this Course is to acquaint the student with analytical methods of investigation and to make him more skilful in the use of algebraic processes as applied to geometric loci. Special attention is given to the equations of the right line, circle, conic sections, and the higher plane curves.
(Formally 105).
Prerequisite: Mathematics 122.

201. Calculus 5 hours
202. Calculus 4 hours
203. Calculus 4 hours
Differentiation and integration of standard algebraic and transcendental forms with numerous application in rectangular, polar, and parametric equations, and in physics. Also studied are series, hyperbolic functions, partial differentiation, and multiple integrals.
(Formally 107, 108, 109).
Prerequisite: Mathematics 121, 122, 123.
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213. Practical Astronomy 3 hours
This course covers spherical trigonometry with numerous applications to the fields of geodesy and astronomy. (Formerly 111a).
Prerequisite: College Algebra and Plane Geometry.

300. Analytical Geometry of Space 4 hours
This offering is planned to give the student a good working knowledge of coordinate geometry in three dimensional space. Equations of the first and second degree of two and three unknowns are stressed. A Seminar Course. (Formerly 206).
Prerequisite: Mathematics 123.

302. College Geometry 4 hours
This course is designed to meet the needs of those who expect to teach Mathematics in the public schools. General methods leading to the solution and construction of geometric problems are studied. Open to Juniors and Seniors. (Formerly 213).

320. Theory of Equations 4 hours
Prerequisites: Mathematics 123, 201.

321. Differential Equations 5 hours
This is a study of the more common types of ordinary differential equations, especially those of the first and second orders, with emphasis on geometrical interpretations and applications to geometry, elementary mechanics and physics. (Formerly 212).
Prerequisite: Mathematics 203.

322. Advanced Calculus 4 hours
Introduction to advanced topics including power series and expansion of functions. The Gamma and Beta functions; line and surface integrals; Bessel functions; calculus of variation; complex variables. (Formerly 216).
Prerequisite: Mathematics 203.

403. Vector Analysis 4 hours
Introduction to vector analysis and simple applications to geometry and physics. (Formerly 215).
Prerequisite: Mathematics 322.
Instruction is provided for those who desire to become teachers and supervisors of Music, and an opportunity is afforded to those who wish to devote themselves to the literature of music, and those who desire a background in choosing music as a profession. Because training in music should be based upon a broad and thorough general education, the curricula have been so constructed as to secure a symmetrical balance between musical and academic subjects.

**BACHELOR OF ARTS WITH MAJOR IN MUSIC**

A major of forty-five hours of Music or a minor of twenty-five hours of Music, is accepted toward the degree of Bachelor of Arts. The major consists of the following courses of Theoretical and Applied Music: Theory, History of Music, Applied Music and Ensemble participation. Theoretical Music should constitute about thirty hours of this major.

The courses are not inflexible and may be changed to meet the requirements of the individual by consulting the Dean and the Head of the Department.

**PUBLIC SCHOOL MUSIC**

This curriculum is approved by the State Department of Education for the training of teachers and supervisors of Public School Music. The degree of Bachelor of Science in Education is granted to students completing the Public School Music curriculum, and such persons are granted the state four-year Provisional Certificate.

**APPLIED MUSIC**

Voice

The courses in voice aim to establish correct physical and mental poise, the principles of breathing and breath control, proper diction and articulation using the best of various methods from the old Italian classic of the bel canto period to the modern scientific theories. Repertoire, interpretation, and presentation are stressed, and opportunities are afforded each student to present vocal works before an audience through recital and student assembly. Students
are encouraged to study songs in the modern languages, Italian, French, and German.

PIANO

The special needs of each individual student guide the approach to instruction in piano playing. Technical studies and selections are carefully chosen to develop the student's ability to recreate the desire of the composer. As music is a means of intellectual culture and artistic enjoyment, the works of the masters are stressed through all grades. Recitals and public appearances give the student an opportunity to gain poise and develop self-assurance.

ORGAN

No student will be accepted unless he has reached a grade in piano playing sufficient to warrant organ instruction. The course of study provides for thorough training in preparation for church and concert work including the best organ literature and the principles of modulation, accompaniment, and improvisation.

VIOLIN, VIOLA, AND VIOLONCELLO

After a thorough preparation in the fundamentals, instruction in the stringed instruments includes not only the systematic development of adequate technical facility but also definite emphasis on such phases as intonation, tone production, and style, all necessary to artistic performance and interpretation. The course of study is flexible and depends upon the individual needs and qualifications of the student. Offered upon sufficient demand.

WOODWIND AND BRASS INSTRUMENTS

Special effort is made to develop the playing ability of the student through the stressing of good tone, phrasing, technique, and ensemble. Suitable material for the advancement of the student is used for the building of technique and repertoire, selected according to the needs of the individual. Participation in band, orchestra, and ensemble is encouraged. Offered upon sufficient demand.

CHORUS-CHOIR

Students of any College of Ohio Northern University interested in singing in the Chorus-Choir have the opportunity to try out for this organization. Music of all types, accompanied and a cappella, are used throughout the year. Sacred and secular music for concerts at the University and outside the community are a part of the pro-
gram including the presentation of "The Messiah" in December and a large choral work in the Spring.

Band

All University students who play band instruments are given the opportunity to play in the University Band. A wide variety of material is used throughout the year. The Band appears in concert as well as at many school and community functions. Band members may participate in woodwind and brass ensembles.

Orchestra

An orchestra made up of students of any College of the University is used to augment choral productions and present concerts. Participation at school and local functions is encouraged. Participation in ensembles is expected of orchestral students. Community residents, not enrolled in the University are invited to play in the University Orchestra.

Music Fees

The fees for private lessons or students majoring in the Department of Music are covered by the tuition and the incidental fees paid at the time of registration. Students who are not majoring in the Department of Music but who register for lessons in voice, organ, or piano are required to pay the following fees:

- One lesson each week $25.00
- Two lessons each week $45.00

Courses in Music

101-102-103. Theory 5 hours

Including the singing, reading, and writing of scales, intervals, triads and simple part-writing from melodies and figured bases. As the course progresses, seventh chords, modulations, suspensions, and passing tones are added. Original work includes the hymn tune and simple two and three part song-forms.

111. Music Literature and Appreciation 3 hours

A general course for deeper understanding and a more intelligent discrimination of music through analysis and active listening to representative works of the music masters. The correlation of music with everyday living. (Formerly 108).

112. Introduction to Music 3 hours

Development of the skills of ear training and sight singing, and
voice culture through the use of songs suitable for the school pro-
gram. *(Formerly 112).*

113. **Music Education** 3 hours

Music activities, music materials and literature, unit planning
and teaching methods and skills for the different age groups from
kindergarten to junior high school. This includes singing, rhythmic,
creative and listening experiences. *(Formerly 110).*

201-202-203. **Music History and Appreciation**

Open to all students.

A survey type course stressing listening experience rather than
the technicalities of musical development in history. The first quar-
ter covers material inclusive of the seventeenth century. The second
quarter includes music of the eighteenth and early nineteenth cen-
turies. The third quarter treats of music from the Romantic period
to the present time. All three quarters present some rudiments in
musical analysis and score reading. The aim of the Course is to
equip the student with the tools necessary to a more full and intelli-
gent enjoyment of good musical literature.

**Prerequisite:** Either 201 or 202 is necessary as a prerequisite for
203.

211-212-213. **Theory** 5 hours

Altered chords, non-harmonic tones, chromatics, and advanced
modulation added to the previous year of Theory. Analytical tech-
nique of music compositions and the study of Musical Form from
the motive and song-form to the sonata and contrapuntal forms.
*(Formerly 104, 105, 106).*

**Prerequisite:** One year of Theory.

241-242-243. **History and Appreciation** 3 hours

These Courses deal with the origin and development of music,
studied from an appreciative basis. *(Formerly 153, 154, 155).*

301-302-303. **Conducting** 2 hours

Courses in principles of conducting concluding with conducting
choral, band and orchestra scores. *(Formerly 140, 141, 142).*

311. **Primary Music Methods and Observation** 4 hours

Two observations each week are required. *(Formerly 202).*

**Prerequisite:** Theory 213.
315a. Intermediate Music Methods and Observation 4 hours
Materials and methods in vocal music. Four observations each week are required. (Formerly 203a).
Prerequisite: Primary Music Methods 311.

315b. Intermediate Music Methods and Organization 4 hours
Organization and management of bands and orchestras in the elementary school and the high school. Instrumental classes, substitution of parts, repertoire, public performances. Observation of bands, orchestras, and instrumental classes in the public school. (Formerly 203b).

321-322-323. Class Voice 2 hours
A Course designed for prospective teachers of Vocal Music in the public school. (Formerly 207, 208, 209).

332. Supervised Teaching in the Primary Grades 3 hours
(Formerly 213).
Prerequisite: Primary Music Methods 313.

341-342-343. Instrumental Class 2 hours
Courses designed for prospective teachers of Instrumental Music in the public school. (Formerly 217, 218, 219).

402. Junior and Senior High School Methods 4 hours
The adolescent voice and its care. Two observations each week are required. (Formerly 204).
Prerequisite: Intermediate Music Methods 313.

421. Instrumentation 3 hours
422. Orchestration 3 hours

423. Advanced Orchestration 3 hours
Courses designed to give the public school Music instructor in the instrumental field of music a thorough knowledge of the instruments of the orchestra and band, and the arrangements of music for complete school orchestras and bands. (Formerly 250, 251, 252).

431. Counterpoint 3 hours

432. Choral Arranging 3 hours

433. Choral Arranging 3 hours
Courses designed to give the public school Music instructor in the vocal field of music the technique of contrapuntal writing, and the
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arranging of music for the school choir, glee clubs, and vocal organizations. (Formerly 285, 286, 287).

440. Special Problems 1–5 hours
Open only to Seniors who are majors in Music.

441-442-443. Band and Orchestral Instruments 2 hours
Courses designed to give the prospective teacher of Vocal Music a general knowledge of the playing technique of the instruments in the string choir, woodwind choir, and the brass choir. (Formerly 220, 221, 222).

451. Supervised Teaching in the Intermediate Grades 3 hours
(a) Practice teaching in Vocal Music.
Prerequisite: Intermediate Music Methods 313a.
(b) Practice teaching in Instrumental Music. (Formerly 214).
Prerequisite: Intermediate Music Methods 313b.

453. Supervised Teaching in Junior and Senior High School 3 hours
(a) Practice teaching in Vocal Music.
Prerequisite: Methods and Observation 402.
(b) Practice teaching in Instrumental Music. (Formerly 215).
Prerequisite: Intermediate Music Methods 313b.

Philosophy and Religion

Associate Professor Tinsler

C-31, C-32, C-33. Historical Study of Philosophy and Religion 3 hours
A study of religion and philosophy as a developing body of convictions by which man has attempted, in every age, to solve the problems and mysteries of life. A one-year unit of study designed and recommended for meeting the Philosophy-Religion requirements for graduation.

PHILOSOPHY

In the Department of Philosophy a search is made for a reasoned conception of the universe and of man’s place in it. Assumptions are examined and conclusions evaluated. The goal is the achievement of the principles of straight thinking for the living issues of both personal and social life today.
An interdepartmental major of forty-seven hours in this field is offered with the following Courses: Biblical Literature and Religion 241, 242, 243; 301, 302, 303; Philosophy 301, 303; Psychology 201 and Sociology 201, 312, or 401, plus six hours of electives within the Department. A minor in this Department consists of twenty-four hours in Biblical Literature and Religion or in Philosophy.

301. INTRODUCTION TO PHILOSOPHY  
5 hours

Presenting philosophy in the light of its main task of "integrating the piecemeal knowledge of the day and giving men a comprehensive view of life and the world." A view of man in relationship to the living issues of today. (Formerly 201).

302. LOGIC  
5 hours

The study of "how to think straight." A constructive study of mental processes; fallacies in logic; analysis of argument and proof; deductive and inductive reasoning; the proper organization and presentation of ideas; the limitation and the expression of knowledge. (Formerly 202).

303. ETHICS  
5 hours

Morality and the problems of conduct. Evaluation of proposed standards of judgments; the search for a suitable standard and its application to personal, social and political problems. Especially designed for teachers and pre-professional students, but open to all Junior and Senior students. (Formerly 203).

411. HISTORY OF PHILOSOPHY  
3 hours

A study of the views of the philosophers of the past, beginning with the early Greeks, presenting them as pioneers in the unexplored fields of thought and analyzing their contributions to contemporary concepts. Alternates with Religion 301. (Formerly 204).

412. CONTEMPORARY SCHOOLS OF PHILOSOPHY  
3 hours

A study of current philosophies as they face and attempt to adequately meet the chief problems of life today. Alternates with Religion 302. (Formerly 205).

413. CONSTRUCTING A PERSONAL PHILOSOPHY  
3 hours

Looking back over the insights gained in college into the natural and social sciences and asking seriously, "What of it?", and looking forward to post-college experiences and asking, "What now?" The problems of constructing a personal philosophy—an adequate world-
view and concept of man’s place in this world. Alternates with Course 210.

Prerequisite: Philosophy 301. (Formerly 208).

400. PHILOSOPHY OF RELIGION 3 hours
A constructive study and discussion of the philosophy underlying such religious concepts as God, soul, freedom, prayer, destiny, evil, and immortality. Credit applicable to either Philosophy or Religion. Scheduled upon sufficient demand. (Formerly 212).

440. PROBLEMS IN PHILOSOPHY 1–3 hours
Research or special projects for Seniors prepared to do special work in Philosophy. By arrangement. (Formerly 220).

RELIGION

Believing that anything which existed in history can be studied historically, the historical (or objective) approach to the study of Religion is used, presenting the figures of Bible History and Religion as real people in real life situations, facing real problems and finding real solutions through their religious insights. The Courses are neither sectarian nor dogmatic but, instead, aim to give the student the factual background for his own interpretation of a vital faith.

BIBLICAL LITERATURE AND RELIGION

100. INTRODUCTION TO RELIGION 3 hours
Designed for Freshmen; presenting religion as the vital experience and growing conviction of real people facing real problems in real life situations, with a careful examination of the contrast between the religion of primitive and of advanced cultures. Recommended to meet the minimum requirements of students seeking professional degrees in Pharmacy, Engineering, and Law. May be used toward meeting any requirement in Religion.

101. BIBLE CUSTOMS AND MANNERS 2 hours
Presents the background and local color of the Biblical narrative, with special attention being given to the social customs and folkways peculiar to the Near East.

103. THE MESSAGE OF JESUS CHRIST 2 hours
Special attention is given to the personal and social application of His teachings. A course in practical principles rather than in theology.
221-222-223. Religious Education 2 hours
A study of the historic development of religious education from Bible times to the present day, with an investigation of its philosophic and psychological foundations. The Winter and Spring Quarters then deal with the aims, objectives, goals, standards, methods and materials of religious educations.

241-242-243. Bible History 3 hours
The Fall and Winter Quarters deal with Old Testament history, presenting the cultural and religious development of the Hebrew people from early times through the United Kingdom, Division, Exile and Restoration to the time of King Herod. The Spring Quarter presents New Testament history through the writing and canonizing of the New Testament. Special attention is paid to the life of Jesus with consideration of the social and political setting into which He was born and its relation to His life and teaching.

301. The Life and Letters of St. Paul 3 hours
A study of the development of the early Church and the relation of St. Paul to this work as revealed in the Book of Acts and in the Letters of Paul. (Formerly 232).

302. The Christian Church in History 3 hours
A study of the Church in history, with consideration of the significant individuals and events in the Christian Church from the Apostolic Age to the present day and their relation to the course of general history. (Formerly 201).

303. Comparative Religion 3 hours
The fundamental religious beliefs, customs and institutions of the major living religions. A knowledge of the general aim and nature of religion is sought. (Formerly 210).

400. Philosophy of Religion 3 hours
A constructive study and discussion of the philosophy underlying such religious concepts as God, soul, freedom, prayer, destiny, evil, and immortality. Credit applicable in either Philosophy or Religion. Scheduled upon sufficient demand. (Formerly 212).

401. Psychology of Religion 3 hours
For description of Courses refer to listing in Department of Psychology and Sociology. Applicable toward the interdepartmental major or minor in Religion. (Formerly 203).
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410. Student Teaching in Religious Education 1–3 hours
A course in teaching in which the students will have an opportunity to teach in Sunday School both in town and rural churches. This teaching will be done under careful supervision. (Formerly 127). Prerequisite: Courses 221, 222, 223.

440. Problems in Religion 1–3 hours
Research or special projects for Seniors prepared to do special work in the field of religion. By arrangement. (Formerly 224).
Courses 301, 302, 303, are sometimes alternated with Philosophy 411, 412 and 413.

Physical Education

Professor Lamb, Assistant Professor English, Mrs. Pickering

Some form of physical activity is required of all students during their first two years in the University. The nature and amount of work to be taken depends upon physical condition as revealed by a careful examination and by efficiency tests given at the beginning of the school year. A varied program of elective and required activities is provided, which aims to secure and maintain the highest degree of individual and social efficiency both during and after college life.

The elective courses are both theoretical and practical. A strong intramural sports program is designed to provide some form of activity for nearly every student on the campus.

REQUIRED COURSES

Physical Education two hours a week. One credit each quarter for the first six quarters.

First Year. This work is given both out-of-doors and in the gymnasium. It is systematically graded and arranged to fit the needs and interest of the individual. Corrective work, for those who need it, and the fundamentals of natural gymnastics and games are stressed.

Second Year. A continuation of the first year program, with greater emphasis on play activities.

101-102-103. Physical Education
Men—Gymnasium and outdoor classes in season, natural gymnastics, informal play. Freshmen.
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Women—A course in natural gymnastics including games and sports in season, dancing and tumbling. Freshmen.

201-202-203. **Physical Education**
   Men—Continuation of Course 103 with team games and apparatus added. Sophomores.
   Women—A continuation of Course 103. Sophomores.

**ELECTIVE COURSES**

**INTRAMURAL SPORTS.** Ample athletic fields and a splendid gymnasium afford exceptional facilities for an intramural program that is sufficiently broad and varied to offer some form of activity for practically all University students. In their proper seasons, the following sports are offered: football, basketball, free throwing, baseball, speedball, handball, playground ball, volleyball, tennis, wrestling, boxing, track, touch football, golf, horseshoes and swimming.

**PROFESSIONAL CURRICULUM FOR TEACHERS**

For students who wish to specialize in the field of Health and Physical Education, a four-year professional curriculum is offered, leading to the degree of Bachelor of Science in Physical Education, and to a special state four-year Provisional Certificate. For curriculum see Division of Teacher Education in this bulletin.

101a-102a-103a. **Physical Education for Majors** 1 hour

201a-202a-203a. **Physical Education for Majors** 1 hour

Courses 101a to 203a inclusive are required of all students majoring or minoring in Physical Education in place of Courses 101 to 203. These Courses consist of natural activities in season, including games, stunts, tumbling, clogging, folk and character dancing, natural dancing, pageantry for women and combat activities for men. These Courses apply toward Physical Education major. Men.

110. **Personal and General Hygiene** 3 hours

A course designed to cover the various phases of personal hygiene and health from the individual aspect, with emphasis on preventive measures. Each quarter. *(Formerly 115).*

112. **First Aid and Athletic Training** 2 hours

Lectures, discussion and practice in the giving of first aid in cases of emergency. Methods of scientific training and conditioning of athletic teams. The American Red Cross First Aid Certificate may
be obtained by students who pass a satisfactory examination. (Formerly 158).

113. **Advanced First Aid** 2 hours

This is a course designed to give instruction and advanced training in first aid. Upon satisfactory completion of this Course the Advanced First Aid Certificate and Instructor Training Certificate will be awarded. (Formerly 159).

*Prerequisite:* First Aid and Athletic Training 212.

121. **Health Education** 3 hours

The relation of hygiene to home and community life, including a study of sewage disposal, refuse disposal, transmission and control of diseases. (Formerly 117).

122. **Health Education** 3 hours

This Course deals with the health program of the public schools, and the teaching of habits, attitudes and knowledge conducive to good health. (Formerly 151).

123. **Health Education** 3 hours

A course for the special teacher and supervisor of Physical Education, dealing with the sanitation of school buildings, surveys of various school systems, teachers' health, and other health problems arising in a school system. (Formerly 152).

133. **Theory and Practice of Plays and Games** 3 hours

The need, purpose, and function of play in education are studied. Activities adaptable to various levels of the elementary and secondary schools are studied. Two hours of theory and two hours of laboratory per week. (Formerly 156).

223. **Body Mechanics** 3 hours

This Course deals with the general body mechanics of the human organism, furnishing the student an opportunity to study and analyze the activities of the physical education program in their relation to coordination and the proper body mechanics. (Formerly 155).

*Prerequisite:* Comparative Anatomy 301 and Mammalian Anatomy 302.

301-302-303. **Principles and Methods of Physical Education** 4 hours

Lectures, demonstrations, and practice. An examination of the principles underlying modern practices in physical education, from
the standpoint of general education. The methods used in the natural program of physical education, such as the teaching of fundamental skills of tumbling and stunts, basketball, indoor baseball, speedball, volleyball, handball. Class, three hours; practice, two hours.

321a. METHODS IN COACHING FOOTBALL 3 hours
A course covering in detail, equipment, fundamentals of the game, kicking, passing, handling the ball, tackling, blocking, etc.; individual position play; discussion of various types of offensive and defensive formations now in use, and the merits of each; strategy and generalship. (Formerly 221a).

321b. METHODS IN COACHING FOR WOMEN 3 hours
This Course is to prepare major and minor students in Physical Education to coach Athletics in secondary schools. The Course covers presentation of technique, basic principles, team play and methods for instruction of hockey, soccer, and speedball. (Formerly 221b).

322. METHODS IN COACHING BASKETBALL 3 hours
Men—Special emphasis is given to the fundamentals, passing, shooting, dribbling, feinting, and pivoting; to the various styles of offense and defense used by leading coaches; to equipment; to the conditioning of a team; and to the handling of a team in games. Lectures, reports, demonstration and practice.

Women—Volleyball, basketball, and handball. (Formerly 222).

323. METHODS IN COACHING BASEBALL AND TRACK 3 hours
This Course covers pitching, catching, batting, fielding, baserunning, individual position and team play in baseball. It takes up the best methods and forms for all of the events in track and field. Lectures, reports, demonstrations, and practice.

Women—Baseball, tennis, track, and field sports. (Formerly 223).

331-332-333. ADVANCED COACHING PRACTICE 1–3 hours
These Courses are designed to give students who have had Courses 321, 322 and 323 an opportunity to do actual coaching under supervision, in all sports in season. Hours arranged. (Formerly 271, 272, 273).

401. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION—MEN AND WOMEN 2 hours
A course dealing with the objectives, principles, and methods of organization and administration of Physical Education in elemen-
College of Liberal Arts

tary and secondary schools and colleges. It includes management of athletic sports, games, and contests, and intramural athletics. (Formerly 254).

402. Normal Diagnosis 2 hours

This Course includes recording of personal and family history, methods of making general health examinations, including special methods of examining the eyes, ears, nose, throat, spine, feet; weighing and measuring, and a limited study of corrective exercises for various postural defects. (Formerly 252).

403. History of Physical Education 2 hours

This Course traces the evolution and development of physical education through ancient and modern times. It demonstrates the close relationship existing between certain elements in civilization and the status of physical education in that civilization. (Formerly 260).

410. Student Teaching—Physical Education 6 hours

Students taking the four-year course for the training of Physical Education supervisors and teachers are required to prepare a syllabus of the work covered, write lesson plans, hold conferences with the Professor in charge and teach in junior and senior high school and elementary schools. (Formerly 263).

440. Problems in Physical Education 1–3 hours

This Course deals with specific problems in physical and health education and is open to properly qualified students. Time to be arranged. (Formerly 265).

Physics

Associate Professor Benedict, Mr. Abele

The primary aim of the Physics Department is to offer courses that will stimulate scientific thought, train the student to reason from fundamental experimental facts, further the student's desire to continue scientific investigation, and meet the needs of those students who are interested in physics for its cultural or its vocational value. Emphasis is placed on clear concepts, accurate thinking, and the complementary nature of experiment and theory.

The Department aims to give a training sufficiently broad to enable the student to appreciate the physics of popular scientific ar-
articles, to teach Physics in the public school, to apply physics in Engineering, Medicine and other sciences, and to pursue graduate work to the best advantage.

The Physics major must include Courses 301, 302, 303, 312, 313, and at least two hours each of 310, 320, and 330. For those contemplating graduate work in Physics, thirty-five hours of Mathematics should be completed. An introductory course in Philosophy and a reading knowledge of German are strongly recommended. A year of Economics is recommended and a year of General Chemistry should be completed.

221. General Physics: Mechanics of Solids and Fluids 4 hours

222. General Physics: Electricity and Magnetism 4 hours

223. General Physics: Sound, Heat and Light 4 hours

These Courses are open to any persons except Physics majors and Engineers. They are required for pre-Medical and pre-Dental students. Course 221 and either 222 or 223 are required for pre-Pharmacy students. Four class periods and two hours of laboratory. 221 should precede 222 and 223. (Formerly 211, 212, and 213).

Prerequisite: Two units of high school Mathematics.

241. General Physics: Mechanics of Solids and Fluids 5 hours

242. General Physics: Electricity and Magnetism 5 hours

243. General Physics: Sound, Heat, and Light 5 hours

A series of courses designed for Engineers and Science majors. Four class periods and two hours of laboratory. 241 should precede 242 and 243. (Formerly 201, 202, 203).

Prerequisite: High school Physics and Mathematics 123, Calculus to be taken concurrently.

251. Descriptive Astronomy 5 hours

Study of the celestial bodies including distance, motion, size, distribution of planets, stars, spiral nebulae, and modern theories regarding their origin and evolution. Four class periods and two hours of laboratory.

301. Analytical Mechanics 5 hours

A course covering the principles of mechanics as applied to statics; also a study of dynamics of particles and bodies. (Formerly 213).

Prerequisite: Physics 221 or 241 and Calculus.
College of Liberal Arts

302. MODERN PHYSICS  3 hours
A lecture and quiz course involving fundamental questions on
the nature of things, such as atomic structure, electron theory, quan-
tum theory, and the theory of relativity etc. (Formerly 220).
Prerequisite: General Chemistry and Physics 221, 222, 223, or
241, 242, 243.

303. MATHEMATICS OF PHYSICS  5 hours
A course dealing with the application of Mathematics to Physics
and related sciences. (Formerly 214).
Prerequisite: Physics 241, 242, 243, and Calculus.

312. ELECTRONICS  5 hours
Electron ballistics, thermionic emission, vacuum tubes and char-
acteristics, rectifiers, amplifiers, oscillators, modulators, demodula-
tors, and electron tube instruments. Four class periods and two
hours of laboratory.
Prerequisite: Physics 241, 242, 243, and Calculus 201, 202, 203.

313. ELECTRICITY AND MAGNETISM  5 hours
A study of electric and magnetic fields, dielectrics, inductance,
capacitance, direct and alternating current circuits and their appli-
cations.
Prerequisite: 221, 222, 223, or 241, 242, 243.

310. ADVANCED LABORATORY: MECHANICS  1–3 hours
320. ADVANCED LABORATORY: LIGHT, HEAT, SOUND  1–3 hours
330. ADVANCED LABORATORY: ELECTRICITY  1–3 hours
Credit is given in Courses 310, 320, and 330 according to the
amount of work done. A quiz is given on assigned readings for each
experiment. Not more than six hours credit may be earned in any
one of the three quarters. Offered every quarter. Two three-hour
laboratory periods and one class period for three hours credit. (For-
merly 216, 217, 218).
Prerequisite: 221, 222, 223, or 241, 242, 243, and Mathematics 203.

333. LIGHT  5 hours
The laws of physical and geometric optics; optical instruments,
reflection, refraction, absorption, dispersion, interference, and polar-
ization. A study of lenses, prisms, mirrors, gratings, and instru-
ments used in the study of light. (Offered in 1953-1954 and in alter-
nate years).
Prerequisite: Physics 223 or 243.
College of Liberal Arts

402. ADVANCED LIGHT 5 hours
An Honor Course in physical optics and spectroscopy. There are no regular class recitations. Reports are made by the student in individual conferences. Only superior students may register for this Course. Consent of the Head of the Department is necessary. (Formerly 221).

Prerequisite: Physics 241, 242, 243, and Calculus 203.

412. ADVANCED ELECTRICITY 5 hours
An Honor Course in electricity and magnetism. Requirements the same as for Course 402. Only one Honor Course open each year. (Formerly 222).

413. ELECTRIC AND MAGNETIC FIELDS 5 hours
Electrostatic fields; electric fields in simple geometries. Magnetostatic fields; magnetic fields of simple geometries. Introduction to electromagnetic theory and Maxwell's equations. Vector analysis introduced as needed. 5 class hours per week.

Prerequisites: Physics 201, 203, Calculus 201-203.

Psychology

ASSOCIATE PROFESSOR MARKLE, ASSISTANT PROFESSOR SCHAEFFER

The purpose of this Department is to acquaint the student with the facts and laws of behavior and mental life, especially in man; to enable the student to develop a wholesome personality and to make adequate social adjustments; and to equip the student with fundamental preparation for furthering his interests and studies either in private life or in institutions of learning.

In order to complete a major in this Department the student must complete thirty-six hours in Psychology. A minor in Psychology consists of twenty-four hours. Psychology majors must complete one year of General Biology.

201. GENERAL PSYCHOLOGY 5 hours
A general survey of psychology facts and principles stressing human experience and behavior. (Formerly 101).

202. APPLIED PSYCHOLOGY 5 hours
The application of psychological principles to problems of modern life; clinical practice; personal work; home life; education; industry; business law and criminology; medicine, social reform. (Formerly 102).

Prerequisite: Psychology 201.
222. Educational Psychology 3 hours

223. Educational Psychology 3 hours
See Division of Teacher Education for description of these two courses. (Formerly 135, 136).

233. Abnormal Psychology 5 hours
This Course is an introduction to the study of the problems of mental health and is designed to meet the needs of students of Education and preprofessional courses. (Formerly 210).
Prerequisite: Psychology 201.

303. Social Psychology 5 hours
A study of social behavior and social adjustment. The effect of the social environment upon the development of personality. The relation of social and psychological laws to problems of the community. (Formerly 104).
Prerequisite: Psychology 201.

311*. Problems of Personality 3 hours
A study of the various factors, types, adjustments, and methods of improving human personality. (Formerly 213).
Prerequisite: Psychology 201.

401. Psychology of Religion 3 hours
A study of the religious behavior of mankind, the need of the spiritual in man's adjustment to his world, and the close correlation of the teachings of Jesus and the tenets of modern scientific psychology. (Formerly 203).
Prerequisite: General Psychology 201.

413*. Psychology of Business and Industry 3 hours
A study of the principles and applications of psychology as used in business, industry and personnel work. (Formerly 211).
Prerequisite: Psychology 201.

422*. Psychology of Counseling 3 hours
A study of the basic principles, purposes, and psychological problems involved in interviewing; discussion of interests and problems of members of the class; special purpose interviews and counseling, recording and evaluation of facts; reporting and discussion of actual interviews. (Formerly 215).
Prerequisite: General Psychology 201.
College of Liberal Arts

440. Psychological Problems 1–4 hours
Minor investigation. Open only to qualified Seniors. By arrangement. (Formerly 212).

* Not given in 1953-1954.

Sociology
Associate Professor Markle

The purpose of this Department is to give the students an understanding of human relationships, institutions, and social processes; to familiarize them with the nature and causes of social problems; to give the students deeper insight into the requirements of intelligent citizenship and useful participation in the community life; to equip the student with fundamental preparation for furthering his interests and studies either in private life or in institutions of learning.

In order to complete a major in this Department the student must complete forty-five hours in Sociology. Sociology majors must include Psychology 201 and 303 and Economics 303. In addition eighteen hours must be completed within the Division of Social Sciences, in departments other than the Sociology Department.

A minor in Sociology consists of twenty-seven hours with Psychology 201 being required in addition.

202*. Social Pathology 5 hours
Social pathology, as it concerns our own society, including the study of such problems as child labor, poverty, crime, the family, public health, etc. (Formerly 151).

211. Criminology 3 hours
A consideration of the problems of crimes and criminals. Special attention is given to the factors conducive to the making of criminals, together with a suggested program of treatment and prevention. The Course also includes some study of the history of punishment and penal institutions. (Formerly 211).

223. Rural Sociology 3 hours
Composition of rural population, the rural family and standards of living, rural institutions, and social processes, fundamental differences between rural and urban groups. (Formerly 214).
231. **Cultural Anthropology** 3 hours
   A study of preliterate culture, its relation to geography, biology, and psychology. Study of primitive religion, family patterns, and cultural variations. (*Formerly 220*).

232. **Social Characteristics in World Societies** 3 hours
   A comprehensive study of three societies, presenting the essential characteristics of a society in terms of its everyday workings and its organization.

233. **Social Change in World Societies** 3 hours
   A comprehensive study of three societies, presenting the social change which is taking place on a world-wide scale.

311. **Educational Sociology** 3 hours
   A study of the sociological foundations of education; the school as a social institution.

321. **Urban Sociology** 3 hours
   A study of cities, their growth, ecology, population trends, personality types, characteristic attitudes and institutions.

330. **Human Geography** 3 hours
   A study of the adaptation of man to his environment.

331. **Courtship, Marriage, and the Family** 3 hours
   A practical course in the study of adjustment in courtship, preparation for marriage and family living.

332. **Social Factors in Marriage Adjustment** 3 hours
   An analysis of the factors in modern life affecting the stability of the family. A critical study of the biological and social factors in marital adjustment.

333. **Life and Family Relationships** 3 hours
   A study of the effects of early family relationships and the individual's day by day experiences upon the child in American society.

401*. **Social Control** 3 hours
   A study of the methods and agencies of social control in contemporary society. (*Formerly 213*).

402*. **Racial and Cultural Minorities** 3 hours
   A study of the phenomena which arise when groups of people who differ racially or culturally come into contact with one another. (*Formerly 217*).
403*. Sociology of Conflict  3 hours
A study of conflict in human behavior and in social change; class, race, and industrial conflict in contemporary society; sociological aspects of war. (Formerly 219).

423*. Juvenile Delinquency  3 hours
A study of the factors associated with juvenile delinquency, characteristics of delinquents, juvenile court procedure, correctional training in institutions, plans and programs for the prevention of delinquency.

443. Industrial Sociology  3 hours
A study of the social organization of industry and human relations in the work plant. Problems of conflict and cooperation in the work group and the relation between the work group and the community are emphasized.

452. Population Problems  3 hours
The composition of population according to sex, age, color; its distribution in the territory of the United States; fertility, mortality. The problems of selection, birth control, standard of living and migrations are discussed.

440. Social Problems  1–3 hours
Minor investigation. Open only to qualified Seniors by arrangement.

* Not given in 1953-1954.
College of Engineering

LAWRENCE HARRY ARCHER, Dean

PURPOSE

In keeping with the avowed purpose of Ohio Northern University, it is the aim of the College of Engineering to furnish the student with the knowledge necessary for a thorough training in the basic principles of the main branches of Engineering, and to give him such special and technical information as is required in his own particular field of Engineering in order that he may take his rightful place in the community and maintain the professional standards of service and ethics.

ADMISSION

An applicant for admission to the College of Engineering should write for application forms to the Director of Admissions of the University. See "How to Apply for Admission," page 13 of this bulletin.

Candidates of good moral character may apply for admission upon one of the following plans:

1. Certificate. Graduates from first grade high schools or accredited academies whose credits show proper distribution of units are admitted without examination upon presentation of properly signed entrance certificates. Distribution of fifteen units must be as follows:
   English 3
   Mathematics 3
   Must include a unit of Elementary Algebra, 1/2 unit of Intermediate Algebra, 1 unit of Plane Geometry, and 1/2 unit of Advanced Algebra, Solid Geometry or Trigonometry.
   Laboratory Science 1
   Must be above the high school Freshman level.
   Science, History and Language 2
   Elective 6
   Not more than 2 of 6 electives may be in practice subjects such as Drawing and Manual Training.
   Applicants deficient in entrance requirement are required to make up these Courses by attending a Summer Session.

2. Examination. Candidates who are not graduates of first
grade high schools or academies and are therefore deficient in some of the units for admission may be admitted upon examination.

3. *Advanced Standing*. An applicant from another college seeking advanced standing must present evidence of honorable dismissal and an official transcript of his college record. Some credit may be allowed for practical experience in Drafting, Surveying, and Shop Work. Applicants for such credit must submit a satisfactory statement from their employer giving time of service, nature of work, name and address of employer.

Advance credit will not be given for more than 162 quarter hours (108 semester hours).

4. *Special Student*. Mature persons not candidates for a degree may be admitted, if on consultation the Dean is satisfied that they have sufficient preparation to pursue the work successfully. Such applicants are classified as Special Students. Upon completion of their work, a certificate showing the course of study pursued and the amount of work covered is presented to them.

The standard load in the College of Engineering is eighteen hours. Extra hours based upon scholarship attainments may be granted by the Dean.

**PROBATION**

Any student making less than 1.0 quality point per scheduled hour for the quarter is warned of his low academic standing. If the student should again fail to meet the standards in the quarter for which he is put on warning, he is put on probation for the following quarter of residence with a reduced schedule. Failure to meet the academic requirement may subject the student to dismissal.

**CLASSIFICATION**

The minimum requirements for Sophomore standing are forty-six credit hours and a point average of 1.0; for Junior standing, ninety-seven credit hours and a point average of 1.0; for Senior standing, 150 credit hours and a point average of 1.0.

**GRADUATION AND DEGREES**

Two hundred sixteen hours plus six credits in physical education are required for graduation. The student must have a scholarship rating of at least one quality point for each credit hour. A student cannot be a candidate for more than one degree at any one time.
College of Engineering

A student must spend his Senior year in residence and must take at least forty-five quarter hours for final credit toward graduation. The University is empowered to grant the customary academic degrees, which in the College of Engineering are Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Mechanical Engineering. The University may confer the professional degree upon a candidate who at least five years after graduation has a record of at least four years in a responsible position, has become a Registered Professional Engineer, has submitted an approved thesis and has successfully completed a comprehensive examination.

ENGINEERING BUILDING

The College of Engineering is housed in a newly acquired and re-modeled school building, located on Main Street, north of the campus. This 3-story, sixteen room, brick structure contains all Engineering class rooms, design and drafting rooms, laboratories, and offices.

Some of the laboratories, rooms, and shops are as follows: Machine Shop, Carpenter Shop, Testing Materials Laboratory, Hydraulics Laboratory, Tool Crib, Concrete Laboratory, Soils Laboratory, Refrigeration Laboratory, Steam Laboratory, Internal Combustion Engine Laboratory, Mechanical Laboratory, Heating and Ventilating Laboratory, Electronics Laboratory, A. C. Power Laboratory, D. C. Power Laboratory, Surveying Room, Senior Design Room, Visual Aid Room, and Freshmen Drawing Room.

Industrial concerns maintain research laboratories on the campus in conjunction with the College of Engineering.

TECHNICAL ORGANIZATIONS

The Ohio Northern Student Chapter of the American Society of Civil Engineers holds monthly meetings. All Civil Engineering students are eligible for membership. Activities of A.S.C.E. are helpful in rounding out the student's program. This group is affiliated with the Toledo Section of the American Society of Civil Engineers.

The American Institute of Electrical Engineers student branch holds monthly meetings. At these meetings original papers and papers printed in the Proceedings of the American Institute of Electrical Engineers are read and discussed. All students interested in Electrical Engineering are eligible for membership. The student
chapter enjoys a very close association with the Lima subsection of the American Institute of Electrical Engineers.

The student branch of the Ohio Society of Professional Engineers embraces all departments of the College of Engineering. Professional Standards, Professional Registration, Ethics and the Engineer's place in the community are some of the things inculcated by O.S.P.E. The Ohio Northern Chapter is the local parent chapter of the Ohio Society of Professional Engineers.

The Ohio Northern Mechanical Club is organized to sponsor the discussion of Mechanical Engineering in all its many applications. Meetings are held once each month.

The Ohio Northern Chapter of Student Affiliates of the American Chemical Society holds semi-monthly meetings. Scientific men of national and often international renown appear before this group from time to time.

PRE-ENGINEERING CURRICULA

During the first year all prospective Engineering students follow the same general program and are enrolled in the College of Liberal Arts. At the beginning of the Sophomore year the student enrolls in the College of Engineering. Except for advisory purposes, it is not necessary for the student to select a branch of Engineering until the start of the third quarter of the Sophomore year.

No sharp line of distinction can be drawn in the fundamental training of Civil, Chemical, Electrical and Mechanical Engineering for the reason that the sciences basic to Engineering — Mathematics, Physics, Chemistry, and some Applied Science — are essential in all branches of Engineering.

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<th>FALL QUARTER</th>
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<td>Math. 121, Coll. Algebra</td>
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<td>Chemistry 101</td>
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College of Engineering

CIVIL ENGINEERING

Although many of the former divisions have grown into separate departments, Civil Engineering offers greater opportunities than ever before. The Civil Engineer conceives, designs, and supervises the building of the projects, coordinating and utilizing all resources for all types of developments. He works in many broad fields of specialization such as: Structural Engineering, Construction Engineering, Highway Engineering, Sanitary Engineering, Soil Engineering, Surveying, Mapping, etc.

The Department is supplied with high grade instruments and appliances necessary for first class instruction and practice. The laboratories are well equipped, the drafting room large and modern, the scientific library excellent.

The aim of this Department is to give the student a well rounded Engineering training and to instill within the student the idea of knowing how, knowing why, and doing the best engineering job possible for his client for the least amount of money, always abiding by the code of ethics of the Professional Engineer.

FIRST YEAR

See Pre-Engineering Curriculum (page 103)

C.E. 211, Surveying I 5 Summer Camp (2½ weeks)

SECOND YEAR

FALL QUARTER
Math. 201, Calculus 5
Physics 241, Mech. 5
M.E. 201, Engr. Prob. I 2
Philosophy Core, C-31 3
Humanities or Elective 3

WINTER QUARTER
Math. 202, Calculus 4
Physics 242, Elect. 5

M.E. 202, Engr. Prob. II 2
Philosophy Core, C-32 3
Speech 102 3

SPRING QUARTER
Math. 203, Calculus 4
Physics 243, Heat & Sound 5
C.E. 213, Surveying II 5
Philosophy Core, C-33 3

THIRD YEAR

FALL QUARTER
C.E. 311, Statics 5
M.E. 311, Thermo. 5
C.E. 321, Geology 3
Math. 321, Diff. Equa. 4

WINTER QUARTER
C.E. 312, Mech. Mats. I 5
C.E. 322, Fluid Mech. 5

M.E. 322, Dynamics 5
C.E. 332, Test. Mats. 3

SPRING QUARTER
C.E. 313, Mech. Mats. II 5
C.E. 323, Highways 3
C.E. 333, Route Survey. 5
E.E. 213, D. C. Mach. and Circ. 5
College of Engineering

FOURTH YEAR

FALL QUARTER
C.E. 411, Theory of Structures I 5
C.E. 421, Reinf. Conc. I 3
C.E. 431, Sanitary Engr. 5
E.E. 301, Elem. Altern. Mach. and Circ. 4

WINTER QUARTER
C.E. 412, Theory of Structures II 5

C.E. 422, Reinf. Conc. II 4
C.E. 432, Soil Mech. 5
Tech. Elective 4

SPRING QUARTER
C.E. 413, Theory of Structures III 6
C.E. 423, Reinf. Conc. III 3
Econ. 313, Bus. Law 3
Tech. Elective 5

ELECTRICAL ENGINEERING

The courses offered in Electrical Engineering require a thorough study of theoretical and applied electricity. The first half of the course consists of basic Engineering subjects. In the second half of the course an intensive study is made of direct current circuits and machinery, alternating current circuits and machinery, electrical power transmission, electrical machine design, electronics, and high frequency currents. Carefully chosen laboratory experiments supplement class instruction in theory.

The curriculum stresses fundamentals rather than specialized skills. Ample opportunity is provided by campus activities and elective courses for the engineer to develop his cultural as well as his technical training.

The Power Laboratory equipment includes direct current and alternating current motor-generator sets, compound and series direct current motors, rotary converters, squirrel-cage and wound-rotor induction motors and transformers. A modern Electronics Laboratory with complete A.M., F.M. and T.V. equipment affords opportunity for those students interested in these fields. All necessary auxiliary equipment and instruments for thorough laboratory instruction are available to students.

FIRST YEAR

See Pre-Engineering Curriculum (page 103)

C.E. 211, Surveying I 5
Summer Camp (2½ weeks)
## College of Engineering

### SECOND YEAR

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<tr>
<th>FALL QUARTER</th>
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### FOURTH YEAR

#### Power Option

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College of Engineering
MECHANICAL ENGINEERING

New and constantly changing mechanical equipment and machinery and the applications thereof reflect the accelerated pace in machine design, testing methods, power plants, and in new sources of power.

The policy of this Department is to stress the fundamental theories and methods in the use of materials and in the uses of heat. Basic courses in the Mechanic Arts, Mathematics and Science are followed; on the one hand, by courses in mechanics of materials (Statics and Dynamics) and machine design; and, on the other hand, by courses in thermodynamics, heat power, heating, ventilation, refrigeration, steam and gas turbines, and internal combustion engines, together with laboratory courses wherein the principles are demonstrated.

**FIRST YEAR**

*See Pre-Engineering Curriculum (page 103)*

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**SECOND YEAR**

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### College of Engineering

#### FOURTH YEAR

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<td>M.E. 422</td>
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DESCRIPTION OF COURSES

Civil Engineering

211. ELEMENTARY SURVEYING I  5 hours
Prerequisite: Trigonometry 122, M.E. 113. Recitations, 3 hrs.; Laboratory, 6 hrs.

218. SURVEYING II  5 hours
Land surveys, advanced topographic surveys with transit, stadia and plane table, control surveys. Use of co-ordinate systems. Triangulation and precise leveling; descriptions of aerial survey methods. Hydrographic surveying. (Formerly C.E. 223).
Prerequisites: C.E. 211. Recitations, 3 hrs.; Laboratory, 6 hrs.

311. STATICS  5 hours
A course covering the principles of mechanics as applied to statics. The course includes definitions and general principles, systems of coplanar concurrent forces, coplanar parallel forces, coplanar non-concurrent forces, concurrent forces in space, parallel forces in space, non-concurrent non-parallel forces in space, friction, centroids and centers of gravity, and moments of inertia of areas. (Formerly C.E. 351).
Prerequisites: Calculus 203 and Physics 241. Recitations, 5 hrs.

312. MECHANICS OF MATERIALS I  5 hours
General principles of stresses, elastic limit, shear, riveted joints, torsion, beams, stresses in beams, deflection in beams by Double Integral and Area-Moment methods.
Prerequisite: Calculus 203 and C.E. 311. Recitations, 5 hrs.

313. MECHANICS OF MATERIALS II  5 hours
Beams with more than two supports, shear in beams, special beams, bending combined with tension or compression, column theory, column formulas used by engineers, resilience in bending or shear, combined stresses, theory of elastic limit or failure, curved beams and hooks.
Prerequisite: C.E. 312. Recitations, 5 hrs.

321. GEOLOGY  3 hours
The important rock making minerals. Rocks and their relation

**Prerequisite:** General Chemistry. *Recitations, 3 hrs.*

322. **FLUID MECHANICS**  
Mechanics of compressible and incompressible liquids, fluid statics, flow and measurement of fluids in pipes and open channels, and hydraulic machines.

**Prerequisite:** Physics 243, Calculus 203 and C.E. 311. *Recitations, 4 hrs.; Laboratory, 3 hrs.*

323. **HIGHWAY ENGINEERING**  
Design, construction and maintenance of earth roads, paved roads, and streets. Administration and organization of highway systems.

**Prerequisite:** C.E. 321 and C.E. 213. *Recitations, 3 hrs.*

332. **TESTING MATERIALS**  
Testing cement mortars and concrete aggregates, construction and test of concrete and wooden specimens, tension tests of various metals, slender column tests, study of beam deflections under different types of loading. (Formerly C.E. 333).

**Prerequisite:** C.E. 312 or concurrently therewith. *Recitations, 1 hr.; Laboratory, 6 hrs.*

333. **ROUTE SURVEYING**  
Highway and railroad location, simple curves, compound and reverse curves, spiral curves, vertical curves, earthwork measurement and computations. (Formerly C.E. 311).

**Prerequisite:** C.E. 213. *Recitations, 3 hrs.; Laboratory, 6 hrs.*

411. **THEORY OF STRUCTURES I**  
An introductory course covering by analytical and graphical methods the determination of reactions, moment, shears and stresses in simple trussed structures for fixed and moving loads. Introduction to influence lines. Design steel and wood trusses and make detail drawings of same.

**Prerequisite:** C.E. 313. *Recitations, 3 hrs.; Design room, 6 hrs.*

412. **THEORY OF STRUCTURES II**  
An extension of C.E. 411. Covering the theory of uniform moving loads and determining the stresses in highway bridges. Covering analytical and graphical methods of determining stresses due to
fixed and moving loads in simple span railway bridge trusses of the larger type, use of influence lines. Design and make detail drawings of a plate girder viaduct.

Prerequisite: C.E. 411. Recitations, 3 hrs.; Design room, 6 hrs.

413. Theory of Structures III 6 hours
Design of a railway truss span. Statically indeterminate structures.
Prerequisite: C.E. 412. Recitations, 3 hrs.; Design room, 9 hrs.

420. Theory of Structures IV 3 hours
A general course dealing with movable and long span bridges. Covering bascule, vertical-lift, swing bridges; also continuous, cantilever and suspension bridges.
Prerequisite: C.E. 413. Recitations, 3 hrs.

421. Reinforced Concrete I 3 hours
Theory of design of concrete beams, girders, slabs, columns and footings.
Prerequisite: C.E. 313. Recitations, 3 hrs.

422. Reinforced Concrete II 4 hours
Design of buildings and continuation of C.E. 421.
Prerequisite: C.E. 421. Recitations, 2 hrs.; Design room, 6 hrs.

423. Reinforced Concrete III 3 hours
Design of retaining walls and tanks and continuation of C.E. 422.
Prerequisite: C.E. 422. Recitations, 2 hrs.; Design room, 3 hrs.

431. Sanitary Engineering 5 hours
General course on sewerage systems, disposal of sewage, requisites of a water supply, quality of water, studies of rainfall and runoff, water treatment and inspection trip. (Formerly C.E. 431 & 432).
Prerequisite: C.E. 322. Recitations, 5 hrs.

432. Soil Mechanics 5 hours
An introduction to soil engineering, physical properties of soils as affecting engineering design and construction, soil sampling, mechanics of soil masses, stability, settlement, and types of foundations.
Prerequisite: C.E. 313 and C.E. 321. Recitations, 4 hrs.; Laboratory, 3 hrs.

450. Shop Projects 1–5 hours
Practical projects involving calculation, design, drafting, engineering judgment and skill in construction or repair work. Reference work is used to a great extent. (Formerly C.E. 453).
Electrical Engineering

203. **Direct Current Circuits**  5 hours
A study of the fundamental laws of electricity and magnetism and their application in direct current circuits. Topics studied include: resistance, Ohm's and Kirchhoff's laws, primary and secondary batteries, electrical instruments and measurements, magnetism, electromagnetism, magnetic circuit, inductance and capacitance.

*Prerequisite:* Physics 242. Recitations, 4 hrs.; Laboratory, 3 hrs.

213. **Direct Current Machines and Circuits**  5 hours
Introductory course for all non-Electrical Engineering students. The electric and magnetic circuit, D.C. generators, motors, control systems, and distribution. Illumination will be treated.

*Prerequisite:* Physics 242. Recitations, 4 hrs.; Laboratory, 3 hrs.

301. **Elementary Alternating Machines and Circuits**  4 hours
A comprehensive course for non-Electrical Engineering students in the generation, transmission, distribution, and use of alternating current power. The theory and characteristics of alternating current circuits and machines are studied.

*Prerequisite:* E.E. 213. Recitations, 3 hrs.; Laboratory, 3 hrs.

311. **Alternating Current Circuits I**  5 hours
A fundamental course in alternating current theory. Vector representation, the calculation of impedance in series and parallel circuits, and network theorems are studied.

*Prerequisite:* E.E. 203. Recitations, 4 hrs.; Laboratory, 3 hrs.

312. **Alternating Current Circuits II**  4 hours
A continuation of Alternating Current Circuits I. The analysis and applications of polyphase circuits, symmetrical components and non-sinusoidal voltages and currents are studied. *(Formerly E.E. 333).*

*Prerequisite:* E.E. 311. Recitations, 3 hrs.; Laboratory, 3 hrs.

313. **Alternating Current Machines I**  5 hours
The theory and characteristics of transformers; induction motors, synchronous motors, converters, and alternators are studied. *(Formerly E.E. 312).*

*Prerequisite:* E.E. 312. Recitations, 4 hrs.; Laboratory, 3 hrs.

322. **Direct Current Machines**  4 hours
This is a thorough course in the theory, characteristics, applica-
tions and control of direct current machinery. (Formerly E.E. 411).
Prerequisite: E.E. 203. Recitations, 3 hrs.; Laboratory, 3 hrs.

323. ELECTRONICS I
This is a course in the theory of electron flow in vacuum tubes. Electron ballistics, the diode, the triode, the pentode, small-signal amplifier circuits, and feedback are studied. (Formerly E.E. 431).
Prerequisite: E.E. 311. Recitations, 4 hrs.; Laboratory, 3 hrs.

333. BASIC ELECTRICAL MEASUREMENTS
The theory, operation, and application of standard electrical measuring instruments is thoroughly studied. Actual operation of many types of bridge circuits, instrument transformers, wattmeters, integrating watt-hour meters, and magnetic measuring devices with corresponding calculations are required.
Prerequisites: E.E. 203 and E.E. 311. Recitations, 2 hrs.; Laboratory, 3 hrs.

411. ELECTRONICS II
A continuation of Electronics I. The topics studied include large signal audio-frequency and radio frequency amplifiers, oscillators, modulation, demodulation, wave-shaping circuits, and gas filled tubes and circuits. (Formerly E.E. 432).
Prerequisite: E.E. 323. Recitations, 4 hrs.; Laboratory, 3 hrs.

412. ELECTRICAL TRANSMISSION
This is a course in the electrical transmission of energy. Topics studied include the calculation of inductance and capacitance of long lines, solution of long line problems, transmission charts, and power stability. (Formerly E.E. 313).
Prerequisite: E.E. 312. Recitations, 3 hrs.

421. ALTERNATING CURRENT MACHINES II
A continuation of Alternating Current Machines I, designed to give the Power major student a thorough understanding of the equivalent circuit method of analyzing machines.
Prerequisite: E.E. 313. Recitations, 3 hrs.; Laboratory, 3 hrs.

422. ELECTRICAL DESIGN I
The study of procedure in design of Direct Current apparatus. Students are required to carry through the step by step design of either a direct current motor or generator. (Formerly E.E. 462).
Prerequisite: E.E. 322. Recitations, 3 hrs.

113
423. Electrical Design II

A continuation of E.E. 422 with emphasis on design of alternating current apparatus. The step by step design of an induction motor, transformer or alternator is required.

Prerequisite: E.E. 422. Recitations, 1 hr.; Laboratory, 6 hrs.

431. Transient Circuits


432. Illumination

Theory and modern applications of lighting. (Formerly E.E. 421).

Prerequisites: E.E. 203 or E.E. 213. Recitations, 3 hrs.

441. Communication Circuits I

This is a course in the theory and calculation of circuits and apparatus performance at communication frequencies. Topics covered include resonance, infinite line, reflection filters, and coupled circuits. (Formerly E.E. 412).

Prerequisite: E.E. 312. Recitations, 4 hrs.

442. Communication Circuits II

A continuation of E.E. 441. The following topics are studied; Impedance transformation, equalizers, bridge circuits, inductive coordination, radiation and electromechanical coupling. (Formerly E.E. 413).

Prerequisite: E.E. 441. Recitations, 4 hrs.; Laboratory, 3 hrs.

450. Shop Projects

Practical projects involving calculation, engineering judgment and skill in construction or repair work. These projects may vary from armature winding and motor repairing to the design and construction of laboratory apparatus. This course involves no classroom or textbook work. Individual assignments are made to each student. (Formerly E.E. 321-2-3).

452. Radio Fundamentals

Fundamentals of circuits and phenomena in radio communication apparatus. Audio and radio-frequency amplification, transmitting and receiving circuits. (Formerly E.E. 451).

Prerequisite: E.E. 411. Recitations, 4 hrs.; Laboratory, 3 hrs.
College of Engineering

453. **Television Fundamentals**  
A survey of the entire field of television including transmission and reception of both black and white and color signal. Analysis of, and design procedures in TV receivers.  
*Prerequisite: E.E. 452. Recitations, 4 hrs.; Laboratory, 3 hrs.*

462 & 463. **Advanced Electrical Laboratory I and II**  
Senior year. Special laboratory problems and investigations are intricate and more advanced than those included in regular courses. Minor research projects may be undertaken. Hours to be arranged to suit balance of schedule. *(Formerly E.E. 441-2).*

Mechanical Engineering

101. **Pattern Making & Foundry**  
Basic foundry processes; making a pattern, making a mold, pouring a casting, cleaning and finishing. *Laboratory, 3 hrs.*

102. **Sheet Metal & Welding**  
Sheet metal fabrication and welding as applied to welded fixtures, etc. *Laboratory, 3 hrs.*

103. **Machine Shop**  
Machining operations and practice, a complete project involving drilling, shaping, turning, milling and finishing. *Laboratory, 3 hrs.*

111. **Engineering Drawing I**  
Use of instruments, applied geometry, lettering, orthographic projection and pictorial drawing. *Laboratory, 9 hrs.*

112. **Engineering Drawing II**  
Developments, intersections, and working drawings.  
*Laboratory, 9 hrs.*

113. **Descriptive Geometry**  
Descriptive geometry, advanced orthographic projections, problems of point, line, plane and curved surfaces. *Recitations, 1 hr.; Laboratory, 6 hrs.*

201. **Engineering Problems I**  
Technique and manipulation of slide rule. Series of lectures by Engineering Faculty about engineering problems in their particular fields of interest. *Recitations, 2 hrs.*
202. Engineering Problems II  2 hours
Logical development of problem work and clarity in presenting work. Accuracy and significant figures, graph and chart use. Continuation of Engineering Staff Lectures from M.E. 201. Recitations, 2 hrs.

311. Thermodynamics  5 hours
A study of the effect of heat upon gases and vapors in processes used in heat engines and other machinery.
Prerequisites: Physics 243 and Calculus 203. Recitations, 5 hrs.

312. Turbines  4 hours
Basic thermodynamics of nozzles and steam and gas turbines, nozzle and blade design, impulse and reaction turbines, economics of steam turbine selection and operation. (Formerly M.E. 422 and 452).
Prerequisite: M.E. 311. Recitations, 4 hrs.

313. Heat Power  3 hours
A study of the combustion of fuel, steam generating machinery, boilers, stokers, steam engines, condensers, and superheaters. (Formerly M.E. 314).
Prerequisite: M.E. 311. Recitations, 3 hrs.

322. Dynamics  5 hours
Friction, rectilinear and rotary motion, kinetics of bodies under uniform and variable rectilinear acceleration, uniform and non-uniform rotation of bodies, work, power, momentum, impulse, impact. (Formerly M.E. 342).
Prerequisite: C.E. 311. Recitations, 5 hrs.

323. Mechanism  5 hours
Mechanism, motion and velocity, kinematic chains, instantaneous centers, velocity diagrams, parallel and straight line motion, cams, gearing, bevel gears, gear trains, belting and intermittent motions. (Formerly M.E. 322).
Prerequisite: M.E. 322. Recitations, 5 hrs.

331. Mechanical Laboratory I  1 hour
Calibration and uses of indicating and recording instruments, heating value of fuel, flue or exhaust gas analysis, test of lubricating oils. Laboratory, 3 hrs.
332. MECHANICAL LABORATORY II  1 hour
333. MECHANICAL LABORATORY III  1 hour
Laboratory periods of 3 hours each applied to tests of blowers, pumps, engines (steam, gasoline, diesel), steam turbines, heating and refrigeration units, steam power plant, air compressor, and related equipment.

341. MATERIALS I  3 hours
The processes and allied equipment used in casting, heat treatment, welding, hot and cold forming, powder metallurgy and plastic molding. The grades most used, classification and application of standard, stainless, high strength, clad, and tool steels, and gray iron castings.
Prerequisite: General Chemistry. Recitations, 3 hrs.

343. MATERIALS II  3 hours
The manufacturing processes, properties and applications of non-metals and non-ferrous alloys. Plastics, adhesives, coloring and protective finishes.
Prerequisite: M.E. 341. Recitations, 3 hrs.

411. MACHINE DESIGN I  4 hours
Design and drawing of details as proportioned by stress, proportions of machines, riveted joints, shafts, bearings, clutches, belts, brakes, flywheels, gears, springs, and frames. (Formerly M.E. 323).
Prerequisite: M.E. 323. Recitations, 3 hrs.; Design room, 3 hrs.

412. MACHINE DESIGN II  4 hours
A continuation of M.E. 411 with more advanced problems. (Formerly M.E. 451).
Prerequisite: M.E. 411. Recitations, 3 hrs.; Design room, 3 hrs.

413. MACHINE DESIGN III  5 hours
Complete design and layout of a machine. (Formerly M.E. 412).
Prerequisite: M.E. 412. Recitations, 3 hrs.; Design room, 6 hrs.

421. INTERNAL COMBUSTION ENGINES  4 hours
Liberation of heat energy, combustion, Dual, Otto and Diesel cycles, gas, gasoline, oil engines, engine output and economy, heat losses, carburetion, ignition, injection, and testing.
Prerequisite: M.E. 312. Recitations, 4 hrs.

422. HEATING, VENTILATING AND AIR CONDITIONING  4 hours
Heating and ventilation. Heat losses from buildings, methods of
heating, boilers, radiators and accessories, steam systems, hot water systems, automatic temperature control, hot air furnace heating, fan systems, air washers, and air conditioning. *(Formerly M.E. 443).*

**Prerequisite:** M.E. 311. Recitations, 4 hrs.

423. **AUTOMOTIVE ENGINEERING**  
3 hours  
A study of vehicles of transportation using internal combustion engines, power and brake requirements, loading, balance, etc. Recitations, 3 hrs.

431. **MECHANICAL LABORATORY IV**  
1 hour

432. **MECHANICAL LABORATORY V**  
1 hour  
Laboratory periods of 3 hours each applied to tests of blowers, pumps, engines (steam, gasoline, diesel), steam turbines, heating and refrigeration units, steam power plant, air compressor, and related equipment.

441. **REFRIGERATION**  
3 hours  
A study of the use and application of refrigerative media.  
**Prerequisite:** M.E. 311. Recitations, 3 hrs.

450. **SHOP PROJECTS**  
1—5 hours  
Practical projects involving calculation, design, drafting, engineering judgment and skill in construction or repair work. *(Formerly M.E. 431).*
College of Pharmacy

ALBERT C. SMITH, Dean

AIMS AND OBJECTIVES

In keeping with the avowed purpose of Ohio Northern University the College of Pharmacy aims to prepare men and women to meet not only the legal requirements of the profession but also the increasing public demand for educated and trained pharmacists.

Through organized courses of study, instruction is given in the sciences pertaining to the selection, standardization, preservation, and dispensing of drugs, medicines, and chemicals used in the promotion of personal and public health.

The student is trained to aid the medical practitioner, public health agencies in the prevention and control of infectious diseases; to win and build-up public confidence and respect for the profession.

Courses of study in Business, Accounting, federal, state, and local laws pertaining to Pharmacy and Public Health are required. Many electives in Pharmacy and in other colleges of the University, approved by the Dean, may be selected to further aid the individual in the particular field of interest. Students interested in graduate study should elect, if possible, German or French.

REQUIREMENTS FOR ADMISSION TO PRE-PHARMACY

1. The applicant entering pre-Pharmacy should be at least seventeen years of age and of good moral character.

2. The applicant must supply evidence of the satisfactory completion of four years of high school work. Established credit is based on fifteen units.

3. Of the fifteen units prescribed for all applicants, three units should be in English and one each in Algebra, Plane Geometry, and Science. Three additional units must be chosen from English, languages other than English, Mathematics, Science, History and Social Sciences. Preference will be given to students submitting more than one unit of Science.

4. See note 1, under requirements for admission to the Pharmacy College concerning the Certificate of Preliminary Education.

5. Applicants applying for admission into pre-Pharmacy, that do not already have apprenticeship papers, should ask for the
necessary blanks for registration as an apprenticeship. These blanks may be obtained from the Director of Admissions, the Dean of the College of Pharmacy, and the Secretary of the Ohio Board of Pharmacy. Registration as an apprentice, at once, will assure each applicant full recognition for all time spent in a drug store, under the supervision of a registered pharmacist, when not enrolled in the College of Pharmacy. (See requirements for examination to become a Registered Pharmacist).

REQUIREMENTS FOR ADMISSION TO THE COLLEGE OF PHARMACY

1. Certificate of Preliminary Education. A Certificate of Preliminary Education, issued by the Entrance Examiner of the Ohio Board of Pharmacy, should be obtained. (It would be advantageous to all students entering pre-Pharmacy to obtain this Certificate at once.) Blanks for this purpose may be obtained from the Director of Admissions. This permit must be obtained before a permit to enter the College of Pharmacy will be issued.

2. The applicant must have one year of pre-Pharmacy from a recognized institution of higher learning. Prior recognition will be given those individuals receiving their pre-Pharmacy training at Ohio Northern University. The applicant must have completed at least forty-five quarter hours (thirty semester hours), exclusive of Physical Education, of which not less than thirty quarter (twenty semester hours) are of the required courses prescribed in the pre-Pharmacy curriculum and the remainder in acceptable electives or required courses prescribed in the regular Pharmacy curriculum. The applicant must also maintain a scholarship rating of 1 (C average) and be in good standing to become a candidate for the Sophomore Class. Students failing to maintain this rating may continue in pre-Pharmacy (subject to the academic rules and regulations of the College of Liberal Arts) until he can present the above requirements.

3. ADVANCED STANDING. A student desiring to transfer from another college must present a transcript of his record and a certificate of honorable dismissal from the college he is leaving. He should submit a catalogue of his college. Full credit will be given for work satisfactorily completed in recognized institutions of higher learning, provided such work is parallel to the requirements for graduation in this institution, but ordinarily credit will
College of Pharmacy

not be allowed for a course in which the lowest passing grade was received.

Advanced credit is given for not more than 135 quarter hours (ninety semester hours) exclusive of Physical Education.

Persons who meet the requirements for admission as indicated in the preceding paragraphs are issued a Permit to Enter the College of Pharmacy. To enter any of the regular courses of study the candidate, after being granted a Permit to Enter, must prepare a schedule of studies with the aid of an adviser and approval of the Dean, and pay tuition and fees as stated elsewhere in this catalog.

Students who are entitled to advanced standing may enter at the time approved by the Dean. Write for further information.

4. CLASSIFICATION OF STUDENTS. The minimum requirements for Sophomore standing are forty-five credit hours and a point average of 1; for Junior standing, ninety-six credit hours and a point average of not less than 0.9; for Senior standing, 144 credit hours and a point average of not less than 0.9. See scholarship and probation rating below.

5. SCHOLARSHIP RATING AND PROBATION. To remain in good standing a student must maintain a 1.0 (C) average. If the accumulative point average of the student falls below 1.0, he is then placed on warning and allowed to carry a full schedule. If the student fails to bring his accumulative average up to 1.0, he will be placed on warning with a reduced schedule. Failure to improve his standing while on a reduced schedule will result in the student’s being placed on probation with a reduced schedule. After one quarter on probation with a reduced schedule, the student who fails to improve his standing will be dismissed from the College of Pharmacy for one year. Upon resumption of his studies he will be placed on probation for two terms. If at the end of two terms the point average has not been raised to 1.0, the student will be dismissed from the College of Pharmacy.

To calculate the accumulative point average a three credit hour course with a grade of A gives nine quality points. A five credit hour course with a grade of B, gives ten quality points, etc.

REQUIREMENTS FOR GRADUATION

Every person upon whom a degree is conferred must be of good moral character and have satisfactorily completed all the prescribed
College of Pharmacy

work. He must spend at least four full years or twelve terms in college of which not less than three full years or nine quarters must be in the College of Pharmacy and one full year or three quarters in pre-Pharmacy, and must be in residence the last year in Ohio Northern University, College of Pharmacy. Two hundred and ten hours, including six hours of physical education, are required as well as the same number of quality points as scheduled hours. The candidate must be present at the Commencement Exercises unless officially excused.

REQUIREMENTS FOR OHIO EXAMINATIONS FOR REGISTERED PHARMACIST

To be eligible for admission to the Ohio Examination for Registered Pharmacist, the candidate must be a graduate of a recognized College of Pharmacy, and must have at least one year of drug store experience under the direction of a Registered Pharmacist after registration with the State Board of Pharmacy as an apprentice. He must be a citizen of the United States of America or possess his first papers toward citizenship, and be at least twenty-one years of age. Citizenship is not prerequisite to admission to a College of Pharmacy.

LIBRARY

The facilities of the main library are at the disposal of the Pharmacy students. In this building will be found many of the current books and classics along with books, periodicals and journals in Physics, Biology and related sciences. All books pertaining to Pharmacy, Medicine and related sciences are in the main library as well as bound periodicals on Pharmacy and related sciences. Current issues of journals in Pharmacy and related sciences are found in the Pharmacy reading room.

THE CURRICULUM

Many courses are required to obtain satisfactory background in any field of endeavor and Pharmacy is no exception. The curriculum thus is made flexible enough to allow preparation in specialized activities in the profession. All subjects are listed in a logical sequence so that the student will be better prepared for each ensuing course.

Not less than 204 credit hours are required for graduation, excluding Physical Education.
College of Pharmacy

RECOMMENDED FIRST YEAR COURSE
IN PRE-PHARMACY*

FIRST TERM
Physical Education
English C-1 3
Social Science Core C-11 3
Mathematics III 3
Biology III 3
Chemistry III 4
Mathematics 112 3
Biology 112 3
Chemistry 112 4
First Aid 112 2

SECOND TERM
Physical Education
English C-2 3
Social Science Core C-12 3

THIRD TERM
Physical Education
English C-3 3
Social Science Core C-13 3
Mathematics 113 3
Biology 113 3
Chemistry 113 5

*The pre-Pharmacy curriculum is offered in the College of Liberal Arts.

THE PHARMACY CURRICULUM

SOPHOMORE YEAR

FIRST TERM
Physical Education
Chemistry 301 4
Pharmacognosy 211 4
Pharmacy 210 3
Physics 211 4
Philosophy Core C-31 3
Pharmacy 220 3
Physics 212 4
Philosophy Core C-32 3

SECOND TERM
Physical Education
Chemistry 302 4
Pharmacognosy 212 4

THIRD TERM
Physical Education
Chemistry 303 4
Pharmacognosy 213 4
Physiology 223 3
Accounting 131 3
Philosophy Core C-33 3

JUNIOR YEAR

FIRST TERM
Pharmacy 301 5
Physiology 331 4
Pharmaceutical Chemistry 321 5
Humanities Core or Elective 3
Pharmacy 302 5
Pharmaceutical Chemistry 322 5
Pharmacy Administration 312 3

SECOND TERM
Bacteriology 322 4

THIRD TERM
Pharmacy 303 5
Bacteriology 323 4
Pharmaceutical Chemistry 323 5
Pharmacy Administration 313 3

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SENIOR YEAR

FIRST TERM
Pharmacy 401 4
Pharmacology 421 4
Pharmaceutical Chemistry 431 4
Pharmacy Administration 411 3
Elective* 3

SECOND TERM
Pharmacy 402 4
Pharmacology 422 4

Pharmaceutical Chemistry 432 4
Pharmacy Administration 412 3
Elective* 3

THIRD TERM
Pharmacy 403 4
Pharmacology 423 4
Pharmaceutical Chemistry 433 4
Pharmacy 440 3
Elective* 3

*Students planning on entering graduate school should elect a modern language. Electives: Any 300 or 400 course in the Liberal Arts may be selected upon approval by the Dean of the College of Pharmacy. Additional electives may be selected from the following:

FIRST TERM
Pharmacy 441 3
Pharmaceutical Chemistry 441 4
Problem Courses 450 1–3

SECOND TERM
Pharmacy 442 3
Pharmaceutical Chemistry 442 4
Advanced First Aid 113 3

THIRD TERM
Pharmacy 443 3
Pharmaceutical Chemistry 443 4
Bio-Assays 443 3

All 450 courses are "Problem Courses" and are given in all five divisions of Pharmacy. These courses are open to Seniors only and a total of 3 hours may be taken a term. All courses ending in "0" are generally taught each quarter, provided a sufficient number of students require the course.

DESCRIPTION OF COURSES

For detailed description of the basic pre-professional courses such as Freshman English, Biology, Chemistry, Mathematics, et cetera, see these Departments as listed elsewhere in this catalogue.

BACTERIOLOGY

322. General Bacteriology. 3 + 3 4 hours
(Formerly Bacteriology 222).

A general course in the fundamentals of bacteriology. The history of bacteriology, method of classification, characteristics of bacteria and related groups are studied. Attention is given to physical and classical means of control, and to the culturing and growth of microorganisms. The bacteriology of food, water, milk and sewage is studied.

Prerequisities: Biology, General and Organic Chemistry. Mr. Smith
College of Pharmacy

323. Pathogenic Micro-organisms. 3 + 3 4 hours
(Formerly Bacteriology 223).
A study is made of the pathogenic bacteria and the common parasites of man and domestic animals. Control measures, asepsis, and other means of combating such infections are studied. Discussions concerning the viruses, vaccines, toxoids, toxins, antitoxins and modern biological drugs are made.
Prerequisites: Bacteriology 322. Mr. Smith

Biology

All students who are candidates for graduation from the College of Pharmacy are required to complete at least one year of Biology or its equivalent.

A description of these Courses is listed elsewhere in this catalog.

Chemistry

All students who are candidates for graduation from the College of Pharmacy will be required to complete Chemistry 111, 112, 113, 301, 302, and 303 or the equivalents. Additional courses in Chemistry may be elected upon approval of the Dean.

A description of the courses taught in the Chemistry Department is listed elsewhere in this catalog.

English

The pharmacist must use both oral and written English. In order to communicate clearly and adequately with the wholesaler, manufacturer, medical practitioner, layman, state boards, the government, and to prepare papers for clubs, articles for magazines and local newspapers, or advertising, the ability to speak and write English is essential.

English C-1, C-2, and C-3 are required of all Pharmacy students. Public Speaking, English Grammar and Business Communications may be elected. A description of these Courses will be found elsewhere in this catalog.

Health and Physical Education

Some form of physical activity is required of all students during the first two years of residence in the University. The nature of the work will depend upon the needs of the individual as revealed by a careful examination.
College of Pharmacy

The pharmacist should learn the fundamentals of personal and general hygiene that he may be able to maintain a high degree of efficiency during and after college life and to assist in the promotion of public health as outlined by the United States Public Health Service.

Courses 110, 121, and 212 in Health and Physical Education may be used as electives on approval of the Dean. A complete description of these Courses will be found under Courses of Health in another part of this catalog.

MATHEMATICS

Mathematics are of the utmost importance to a pharmacist; inaccuracies in computations have led to serious results. All Pharmacy students are required to take Mathematics 101, 102, and 103 or their equivalents and a specially designed course in Pharmacy Arithmetic described as Pharmacy 220.

Students desiring to pursue a major in Chemistry should take additional course in Mathematics, subject to approval by the Dean. A description of the required courses and other suitable electives in this field will be found elsewhere in this catalog.

MODERN FOREIGN LANGUAGES

Many texts and periodicals to Pharmacy and the allied sciences are published in a foreign language. In order to meet the demand of students who desire a knowledge of a foreign language for reading, conversational, or business purposes, appropriate courses are offered. If a student expects to do graduate work, he should have a reading knowledge of at least two foreign languages, French and German.

PHARMACEUTICAL CHEMISTRY

321. Drug Assay 1, 3 + 6  
(Formerly Pharmaceutical Chemistry 201).

A course involving the theories and methods utilized in gravimetric assay procedures of inorganic chemicals of the U.S.P. and N.F., and some of the more common procedures using organic precipitants. The latter part of the quarter introduces volumetric theories.

Prerequisites: Chemistry 111, 112, 113.  
Mr. Smith

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322. DRUG ASSAY 2. 3 + 6
(Formerly Pharmaceutical Chemistry 202).
A continuation of the theories and methods involved in volumetric procedures. The latter part of the quarter is devoted to physical methods employed in determining the purity of substances by refractometric, alcoholometric, colorimetric and polarimetric means. Laboratory exercises are used to emphasize these determinations.
Prerequisites: Chemistry 111, 112, 113. Mr. Smith

323. DRUG ASSAY 3. 3 + 6
(Formerly Pharmaceutical Chemistry 203).
A continuation of both physical and chemical constants carried out on organic material of the U.S.P. and N.F. A study of the proximate assays of official drugs and preparations being emphasized. Laboratory procedures to correlate the above discussions are made.
Prerequisites: Chemistry 301, 302, and Pharmaceutical Chemistry 321 and 322. Mr. Smith

431. INORGANIC CHEMICALS. 4 + 0
(Formerly Pharmaceutical Chemistry 251).
A study of the preparation, reactions, solubility, test for purity and identity of the inorganic chemicals of the U.S.P. and N.F. A brief discussion of the more important non-official chemicals is made. Incompatibilities, action and uses given.
Prerequisites: Chemistry 113, Pharmaceutical Chemistry 321 and 322. Mr. Smith

432. INORGANIC AND ORGANIC CHEMICALS. 4 + 0
(Formerly Pharmaceutical Chemistry 252).
The inorganic chemical study is completed, then the study of the U.S.P. and N.F. alkaloids and alkaloidal salts are made. Trade names are listed for any preparation or substance found in this group.
Prerequisites: Chemistry 113, 303, and Pharmaceutical Chemistry 322. Mr. Smith

433. ORGANIC CHEMICALS. 4 + 0
(Formerly Pharmaceutical Chemistry 253).
A study of the non-alkaloidal organic chemicals, vitamins, hormones, antibiotics, fixed and volatile oils are made as to synthesis, preparations, reactions, solubility, identity, action and dose. Trade names are listed and studied.
Prerequisite: Pharmaceutical Chemistry 432. Mr. Smith

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College of Pharmacy

441. Biochemistry 1. 3 + 3  4 hours
(Formerly Biochemistry 261).
An introductory course on the chemistry of fats, proteins, and carbohydrates with appropriate laboratory work correlated to the lecture and discussions.
Prerequisites: Organic Chemistry and Quantitative Analysis or its equivalent.

442. Biochemistry 2. 3 + 3  4 hours
(Formerly Biochemistry 262).
A study of the chemistry of digestion, metabolism, blood and urine is made along with appropriate laboratory procedures with special emphasis on urine.
Prerequisite: Biochemistry 1.

443. Biochemistry 3. 3 + 3  4 hours
(Formerly Biochemistry 263).
A study of the vitamins, hormones, sterols and enzymes. Emphasis on blood analysis is made in the laboratory.
Prerequisite: Biochemistry 2.

450. Chemistry Problems  (el) 1 to 3 hours
(Formerly Pharmaceutical Chemistry 275).
The title and character of the course is dependent upon the problem. This Course is designed to stimulate introductory research work. Open to Seniors only.  

Mr. Smith

PHARMACOCGNOSY

211. Crude Drugs 1. 3 + 3  4 hours
(Formerly Pharmacognosy 151).
Crude drugs of botanical origin are studied both microscopically and macroscopically in the laboratory along with accompanying lectures and discussions of their nomenclature, origin, collection and preservation. A study of the plant, part used, physical and chemical properties, identification, adulterants, uses, doses and preparations are made. Attention is given to powdered drugs as well as to the whole drug. This Course discusses drugs derived from the Pteridophytes, Gymnosperms, Monocotyledons and a few Dicotyledons.
Prerequisite: College Biology.  

Mr. Clark
212. CRUDE DRUGS 2. 3 + 3
(Formerly Pharmacognosy 152).
A continuation of Pharmacognosy 211 on the remaining dicotyle-
donous drugs.
Prerequisite: Pharmacognosy 211.

Mr. Clark

213. CRUDE DRUGS 3. 3 + 3
Algae, fungi, and lichens, and the antibiotics such as Penicillin,
Chloromycetin, Terramycin, et cetera are discussed. The latter part
of the Course deals with drugs obtained from the animal kingdom.
Prerequisite: Pharmacognosy 212.

Mr. Clark

450. PHARMACOGNOSY PROBLEMS
(Formerly Pharmacognosy Problems 275).
A course of special problems along with advanced lines in the
field, open to Seniors who have shown ability to carry them to a
satisfactory completion. Hours and time of work to be arranged.

Mr. Clark

PHARMACOLOGY

421. PHARMACOLOGY 1. 4 + 0
(Formerly Pharmacology 201).
Introduction, history, vocabulary and terminology used in phar-
macology is discussed. The local anti-infectives, sulfonamides, anti-
biotics, antimalarials, arsenicals and bismuth compounds are con-
sidered. Amebicides, anthelmintics, cathartics and antacids are also
considered.
Prerequisites: Physiology 233 and 331; Chemistry 111, 112, 303;
Pharmacognosy 213 and Bacteriology 323.

422. PHARMACOLOGY 2. 3 + 3
(Formerly Pharmacology 202).
A study of the automic drugs and blocking agents, antihista-
mines, and antispasmodics introduces the functional division of
pharmacology. The remainder of the quarter is devoted to general
anesthetics, local anesthetics, hypnotics, anti-epileptics, antipyretic
analgesics, narcotic and addicting analgesics, central nervous system
stimulants and their antidotes. Experiments shall be related to the
lectures of the first two quarters.
Prerequisite: Pharmacology 421.
423. Pharmacology 3. 3 + 3
(Formerly Pharmacology 203).
A study of the drugs acting on the cardiovascular system, diuretics, I.V. fluids, hematinics, hormones, vitamins, diagnostic aids, and bacteriologicals. Correlation review with special emphasis on toxicology. Laboratory work shall be mainly on the cardiovascular system. Small groups may work on special experiments of their own choosing.
Prerequisite: Pharmacology 402.

450. Pharmacology
(Formerly Pharmacology 275).
A special problems course to stimulate interest in research in this field. Open to Seniors only.
Prerequisite: Pharmacology 402.

448. Bio-Assays Lecture and Laboratory Arranged.
(Formerly Biological Assaying 251).
Attention is given to biological assay methods and standardization of the U.S.P. and N.F. drugs that are satisfactorily evaluated by this method.
Prerequisites: Physiology, Pharmacology 422, and Pharmaceutical Chemistry 303. Open to Seniors only.

Mr. Raabe

PHARMACY

210. Orientation 2 + 3
(Formerly Pharmacy [Fundamentals] 101).
This Course is designed to give the student a good foundation for the further study of Pharmacy. The aim is to acquaint the student with the Code of Ethics of the profession, the reference books and literature on Pharmacy and allied sciences, and to discuss the scientific principles upon which pharmaceutical operations are based. Laboratory will be given only when necessary to illustrate some pharmaceutical operation or procedure as an aid to better acquaint the student with the work.

Mr. Raabe

220. Pharmacy Arithmetic 3 + 0
(Formerly Pharmaceutical Calculations 104).
A course in calculations pertaining to Pharmacy. The student is taught current weights and measures, applications of proportions, alligation, specific gravity, specific volume, thermometer scales, percentage solution, commercial discounts and elementary chemical problems common to Pharmacy.

Mr. Raabe
College of Pharmacy

301. PHARMACEUTICAL PREPARATIONS 1. 3 + 6  
(Formerly Pharmaceutical Preparations 201).

The study of aqueous preparations of the U.S.P. and N.F.
Prerequisites: Pharmacy 210, 220; Chemistry 111 and 112.

Mr. JONGEWARD

302. PHARMACEUTICAL PREPARATIONS 2. 3 + 6  
(Formerly Pharmaceutical Preparations 202).

A study of the preparations containing alcohol, oleaginous and
suspended material is made.
Prerequisite: Pharmacy 301.

Mr. JONGEWARD

303. PHARMACEUTICAL PREPARATIONS 3. 3 + 6  
(Formerly Pharmaceutical Preparations 203).

The solid and semi-solid preparations used in medicine are studied; tablets, pills, ointments, etc. In the laboratory the manufacture of this type preparations are carried out using machinery as well as the simpler hand methods.
Prerequisite: Pharmacy 302.

Mr. JONGEWARD

401. PRESCRIPTION PRACTICE 1. 2 + 6  
(Formerly Prescription Practice 251).

The study of the prescription, prescription Latin, powders, pills, tablets and other solid substances used in prescriptions.
Prerequisites: Pharmacy 303 and Chemistry 303.  Mr. JONGEWARD

402. PRESCRIPTION PRACTICE 2. 2 + 6  
(Formerly Prescription Practice 252).

A continuation of Pharmacy 401 with special emphasis put on all types of solutions used in prescriptions, ointments and other external preparations.
Prerequisite: Pharmacy 401.  Mr. JONGEWARD

403. PRESCRIPTION PRACTICE 3. 2 + 6  
(Formerly Prescription Practice 253).

A study of the methods of disinfection, sterilization, incompatibilities and other specialized prescription practices.
Prerequisite: Pharmacy 402.  Mr. JONGEWARD

410. MANUFACTURING PHARMACY 2 + 3  
(Formerly Manufacturing Pharmacy 204).

Commercial preparations and pharmaceuticals commonly used are studied along with problems in manufacturing tablets, granular salts, cosmetics, and flavoring and coloring agents. In the laboratory,
preparations are made for the student health center, the athletic department, as well as for many others on a semi-commercial basis. Open to Seniors only.

Prerequisites: Pharmacy 303, Chemistry 113 and 303. Mr. Raabe

440. Advanced Survey 3 + 0
   (Formerly Pharmacy 299).
   A technical survey of the latest U.S.P. and N.F. prerequisites; the
   constants in general chemistry, qualitative and quantitative analy-
   sis, organic chemistry, pharmacognosy, pharmacology and pharmacy.
   Prerequisite: Senior standing. Mr. Raabe or Mr. Smith

441. New and Non-Official Remedies 1. 3 + 0
   (Formerly New and Non-Official Remedies 261).

442. New and Non-Official Remedies 2. 3 + 0
   (Formerly New and Non-Official Remedies 262).
   The two courses in New and Non-Official Remedies are a study of
   the un-official remedies accepted by the Council on Chemistry and
   Pharmacy of the American Medical Association as well as some of
   the newer medicinals made by leading manufacturers. Senior elect-
   tive. Mr. Raabe or Mr. Clark

443. Preventive Medicine 3 + 0
   (el) 3 hours
   This Course is designed to acquaint the pharmacist with: vital
   statistics, population trends, environmental sanitation, communi-
   cable disease control, child hygiene, adult health protection and
   promotion, civil defense health aspects, public health administra-
   tion. Senior elective. Mr. Clark

450. Pharmacy Problems
   (Formerly Pharmacy 275).
   Minor investigations for qualified students. A course designed to
   interest students in research in Pharmacy. Open to Seniors only.
   Mr. Jongeward

PHARMACY ADMINISTRATION

131. Principles of Accounting 3 + 0
   (el) 3 hours
   (Replaces Pharmaceutical Accounting 131p).
   A description of this Course is listed elsewhere in this catalog.
   Mrs. Ritz

312. History of Pharmacy 3 + 0
   (Formerly History of Pharmacy 105).
   A survey of the ancient, medieval and modern practices and ideals

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of the profession of Pharmacy. This Course is mainly cultural. Lectures and discussions.

315. PHARMACY LAWS 3 + 0

(Formerly Pharmaceutical Law 254).
A study of the federal, state and local acts, and regulations governing the practice of Pharmacy and the sale of potent and habit forming drugs. Government bulletins and pamphlets are issued to students so that they will become acquainted with said laws.

Mr. Raabe
3 hours

411. BUSINESS MANAGEMENT 3 + 0

(Formerly Business Management 264).
A course in drug store business methods. Attention is given to arrangement of fixtures and stock, sources of supplies, distribution to the physician, dentist, veterinarian, the public, hospitals, and to other phases of business essential to successful drug store management.

Mr. Raabe
3 hours

412. DRUG MARKETING 3 + 0

A study of the marketing of drugs and drug products from the manufacturer’s and wholesaler’s standpoint rather than from the retailer’s point of view. Mr. Raabe and visiting Instructors.

PHYSICS
It is impossible to comprehend many of the changes which occur in the manufacture of pharmaceutical preparations without having a knowledge of the science of Physics. All Pharmacy students are required to take Physics 211 and 212 or their equivalents and may elect Physics 213. For a complete description of these Courses see the write ups under “Physics” in another section of this catalog.

PHYSIOLOGY

233. PHYSIOLOGY 1. 3 + 0

(Formerly Physiology 151).
The function of the skeleton and skeletal muscles, the skin, digestion and nutrition, reproduction, and endocrine control.
Prerequisites: Biology and General Chemistry.

Mr. Raabe
3 hours

331. PHYSIOLOGY 2. 3 + 3

(Formerly Physiology 152).
The properties of nerve and muscle, the central nervous system, the autonomic nervous system, blood, heart and circulation, respiration, and kidney function.
Prerequisites: Biology and General Chemistry.
College of Law

Claude Wescoat Pettit, Dean

AFFILIATIONS

The College holds membership in the League of Ohio Law Schools, and is fully approved by the League.

The College of Law is also provisionally approved, as of September 9, 1948, by the American Bar Association, subject to reinspec-

PURPOSE

In keeping with the avowed purpose of Ohio Northern University it was the aim of our Law College founders, which continued through the ensuing years, to afford an opportunity for students, both men and women, to obtain a collegiate training in Law. The courses are planned primarily to train students for the practice of Law in any jurisdiction in which they may meet the requirements for admission. Such courses may also be pursued advantageously by anyone desiring to acquire a knowledge of the principles and history of law, either as a part of a liberal education, or as part of the foundation of a career in government or in business.

Courses are offered in all subjects included in the Ohio Bar Exam-
ination, and various electives may be pursued in the course of study.

Tuition rates are reasonable and by reason of the location of the school in a small community, the living costs are comparatively low.

Among the advantages offered by Ohio Northern's Law College are small classes, opportunity for frequent class participation, indi-

1. To inculcate the principles of legal ethics and of the lawyer's public responsibility, so that the student, as a lawyer, may be worthy to take his place as a trusted leader and counselor in his community.

2. To inculcate a systematic and complete grounding in the history and fundamental principles of the common law and statute law including the more important statutes and decided cases of Ohio.
College of Law

3. To develop proficiency in the application of the principles of law to the complicated relations, rights and duties arising in modern society through the training of the powers of analysis, discernment and judgment.

4. To show the place, importance, and aims of the law in society.

BEGINNING LAW STUDENTS

Law students who are commencing the study of Law start at the beginning of the Fall Quarter. Only rarely will beginning students be admitted to the Winter and Spring Quarters.

The right is reserved to make such changes in the curriculum and the order in which courses are given as may be necessary.

The curriculum herein presented for beginning students for the first three quarters in residence, is established for those who enter in the Fall Quarter, and the indicated sequence of courses will be followed for all other students, so far as possible.

LAW SCHOOL ORGANIZATIONS

All students, upon admission to the Law School, become members of the Junior Bar Association, an organization, which undertakes student activities of general interest and importance to the Law School and its program. Quarterly dues are seventy-five cents.

Delta Theta Phi and Sigma Delta Kappa, national Law School fraternities, are represented by chapters in the Law School.

Two other organizations, membership in which is highly prized by Law students, are the Toastmasters Club and Les Avocats. Their purpose is to develop the skills necessary for effective public speaking.

SCHOOLS REPRESENTED

An ever increasing proportion of our Law students have secured their pre-Legal education at colleges and universities other than Ohio Northern University. Many of these are coming with the Bachelor's degree or its equivalent. Among the colleges and universities contributing to the pre-Legal education of our students in the past are the following: Ashland College, Baldwin-Wallace, Bowling Green, Colgate, Defiance, Denison University, Depauw, Duquesne University, De Sales College, Fenn College, Geneva, Harvard, Heidelberg, Hillsdale, Hiram, John Carroll University, Kenyon, Kent State, Marshall College, Miami, Missouri, Mt. Union, Muskingum
College of Law

College, Northwestern, Ohio University, Ohio State University, Ohio Wesleyan University, Pittsburgh, Purdue, Rio Grande, Swarthmore, Toledo University, University of Cincinnati, University of Dayton, University of Kentucky, University of Michigan, Michigan State College, University of Southern California, University of Virginia, University of West Virginia, University of Wisconsin, Vincennes University, Virginia Military Institute, George Washington University, Washington and Lee University, Western Reserve University, Western State Teachers College, Wilmington College, Wittenberg College, Wooster, Youngstown College, and Yale University.

LIBRARY

The Law Library is up-to-date, modern, and well selected. It contains the reports of the courts of last resort of the States, the United States Supreme Court Reports, the Federal Reports, the Reporter System, a complete set of English reports, the more important series of special reports and selected cases, a collection of the latest editions of standard text books, leading legal periodicals, digests, the leading encyclopedias of law, and other works of reference. The Library is accessible each week day, the students being allowed free access to the books.

The material included in the Library complies with law library requirements of the American Bar Association.

METHODS OF INSTRUCTION

Instruction is based upon the case-book method. To the cases found in the case-book are added selected cases from Ohio and other jurisdictions. The lecture hour includes a thorough questioning of the students upon the cases studied and informal discussions by instructors and students upon the underlying and distinguishing principles illustrated by the cases.

ADMISSION

For admission procedure, see page 13.

Candidates of good moral character may be admitted upon satisfying the following requirements:

(1) Graduation from a first-grade high school and

(2) On and after September 1, 1952, the completion of not less than three-fourths of the credits acceptable for a Bachelor's degree at one or more accredited colleges or universities, in accord-
College of Law

ance with the rules of the institution from which such credits are presented. Usually this is 90 semester or 135 quarter hours. It is further required that the scholarship average of the applicant must not go below the graduation average of the institution from which the credits are presented.

Correspondence work is not accepted as pre-Law credit.

In no case may a deficiency in pre-Law study be made up concurrently with the work in the College of Law.

A student desiring to enroll in the College of Law should apply to the Director of Admissions or to the Dean of the College of Law for an application blank and submit the same at least ten days prior to the beginning of the quarter to which he seeks admission, together with recommendations and transcripts of his pre-Legal education, in duplicate.

(3) Advanced Standing. Advanced credit is given for not more than two years of Law study in residence at any reputable Law School in the United States maintaining a three-year full-time course.

(4) Special Student. Persons who are not candidates for a degree and who have sufficient education and experience to study Law with profit may enter the College of Law as special students with the approval of the Dean, even though they cannot meet the entrance requirements for a degree. Any one desiring to enter as a special student or to secure fuller information in regard to preliminary education should write to the University Director of Admissions or the Dean of the College of Law. Such special students will not be eligible for the bar examination in Ohio and many other states.

PRE-LAW AND ARTS-LAW COURSES

The College of Liberal Arts offers favorable opportunities to the student in preparing for the study of Law.

The Pre-Law Course offered not only meets the requirements set by the Supreme Court of the State of Ohio as to the preliminary education that every student must have before beginning the study of Law, but is especially planned to help the student to prepare properly for such an undertaking.

The Arts-Law Course is designed for the student who desires the degree of Bachelor of Arts and the degree of Bachelor of Laws. By taking this Course, which extends over a period of six years, the
student not only meets the requirements set by the Supreme Court of the State of Ohio but in addition thereto is entitled to receive the degrees indicated.

For further information about these Courses, the student is referred to the Liberal Arts section of this catalog.

GRADUATION

The degree of Bachelor of Law is conferred on students who have completed satisfactorily a total of 122 quarter hours including all the prescribed courses, and in addition certain required courses for which no credit hours are given, or who have received credit therefor in accordance with the section entitled Advanced Standing, and who have studied in residence at this College for at least three quarters immediately preceding graduation, and who have at least one quality point average for every credit hour.

GENERAL REGULATIONS

1. Students may select from the courses offered such subjects as they desire, with the approval of the Dean, not to exceed a maximum of 16 credit hours per quarter. Special students may not become candidates for a degree.

2. Hours above eighteen are considered excess and are subject to special tuition rates. Only in exceptional cases are regular students allowed excess hours.

3. In the section of the general catalog dealing with Administration are found rules and regulations pertaining to chapel and class attendance, registration, and preregistration, government, withdrawing courses, warning and probation, eligibility for extracurricular activities, examinations, grade marks and quality points. Chapel and Assembly attendance twice each week are required of all students in the University.

4. Expenses, tuition, fees, living costs, and housing are likewise described in an earlier section of this catalog.

5. The Board of Trustees and Faculty of the University reserve the right to make such changes as they deem necessary without published notice.

CLASSIFICATION

The minimum requirements for Junior standing are thirty-eight credit hours and a point average of 1.0, for Senior standing, eighty credit hours and a point average of 1.0.
College of Law

OTHER ADVANTAGES
There are musical, debating, and dramatic societies and other organizations on the campus to which any student in the College of Law is eligible.

SUMMER SCHOOL
The College of Law offers courses during the Summer School. It is expected that the regular curriculum will be followed by veteran students, since summer courses are limited in number.

COLLEGE OF LAW CURRICULUM
The work of the first year is all required. Second and third year courses are all required except those separately designated as electives, which are open to both second and third year students subject to the provision that a student may not elect to exceed fifteen hours in any quarter in which elective courses are open to him, unless approved by the Dean.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
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<tr>
<td>Common Law Pleading</td>
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<tr>
<td>Contracts I</td>
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<td>Legal Bibliography</td>
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<td>Personal Property</td>
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<td>Torts II</td>
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**SPRING QUARTER**

<table>
<thead>
<tr>
<th>Business Associations</th>
<th>Criminal Law</th>
<th>Real Property II</th>
<th>Moot Court</th>
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**SECOND YEAR**

<table>
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<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
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<td>Constitutional Law I</td>
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<td>Equity</td>
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<td>Evidence I</td>
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<td>Domestic Relations</td>
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<td>Private Corporations I</td>
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**SPRING QUARTER**

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<th>Evidence II</th>
<th>Private Corporations II</th>
<th>Electives</th>
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**THIRD YEAR**

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<th>Fall Quarter</th>
<th>Winter Quarter</th>
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<tr>
<td>Code Pleading</td>
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<tr>
<td>Conflict of Laws</td>
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<td>Electives</td>
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<tr>
<td>Trial and Appellate Practice</td>
<td>Electives</td>
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**SPRING QUARTER**

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<tr>
<th>Practice Court</th>
<th>Trusts</th>
<th>Electives</th>
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DESCRIPTION OF COURSES

FIRST YEAR

ALL COURSES REQUIRED

BUSINESS ASSOCIATIONS  
5 hours

The nature, formation and purpose of agency and partnership relations; the duties and liabilities arising from the relationships; the marshalling of assets in equity and the priorities between individual and firm creditors; consideration of Workman’s Compensation legislation and other phases of the subject of master and servant. Casebook to be announced.

COMMON LAW PLEADING  
3 hours

This Course embraces a discussion of the nature and purposes of pleading, emphasizing the connection between pleading and the history and development of the Common Law. Keigwin, Cases On Common Law Pleading.

CONTRACTS I  
4 hours

CONTRACTS II  
5 hours

Fundamental courses dealing with the nature of a contract; the capacity of the parties, offer and acceptance; consideration, requisites of contracts under seal; the performance of contracts, including conditions and impossibility of performance; the discharge of contracts; rights of beneficiaries, joint and several contracts; assignment of contracts; illegal contracts and the statute of frauds. Shepherd, Contracts and Contract Remedies (3rd Edition).

CRIMINAL LAW  
5 hours

This Course treats of the theories of crime and punishment; the criminal act and mental element in crime; specific offenses at common law and as developed by statutes; appropriate defenses in relation to the specific crimes; parties. Hall, Cases On Criminal Law and Procedure.

LEGAL BIBLIOGRAPHY  
1 hour

This Course is required but no credit is given for it toward graduation. The purpose is to give the student training in the use of law books and in finding the law. The Course must be completed to the satisfaction of the Instructor. Pollock, Legal Research and Materials, (Ohio Edition).

MOOT COURT

Students participate in a moot case which has reached the Appel-
late level, by writing briefs and making oral arguments before an Appellate Court which consists of upperclass students. This Course is required but gives no credit toward graduation.

**PERSONAL PROPERTY**

4 hours

This Course deals with the distinction between real and personal property; of the title to personal property and its transfer by agreement and by operation of law; its use and liabilities arising therefrom. Aigler, Bigelow, and Powell, *Cases on Property*, Vol. I (2nd Edition).

**REAL PROPERTY I**

5 hours


**REAL PROPERTY II**

5 hours


**TORTS I**

3 hours

**TORTS II**

5 hours

This Course includes a consideration of the bases and extent of legal liability for invasions of various interests of personality and property with especial attention given to wrongs, such as assault, battery, false imprisonment, trespass upon realty and personality, conversion, deceit, defamation, malicious prosecution, injuries resulting from negligence, injuries intentionally inflicted and liability without fault. An analysis is made of the various concepts of importance in this field of law, such as intention, malice, legal right and wrong, negligence and proximate causation. Smith and Prosser, *Cases and Materials on Torts*.

**SECOND YEAR**

**CONSTITUTIONAL LAW I**

3 hours

**CONSTITUTIONAL LAW II**

3 hours

Courses include the interpretation of the constitutional limitations for the protection of life, liberty and property, police power, taxation, eminent domain, obligation of contract; and a consideration of the law of the American federal system, with especial refer-

**Domestic Relations**

A study of the law of marriage and divorce, parent and child, the rights and liabilities of husband and wife, the rights and liabilities of infants, including a study of statutory material. Jacobs, *Cases On Domestic Relations*.

**Equity**

This Course involves the consideration of the rise of the court of equity, the powers of the court, the principles governing the exercise of equitable jurisdiction, and the equitable remedies of injunction, bills of peace, bills of interpleader, bills to remove cloud from title, declaratory judgments, and specific performance. Cook, *Cases on Equity* (4th Edition).

**Evidence I**

**Evidence II**

An examination of contemporary rules of evidence relating to burden of proof and presumption, judicial notice, the examination of witnesses, competency and privilege, and illegally obtained evidence, followed by a careful development of the opinion rule, the hearsay rule and its exceptions and the best evidence rule. Morgan and Maguire, *Cases on Evidence* (3rd Edition).

**Private Corporations I**

**Private Corporations II**

This Course treats of the characteristics of private corporations, including their formation, powers, rights, and liabilities, the rights and liability of stockholders, and of officers and directors, and the rights of creditors against the corporation and its officers. Ballantine and Lattin, *Cases on Corporations*.

**Restitution**

This Course deals with a study of the remedies of quasi-contract, equitable accounting, constructive trust, equitable lien, rescission and reformation, and the legal and equitable remedies available in cases of misrepresentation, fraud, partially performed agreements, mistake, illegality, defective capacity and duress. Durfee and Dawson, *Cases on Restitution*. 

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College of Law

WILLS AND ADMINISTRATION OF ESTATES 4 hours
This Course treats of the nature of testamentary disposition and intestacy. Mechan and Atkinson, Cases on Wills and Administration (3rd Edition).

THIRD YEAR

CODE PLEADING 5 hours
This Course deals with parties, joinder and splitting of causes of action, the petition, answer, reply, demurer, amended and supplemental pleadings and motion practice as these problems have developed under the code provisions of the various states. Special emphasis is placed on the Federal Rules of Procedure. Sunderland, Cases on Code Pleading (2nd Edition).

CONFLICT OF LAWS 5 hours
This Course treats of the principles of private international law; jurisdiction of courts; the choice of law governing torts, contracts, divorce, transfers of property by deed, will and intestate succession; marriage, adoption, domicile, foreign judgments and such procedural matters as statutes of frauds and of limitations. Lorenzen, Cases and Materials on Conflict of Laws (6th Edition).

LEGAL ETHICS 1 hour
This Course treats of the rules of conduct governing the lawyer in the practice of his profession. This Course must be completed to the satisfaction of the Instructor, although no credit toward graduation is given. Cheatham, Cases and Materials on the Legal Profession.

NEGOTIABLE INSTRUMENTS 5 hours
This Course involves the consideration of the general principles governing bills of exchange, promissory notes and checks, and the uniform negotiable instruments law. Smith and Moore, Cases and Materials on Bills and Notes (4th Edition).

TRIAL AND APPELLATE PRACTICE 5 hours
Principles controlling the trial practice of civil actions; laying a foundation for review; methods and problems of procedure on review and disposition upon review. Hunter’s Cases.

PRACTICE COURT
Students participate in a mock trial, beginning with the preparation and filing of the pleadings and continuing through the actual
College of Law

trial which is conducted in the courtroom of the Law College where either faculty members or outside lawyers act as judges. This Course is required but gives no credit toward graduation.

Trusts 5 hours
This Course treats of the origin and development in courts of equity of the law of trusts and trustees. Scott, Cases on Trusts (4th Edition).

ELECTIVE COURSES

Administrative Law 3 hours
This Course deals with the powers and procedure of administrative agencies in this country. It includes a consideration of the nature of the power vested in administrative bodies, distinction between legislative, judicial and executive powers, conclusiveness of administrative determinations, the requirement of due process, and the extent of judicial control over administrative action. Gellhorn, Administrative Law Cases and Comments (2nd Edition).

Creditors' Rights 4 hours
This Course includes a study of fraudulent conveyances, creditors' agreements, receiverships and the administration of bankrupt estates. Hanna and McLaughlin, Cases on Creditors' Rights (Consolidated 4th Edition).

Damages 2 hours
In this Course the rules governing the measure of damages in actions founded on contract and tort are considered. Casebook to be announced.

Legal Draftsmanship 3 hours
Designed to give the student practice in the drafting of the more common legal instruments. Cook, Legal Drafting.

Future Interests 3 hours

Insurance 3 hours
This Course includes the nature and requisites of the contract, parties, insurable interest, premiums, representations and warranties, agents and their powers, waiver, and estoppel, rights under the policy, a study of the standard fire policies, life insurance, marine and accident. Casebook to be announced.
Labor Law

This Course includes a study of the right to organize the union; the process of collective bargaining; the legality of strikes, lockouts and boycotts; the interest of the public in labor disputes; legislative intervention, with emphasis on the National Labor Relations Act as amended by the Taft-Hartley Law. Casebook to be announced.

Mortgages

The various theories of the mortgage including the historical evolution thereof in equity; recording statutes, and other problems in connection with the Law of Mortgages. Casebook to be announced.

Sales

The topics included in this Course are the contract for delivery of goods, the statute of frauds, the passing of the property, fraud and retention of possession, illegality, condition and warranties, performance, rights of the seller and buyer in case of breach. Bogert, *Cases on Sales* (2nd Edition).

Federal Taxation

This Course deals with the constitutional foundation of the major federal taxes—excise, gift, estate and income taxes. Griswold, *Cases and Materials on Federal Taxation* (3rd Edition).

Business Administration 235 Federal Income Tax

Study of federal income tax regulations to determine tax liability under current laws; preparation of individual partnership, corporation, estate, and trust tax returns. Textbook to be announced.

Municipal Corporations

This Course treats of the formation of and legislative control over public corporations (primarily cities and villages), the powers of such corporations with respect to public welfare, licenses and franchises, appropriations, indebtedness, contracts and special assessments, and the liability of such corporations in tort and contract. Stason, *Cases on Municipal Corporations* (2nd Edition).

Suretyship

This Course includes the creation of the relationship, the contract, the statute of frauds, the rights and remedies, the defenses, guaranty contracts, and letters of credit, private and corporate sureties, and incidentally a consideration of the different kinds of bonds. Casebook to be announced.
Recognition Day Citations

GENERAL SENIOR HONORS
BASED ON SCHOLARSHIP

College of Liberal Arts  Billy L. Keeling
College of Engineering  Gilbert Reynold Williamson
College of Law  Eugene Barry Fox
College of Pharmacy  Robert S. Gray

DEPARTMENTAL HONORS

COLLEGE OF LIBERAL ARTS

Biology  John Sherman Davis
Business Education  Billy L. Keeling
Economics and Business Administration  Emil Gene Gratz
Education  Billy L. Keeling

Janice Ann Howbert
Marilyn Ruth Hatchett
Stella Alice LaRue

English  Billy L. Keeling
Foreign Language
Health and Physical Education  Nancy Lee Brookhart
History and Political Science  Stella Alice LaRue
Industrial Arts  Thomas E. Preston

Gerald E. Boltz
Richard D. Kain

James Henry Dodson, Jr.
Carl L. Tucker
Shirley Jayne Hindall

James H. Ewing
Virginia M. Davis

Ralph W. Phillips
Jack F. Curtis
Virginia M. Davis

COLLEGE OF ENGINEERING

Civil Engineering  Gilbert R. Williamson
Electrical Engineering  Charles T. Fisk
Mechanical Engineering  Vernon C. Vincent
Recognition Day Citations

COLLEGE OF LAW

Senior Honors

First Year

EUGENE BARRY FOX
DANIEL SOWERS GUY
GEORGE D. VAUBEL

COLLEGE OF PHARMACY

Lehn and Fink Gold Medal
Modern Drug Encyclopedia
Ohio State Pharmaceutical Award
Raabe Award

WILLIAM W. FIGLEY
ROBERT S. GRAY
FRANKLIN O. FRY
CAROL RAMSEY
STELLA GERGEL
FRANK KRASOVCEC

Darbaker Pharmacognosy Award
One-Year Membership in the American
Pharmaceutical Association
Marshall Drug Company Scholarship

LUCILLE DINGAN
ROY LEE ROBERTS
JACK WITNER

American Foundation for Pharmaceutical
Education Scholarship

NANCY BROWN
JAMES W. STEIL
GEORGE WOLFE
ALBERT DON OLIN

SPECIAL AWARDS AND PRIZES

Faculty Wives Club (music composition)  CARL TUCKER
(literary work)  RACHEL WAUBEN

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Degrees Conferred in 1951

Honorary Degree Candidates

Vicente G. Sinco
Arthur Fletcher Plant
Harry W. Mountz
Bert R. Mull

Doctor of Laws
Doctor of Engineering
Doctor of Humanities
Doctor of Pharmacy Administration

Graduates, 1951-52

BACHELOR OF ARTS

Russell L. Bunger, Ada, O.
William Lee Butterfield, Lima, O.
Thomas W. Casey, Bucyrus, O.
Harold D. Clark, Gettysburg, O.
*Neil A. Coil, Lima, O.
Jack Frederick Curtis, Zanesville, O.
Joseph Corwin DaPore, Ada, O.
*John S. Davis, Delphos, O.
Virginia M. Davis, Delphos, O.
Gene Edward Devers, Dayton, O.
Emil Gene Gratz, Beavercreek, O.
James J. Jacobs, Jr., Lima, O.
Malcolm G. Johnson, Jr., Delphos, O.
Howard Dale Keefer, Fayette, O.
Dolores Isobel Kison, Lakewood, O.
Joan Grubaugh Lambright, Lima, O.
Maxie Lambright, Lima, O.
Sarah L. Lehman, Orrville, O.
Roger William Lillie, Jefferson, O.
Billy M. McOmber, Convoy, O.
Charles E. Marshall, Jr., Crestline, O.
Robert Francis Shively, Cincinnati, O.
Carl Lloyd Tucker, Edgerton, O.
Charles Van Dyne, Ada, O.
James Walker, New York, N. Y.
Marcia Wolfe, Baltimore, O.

BACHELOR OF SCIENCE IN EDUCATION

Leslie W. Ackerman, Ada, O.
Mary Ann Arthur, Gomer, O.
Wava Shilling Augenstein,
Mt. Vernon, O.
Frances Lora Augsburger,
Columbus Grove, O.
Cora Mae Binkley, Lima, O.
Marion Eugene Blue, Kenton, O.
Kathryn G. Boger, Lima, O.
Nancy Lee Brookhart, Celina, O.
Kenneth Earl Brown, Bradford, O.
Jessie H. Cooper, Lima, O.
Phyllis Lee Corderman,
Spencerville, O.
*James Henry Dodson, Jr., Lima, O.
Neil Edwin Duchac, Bucyrus, O.
Marguerite B. Ell, Marysville, O.
James H. Ewing, Bluffton, O.
Samuel William Fink, Arlington, O.
Treva Houser Gunther, Carey, O.
Adrian R. Hanes, Ada, O.
Lillian E. Heinrich, Lima, O.
Russell Helmlinger,
Jackson Center, O.
†Shirley Jayne Hindall, Ada, O.
Verona Northrup Himes, Findlay, O.
Pauline L. Hockett, Columbus, O.
Janice Ann Howbert, Ada, O.
Robert A. Irvin, Marion, O.
Beulah Alice Johnson, Marion, O.
†Billy L. Keeling, Ada, O.
*Bernard J. Landwehr, Delphos, O.
Edith LaRue, Columbus, O.
†Stella Alice LaRue, Ada, O.
†Edward LeRoy Lenhart,
Belle Center, O.
The Graduating Classes

Charles Long, Ada, O.
Richard Earl Lowrie, Lorain, O.
Howard M. McGinnis,
Belle Center, O.
Evonda M. McMillen, Ada, O.
Ruth Ann McMillen, Ada, O.
Grace Mahan, Lima, O.
Charles David Mayers, Marion, O.
Mary Moorman, Spencerville, O.
Thurman Dean Noblet, Marion, O.
Kent Winfield Poince, Tipp City, O.
Richard D. Poole, Vinton, Va.
Thomas E. Preston, Van Wert, O.

*Frances Halloway Price, Ada, O.
James D. Ramsey, Elgin, O.
Mary F. Rolsten, Lima, O.
Richard L. Roush, Springfield, O.
William Shunkwiler, Willoughby, O.
Rachel T. Stirn, Beavercreek, O.
Edwin Robert Thorpe, Ada, O.
Jacqueline S. Toban, Ada, O.
Kathryn M. Welty, Lima, O.
Ira Dean Wetherill, Lima, O.
Robert J. Yost, Lima, O.
Virginia Mae Zuspan, Edison, O.

College of Engineering

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Paul D. Covert, Tiffin, O.
Edward Leon Goldin,
Newburgh, N.Y.
Norman E. Grigsby, Lima, O.
David Ward Johnson, Snyder, N.Y.
John Albert Long, Ada, O.
Charles William McHugh,
St. Clairsville, O.
Harold Daniel Marker, Bradford, O.

Richard C. Rishel, Benton Ridge, O.
Richard L. Sample, Randolph, N.Y.
Everett E. Schilling, Zanesville, O.
Raymond E. Sifford, Lancaster, O.
Earl W. Van Ho, Ada, O.
David J. Williams, Van Wert, O.
†Gilbert Reynold Williamson,
Weirton, W.Va.
Charles William Wright, Marion, O.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Charles J. Anderson, Ada, O.
Ralph Harold Beardsley,
Defiance, O.
Dale Everett Buxton, Kenton, O.
Lowell R. Dibble, Lima, O.
*Charles T. Fisk, Newark, O.

Robert Allen Mitchell,
Spencerville, O.
Bernard L. Retterer, Wadsworth, O.
Robert Joseph St. Louis, St. Marys, O.
John Royal Stone, Caledonia, O.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Jonathan E. Emrick, Ada, O.
Jack Russell Schuster, Elyria, O.

Vernon Clair Vincent, Ada, O.

College of Pharmacy

BACHELOR OF SCIENCE IN PHARMACY

Robert Franklin Ammon, Lima, O.
Dale Wayne Baker, Dayton, O.
James E. Ballenger, London, O.

Rollin E. Ballentine, New Carlisle, O.
Suzanne Bremyer,
Upper Sandusky, O.
The Graduating Classes

Alfred Carrino, Youngstown, O.
Michael G. Casale, McDonald, O.
Robert William Combs, Norwalk, O.
Donald Arthur Cope, Akron, O.
Robert Deckard, Columbus, O.
Donald E. Delp, Dayton, O.
Frances Lucille Dincan, Smithfield, O.
Vincent L. Drouhard, Massillon, O.
Alfred Dudek, Youngstown, O.
Richard Triem Edgerton, Ada, O.
William Leonard Fox, Cleveland, O.
William J. Frazier, Zanesville, O.
Franklin Otis Fry, Holmesville, O.
Stella F. Gergel, Warren, O.
Robert S. Gray, Ada, O.
George Clifford Gron, Akron, O.
John Ferm Hanley, Hubbard, O.
Homer Hart Herke, Cleveland, O.
Glenn Edwin Hotaling, Cleveland, O.
Orval Eugene Hovis, Salem, O.
James Edward Howard, Monterey, Tenn.
Frank Charles Krasovec, Cleveland, O.
Robert Dean Lehman, Orrville, O.
Donald Charles Lessiter, Barberton, O.
Dorothy Lilak, Lorain, O.
Walter Lilak, Lorain, O.
Donald E. McDonald, Harpster, O.
Donald L. McMath, Uhrichsville, O.
Albert Makoff, University Hgts., O.
John William Mannino, Erieside, O.
Robert R. Marshall, Springfield, O.
Jack Emmett Miller, Lima, O.
Frederick Minardi, Cuyahoga Falls
Charles W. Mires, Liberty Center
David Alonso Nutter, Zanesville, O.
Albert Donn Olin, Garrettsville
Casimir J. Osowski, Cleveland, O.
Russell William Patterson, Napoleon, O.
Marshall E. Phillips, Mt. Gilead, O.
Colleen Mae Polen, Canton, O.
Carolyn Ramsey, Lima, O.
Robert Reed Richardson, Zanesville, O.
June Nadine Ridenour, Vermillion, O.
Roy Lee Roberts, Malta, O.
William Raymond Schwaiger, Ada, O.
Preston Ray Seely, Barberton, O.
Frank Stewart Shurtz, Zanesville, O.
Robert Bormet Soden, Milltown, N. J.
Chester S. Sommers, Lucasville, O.
Anna Evelyn Stamets, Ft. Wayne, Ind.
Robert C. Sutton, Jr., Kinsman, O.
Helen Taijalidakis, Youngstown, O.
Roy Frederick Ullman, Zanesville, O.
Charles Stephen Vedda, Lakewood, O.
Katherine V. Waggoner, Fremont, O.
Richard W. Wagner, Orrville, O.
Richard S. Werley, Marion, O.
John E. Whitaker, Ada, O.
Jack E. Witner, Akron, O.
Donald E. Young, Chillicothe, O.

College of Law

BACHELOR OF LAWS

John C. A. Arter, Jr., Marion, O.
Barney Bader, Celina, O.
Herbert W. Cox, Arcanum, O.
Henry Anthony DiBiasio, Youngstown, O.
Lewis Warren Digel, Springfield, O.
John Robb Evans, Lima, O.
Raymon Fetzek, Phillipsburg, Pa.
Charles Richard Fox, East Palestine, O.
†Eugene Barry Fox, Youngstown, O.
James L. Frey, Archbold, O.
*Daniel Sowers Guy, Mechanicsburg, O.
The Graduating Classes

James W. Hawekotte, Dayton, O.
John W. Hazard, Caldwell, O.
Dale Glenn Hildebrand, Shauck, O.
John Gerald Ingram, Youngstown, O.
Yale Leland Kerby, Tecumseh, Mich.
Wilbur L. Laibe, Ada, O.
Neil M. Laughlin, Scioto, O.
Jerome Leiken, Cleveland, O.
George Vincent McCullough, Cincinnati, O.
Robert A. McKown, Plymouth, O.
Robert John McNay, Dayton, O.
Donald Leo Marks, Akron, O.
Donald L. Merrow, Akron, O.
Russell O. Miller, Lima, O.
Mitchell Moore, Jr., Defiance, O.
Clayton Hobart Morrison, Ada, O.
Donald L. Nash, Grand Rapids, Mich.
Robert L. Nolan, Dayton, O.
Glenn Carleton Parsons, No. Baltimore, O.
William Thomas Payne, New Concord, O.
William Glover Powell, Brilliant, O.
Charles Fredrick Roberts, Payne, O.
Daniel L. Rossi, Youngstown, O.
Vincent P. Serman, Youngstown, O.
Robert Clark Shaw, Xenia, O.
Frank C. Short, Dayton, O.
Aurel Solomon, Canton, O.
Harry J. Sousley, Jr., Ada, O.
Jerry O. Stephens, Canfield, O.
Harold B. Talbott, Morristown, O.
Edwin Claude Taylor, Lockwood, O.
Lewis Nelson Truman, Findlay, O.
Victor Cyril Turf, No. Baltimore, O.
Robert C. Way, Dayton, O.
Harold Charles Webster, Elyria, O.
William Wiedemann, Marion, O.
John Willard Wissinger, Nappanee, Ind.

†With High Distinction
*With Distinction

SUMMARY OF GRADUATES, 1951-52

<table>
<thead>
<tr>
<th>Degree</th>
<th>Men</th>
<th>Women</th>
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<td>Bachelor of Arts</td>
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<td>B. S. in Education</td>
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<td>B. S. in Electrical Engineering</td>
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<td>B. S. in Mechanical Engineering</td>
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<td>B. S. in Pharmacy</td>
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<td>Bachelor of Laws</td>
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<td><strong>Total</strong></td>
<td>179</td>
<td>43</td>
<td>222</td>
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Register of Students
1951-52
College of Liberal Arts
FRESHMEN

Agler, Stanley W., Van Wert, O.
Ardrey, Betty J., Nashport, O.
Aruta, Frank V., Geneva, O.
Baker, Helen L., Lima, O.
Baker, Paula, Dayton, O.
Basinger, Jack A., Bluffton, O.
Beaston, Eugene, Upper Sandusky, O.
Benny, Irma, Lima, O.
Bethel, Charles S., Flushing, O.
Bigelow, Herbert, W. Salem, O.
Blackman, Betty Jo, Zanesville, O.
Bledsoe, George M. Jr., Cleveland, O.
Bonfiglio, Ronald E., Lima, O.
Braden, James E., Galion, O.
Brinkmeier, Layton J., Dayton, O.
Brubaker, Ruby L., Columbiana, O.
Brysacz, Helene, Cleveland, O.
Burchett, Leroy, Lucasville, O.
Butch, Paul E., Lisbon, O.
Campbell, John Frederick, Bellefontaine, O.
Canestraro, Richard W., Mingo Junction, O.
Carpenter, Ernest Frank, Arlington, O.
Caryl, Trell Wm., Marysville, O.
Catalano, James J., Lorain, O.
Catalano, Richard J., Lorain, O.
Chaffee, Virginia Lee, Bedford, O.
Chase, Donald, Springfield, O.
Clarke, George W., Kinsman, O.
Clouse, Beverly, Willshire, O.
Cochrun, Gareth Dale, W. Jefferson, O.
Coschignano, Ralph V., Cleveland, O.
Courtney, James A., Lima, O.
Cumbie, Burke A. Jr., Youngstown, O.
Darling, Kenneth E., Lucas, O.
Darling, Virginia J., Lima, O.

Davis, Arthur H., Lima, O.
Deehrake, John L., Lima, O.
De Jong, Gerald E., Springfield, O.
DelBene, Pauline, Girard, O.
Dieckmann, Robert W. Jr., Amelia, O.
Di Pietro, Vincent R., Patterson, N. J.
Diering, Eula Ann, Wapakoneta, O.
Dotson, Patricia Ann, Lima, O.
Edwards, Wanda E., Willshire, O.
Elsass, Doyle E., Botkins, O.
Emmons, Robert J., Lima, O.
Farrar, Sara Lou, Clyde, O.
Fetter, Marilyn, Anna, O.
Figueroa, Arturo, Santurce, P. R.
Fowler, Frank E., Niles, O.
Franz, Charles, Cleveland, O.
Fuertes, Rolando, Havana, Cuba
Gehres, John Philip, Lancaster, O.
George, Philip M., Brazil, Ind.
Graebner, Lois, Rocky River, O.
Greer, Hazel, Marysville, O.
Griffiths, William H., Cuyahoga Falls, O.
Groll, Thomas, Wapakoneta, O.
Haines, Virginia, Belle Center, O.
Hakes, Robert B., Rocky River, O.
Hansaker, John E., Lima, O.
Hattery, Odetta, Van Wert, O.
Hawk, William Lee, Strasburg, O.
Hayden, Harold R., Upper Sandusky, O.
Heiman, Gerald A., Lima, O.
Heiser, Gerald, Cleveland, O.
Heiser, Robert A., Cleveland Hgts., O.
Henry, James E., Bluffton, O.
Hevlin, Robert G., Lima, O.
Hiener, Ronald E., Zanesville, O.
Hines, Richard F., Van Wert, O.
Hitchcock, Marilyn, Newark, O.
The Register

Hotlosz, Francis J., Bellaire, O.
Houglan, James J., Strasburg, O.
Hughes, Winona Gay, Celina, O.
Hutkai, Frank, Lima, O.
Irons, Dennis R., Bellevue, O.
Jacobs, Marvin R., Cleveland, O.
Jeffery, Vincent James, Urbana, O.
Johns, Margaret L., Rocky River, O.
Johnson, Frank A. Jr., E. Cleveland, O.
Jones, Nolan Morris Jr., Columbus Grove, O.
Justus, Kenneth W., Lima, O.
Karch, James J., Dayton, O.
Karipides, Dimitrios, Canton, O.
Kempbell, Marilyn J., Kenton, O.
Kennedy, Donald D., Canton, O.
Kuhn, James D., Warren, O.
Laibe, Wayne E., Lima, O.
La Rue, Norma J., Lafayette, O.
Leibold, John W., Ada, O.
Levine, Harvey, Cleveland, O.
Line, Gerald R., Lima, O.
Link, William E., Ada, O.
London, Larry, Cleveland, O.
Ludwig, Walter J., Barberville, O.
Lynch, Otto E., Tiffin, O.
Lytle, Charles T., Parkersburg, W. Va.
McAnaney, Hugh J., Chardon, O.
McCurdyl, Le Clare, Ada, O.
McGinley, John F., Lima, O.
McKendrick, Robert S. Jr., Findlay, O.
McLaughlin, Kenneth E., Findlay, O.
Mace, Kathryn, Spencerville, O.
Mahneke, Ben, Mentor, O.
Malcolm, Richard, Findlay, O.
Mannik, Mart, Ada, O.
Marshall, John V., Ada, O.
Marshall, Logan F., Springfield, O.
Martin, Frances, Montpelier, O.
Matthews, William J., Youngstown, O.
Melchers, William J., Lima, O.
Mellinger, Shirley, Youngstown, O.
Mendenhall, Jerry, Celina, O.
Messenger, Paul, Ada, O.
Michaelis, Otto, Newark, O.
Miller, Arnold Max, Cleveland, O.
Miller, Charline, Toledo, O.
Myers, Bill Joe, Lima, O.
Myers, David E., Carey, O.
Myers, Max A., Lima, O.
Newland, Donald, Wapakoneta, O.
Nihiser, Kenneth E., Lancaster, O.
Notestine, Shirley, Lewistown, O.
Omerod, Arthur D., Ada, O.
Palmer, Jean L., Lakewood, O.
Palmer, Robert, Ravenna, O.
Pamer, John Richard, Akron, O.
Pata, Philip, Yorkville, O.
Peckham, William J., Lima, O.
Penner, David B., Youngstown, O.
Pepper, Marcia L., Sidney, O.
Plumley, Donald, New Straitsville, O.
Pomerantz, Leonard,

Washington, D. C.
Provite, Ernest L., Martins Ferry, O.
Pugh, Jack A., Beavercreek, O.
Ramga, Don G., Wapakoneta, O.
Randall, Rex A., Canton, O.
Raymond, Charles Wm., Lima, O.
Reineke, James E., Wapakoneta, O.
Reinhart, Clarence,

New Hampshire, O.
Ridenour, Barbara, Lima, O.
Ridgway, Richard, Dayton, O.
Riley, Roger D., Lafayette, O.
Romano, Philip, Euclid, O.
Rosencrans, Marlin, Dayton, O.
Runce, Samuel, Lancaster, O.
Russell, Robert J., Chillicothe, O.
Saine, Jack L., Lima, O.
Sautter, Roy F. Jr., Maumee, O.
Schafer, Ronald E., Lafayette, O.
Schildorn, Dean R., Canton, O.
Schwind, Robert F., Lakewood, O.
Shaw, Joyce LaDene, Waynesfield, O.
Simons, Richard V., Cincinnati, O.
Smith, Don R., Dayton, O.
Smith, Harold E., Ada, O.
Smith, Joyce J., Ada, O.
Smith, Warren J., Lima, O.
Stacey, Lawrence W., Columbiana, O.
Stepelton, Robert A., Van Wert, O.
Strickler, Raymond O., Howard, O.
Summerell, Louis, Carey, O.
The Register

Swain, Dale, Akron, O.
Swinney, Everette, Ada, O.
Taisey, Robert E., Lucas, O.
Taylor, James H., Bellefontaine, O.
Taylor, Ronald Lee, Zanesville, O.
Thines, Dennis, Ottoville, O.
Todla, Robert K., Lakewood, O.
Tragesser, Edward J. Jr., Youngstown, O.
Wagner, Rodney, Hartville, O.
Wahls, Donald A., Park Ridge, Ill.
Waltermire, Darl D., Findlay, O.
Walters, Theodore, Marion, O.
Ward, Donald E., Lisbon, O.
Wauben, Rachel, Wapakoneta, O.
Weidig, John Charles, Zanesville, O.
Williams, Jack E., Lima, O.
Woodcock, James S., Niles, O.
Yeoman, Marvin L., East Liberty, O.
Young, Shirley, Ada, O.
Zahler, Esther Jean, Belle Center, O.
Zimmerman, Mary Ann, Harrod, O.

College of Engineering
FRESHMEN

Bernicke, Robert R., Napoleon, O.
Brents, Cary E., Harpster, O.
Carmack, Lynn E., Bluffton, O.
Cramer, Paul H. Jr., Bluffton, O.
Crow, Forest E., Van Wert, O.
Farrington, Franklin D., Buffalo, N. Y.
Greer, Lee R., Kettlersville, O.
Hagley, Carl E., Carey, O.
Hawkins, Clayton T., W. Salem, O.
Hyma, John Timothy, Findlay, O.
Korner, Jack E., Bucyrus, O.
Kreuse, Donald E., Ft. Jennings, O.
Langstaff, Donald, Lima, O.
Larson, Gerald D., Jamestown, N. Y.
Mackey, Larry, E. Palestine, O.
Mannik, Jaan John, Ada, O.
Matusoff, Gary L., Dayton, O.
Morrison, Robert LeRoy, Findlay, O.
Murphy, Kenneth T., Galion, O.
Murray, J. Roger, Ada, O.
Murray, Maurice M., Ada, O.
Oliver, J. William, Barberson, O.
Potter, Edward Jr., Lima, O.
Reiss, Charles E., Lima, O.
Reeder, Raymond E., Lima, O.
Sawvel, John S. Jr., Findlay, O.
Shay, William S., Toledo, O.
Sommer, Richard H., Kettlersville, O.
Stobert, Robert K., Ada, O.
Swisher, Robert E., Ada, O.
Teegardin, John Wm., Gomer, O.
Tschanz, Robert N., Lima, O.
Van Demark, William, Columbus Grove, O.
Werner, Joseph F., Alliance, O.
Woodworth, James R., Dayton, O.
Wren, Bruce L., Lima, O.

College of Law
FIRST-YEAR

Barnes, Joseph E., Portsmouth, O.
Beach, Loren E., Arlington, O.
Beckley, John L., McArthur, O.
Bleahu, Michael, Canton, O.
Chaffee, Victor D. Jr., N. Madison, O.
DaPore, Joseph C., Ada, O.
DaPore, Nancy, Ada, O.
DelBene, Norene, Girard, O.
Ensley, Theodore M., Dayton, O.
Evans, Tally E., Cambridge, O.
Faber, Richard V., Dayton, O.
Fitzgerald, James D., Lakewood, O.
Forrest, George L., Cecil, O.
Gillis, Walter D., Toronto, O.
Gilmartin, Vincent, Youngstown, O.
Helbert, J. A., Ada, O.

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The Register

Hollen, Robert L., Dayton, O.
Huntsman, Clair, Leipsic, O.
Jones, C. Richard, Warren, O.
Kahn, Norman S., Cambridge, O.
Kavanaugh, Paul, Dayton, O.
Kelly, John, Lima, O.
Lair, Anthony, Spring Valley, O.
Ludwig, Burton D., Gibsonburg, O.
*McPherson, Glenn E., Beach City, O.
Maurer, Robert W., Lima, O.
Micheli, Frank J., Zanesville, O.
Mittelkamp, Henry P.,

Ft. Jennings, O.
Nearhood, William A., Ashland, O.
Ottery, Herbert E., Steubenville, O.
Ottery, Thomas H., Ada, O.

*Deceased 1951—52

College of Liberal Arts
SOPHOMORES

Acheson, Gordon, Sarasota, Fla.
Almgren, Margo, Lakewood, O.
Babcock, Martha S., Forest, O.
Blanchong, Jack, Lima, O.
Blue, John T., Kenton, O.
Boolan, Dan T., Warren, O.
Booher, Ned F., Tipp City, O.
Boyce, Donald E., Warren, O.
Bredbeck, William B., Mansfield, O.
Brenneman, Fleet,

Highland Park, Mich.
Brookhart, Robert, Celina, O.
Burcher, Joseph J., Newark, O.
Clarke, Donald, Cincinnati, O.
Clay, Carl D., Quincy, O.
Coffy, Ernest W., Carrollton, O.
Cole, Robert C. Jr., Ada, O.
Collins, Frank A., Cleveland, O.
Colvin, Robert O., Wapakoneta, O.
Cooper, Margaret A., Marion, O.
Costanzo, Bruce, N., Waterford, O.
Cramer, Dwilla, Ada, O.
Daless, Charles A., Elyria, O.
DelBene, Joyce A., Girard, O.
Deck, Orville, Ada, O.
Ebel, Joan C., Cleveland, O.

Pedlow, Edward B. Jr., Lima, O.
Price, David L., Elida, O.
Pugh, Dale, Ada, O.
Reeve, Cesare A., Painesville, O.
Smith, Burke E., Kenton, O.
Sobel, Allan, Lorain, O.
Stralka, Kenneth R., Garfield Hghts., O.
Swaim, Allen J., Youngstown, O.
Turner, Harry E., Ada, O.
Van Dyne, Charles, Ada, O.
Varner, Donald Joe, Salem, W. Va.
Vaubel, George D., Wapakoneta, O.
Visca, Frank, Monesson, Penna.
Zehring, Robert H. Jr.,

Miamisburg, O.

Ellis, Rita, Lakeview, O.
Evans, Robert, Marion, O.
Finley, Robert, McComb, O.
Fonner, Franz L., Lima, O.
Forbes, Lowell W.,

Columbus Grove, O.
Foster, Clyde B., Mt. Blanchard, O.
Fout, Larry R., Ada, O.
Frick, Richard W., Tiffin, O.
Friend, Ronald A., Batavia, O.
Fry, Louis R., Lima, O.
Gamble, Doyt Stephen, Lima, O.
Gibbons, Russell W., Hamburg, N. Y.
Grimes, Charlotte, West Liberty, O.
Hainline, Ruth E., Celina, O.
Halbedel, Kenneth R.,

Upper Sandusky, O.
Hall, Gladys Irene, Ada, O.
Hart, Donald, Malvern, O.
Hatchett, Marilyn, Kenton, O.
Heileman, Mary M., Waynesfield, O.
Hillman, Carol, Ada, O.
Hughes, Norman L., Ada, O.
Hughes, William R., Huntsville, O.
Jarvis, Norma Jean, Lima, O.
Jones, Neil H., Alger, O.
The Register

Keller, William B., Kenton, O.
Kerr, John R., Lima, O.
Keys, William R., Ironton, O.
Koch, Anne, Bryan, O.
Levin, Stanley H., Cleveland Hgts., O.
Littoral, John, Marion, O.
Looker, Donald E., Bradford, O.
Lysinger, Richard Mark, Martins Ferry, O.
Lytle, David B., Lima, O.
McCoy, Donald L., Findlay, O.
Malcolm, John D., Findlay, O.
Marquart, Joe G., Kenton, O.
Matson, Patricia J., Ada, O.
Maupin, Kenneth L., Dayton, O.
Maxwell, James, Lima, O.
Meader, Jeanine, Richwood, O.
Mellett, Katherine, W. Jefferson, O.
Miller, Barbara J., Youngstown, O.
Miller, Max S., Elida, O.
Miorin, Albert, Lima, O.
Monfort, Norman, Lima, O.
Moon, David I., Upper Sandusky, O.
Moser, Arden, Ada, O.
Muskoff, Betty M., Wooster, O.
Norbeck, Jack E., Delphos, O.
Pickering, Robert G., Lima, O.
Plikerd, Dorothea, Venedocia, O.
Potesta, Eugene, Youngstown, O.
Reed, Vernetta, Ada, O.
Rohn, Daniel, Wadsworth, O.
Runkle, Julia A., Buffalo, N. Y.
Runser, Jack, Ada, O.
Schmelzer, John David, Delphos, O.
Scichilone, William, Akron, O.
Scott, Rad V., Detroit, Mich.
Shepherd, William, Kenton, O.
Sherburn, Ruth, Van Wert, O.
Shoemaker, Raymond A., Lima, O.
Shoemaker, Robert L., Dunkirk, O.
Skelly, Howard W., Millersburg, O.
Smith, Daniel R., Greenville, O.
Stahl, Jimmie O., Risingsun, O.
Stoll, Beverly J., Wapakoneta, O.
Tapp, Leon, Huntsville, O.
Taylor, W. Eugene, Lewisburg, O.
Thatcher, Calvin, Findlay, O.
Thomas, Edsel E., Lima, O.
Tonkel, Richard E., Ft. Wayne, Ind.
Weiss, Donald, Middletown, Penna.
Whiteford, Patricia, Canton, O.
Wick, Ruth A., Sidney, O.
Wilhelm, Mary A., Marion, O.
Williams, David H., Croton, O.
Williams, Forest J., Lima, Ohio
Wolffey, Beverly A., Kenton, O.

College of Engineering

SOPHOMORES

Fouke, Herbert, Genoa, O.
Fuertes, Fernando, Lima, O.
Gobin, Donald L., Ada, O.
Harnishfeger, Alfred, Ada, O.
Hensel, Delmer K., O.
Hull, Ronald E., Roundhead, O.
Keller, Wendell D., Findlay, O.
Kerst, Robert A., Lima, O.
Krichbaum, David,
Upper Sandusky, O.
Line, Robert C., Lima, O.
Meyer, William F., Hamler, O.
*Deceased in 1951–52

Pakush, Eugene, Lorain, O.
Parks, James A., Berea, O.
Pfeiffer, Harry O., Gnadenhutten, O.
Schwickert, Russell, Hoboken, N. J.
Seitz, John D., Ada, O.
Sharko, Wolodymyr, New York, N. Y.
Steinke, Lester A., Sidney, O.
Taylor, Harold A., Louisville, Ky.
*Torres, Joseph, Aquirre, P. R.
Van Over, Edwin F., Ada, O.
Wenzel, Leon, Elyria, O.
Zuercher, Lawrence D., Ottawa, O.
The Register

College of Pharmacy

SOPHOMORES

Adams, James Robert, Spencerville, O.
Bramscheiber, Lowell H.,
    Oconto Falls, Wis.
Brown, Frederick R., Ironton, O.
Brysacz, Stanley P. Jr., Cleveland, O.
Buell, Lewis C., Nelsonville, O.
Burkholder, John R., Geneva, O.
Buta, Serafin S., Youngstown, O.
Camin, Lawrence R., Univ. Hghts., O.
Childs, Edwin, Youngstown, O.
Columbus, Anthony, Cleveland, O.
Cooper, William H., Tippecanoe, O.
Coschignano, Frank, Cleveland, O.
Crum, Porter W., Peoria, O.
Cunzolo, Louis, Cleveland, O.
Daehler, Duane D., New Lebanon, O.
Davis, Anna, Akron, O.
Davis, Harry L., Youngstown, O.
DeSanctis, Guy, Campbell, O.
DeVine, Dolores, Zanesville, O.
Deysher, Edward C., Lima, O.
Dixon, James L., Bellaire, O.
Ellis, James F., Zanesville, O.
Fant, Sheldon E., S. Euclid, O.
Foltz, George S., Salem, O.
Hall, William A., N. Olmstead, O.
Hanselman, William C.,
    Ft. Wayne, Ind.
Hickey, John R., Ada, O.
Hohman, Joseph G., New Riegel, O.
Howe, Ronald G., Strongsville, O.
Jacobs, Alvin, Cleveland, O.
Jewell, Carl E., Niles, O.
Kauffman, Roger W.,
    Cuyahoga Falls, O.
Keller, Martin, Irvinigton, N. J.
Klosterman, Walter E., Dayton, O.
Krieger, Edmund B., Cleveland, O.
Lane, Fred K., Wadsworth, O.
Lehr, Gerald B., Cleveland, O.
Levy, Howard, Cleveland Hghts., O.
Loan, Robert J., Bentleyville, O.
Mayer, Marilyn J., Van Wert, O.
Minardi, Angelo, Cuyahoga Falls, O.
Myers, James P., Kento, O.
Neel, Eugene F., McDonald, O.
Palmer, Ronald, Miamisburg, O.
Patsiaves, Perry C., Springfield, O.
Peper, David, Ada, O.
Petzel, Walter, Barberton, O.
Powell, Albert C., Springfield, O.
Pretzlaff, Adolph M., Cleveland, O.
Probst, Joan, Lorain, O.
Raebel, Robert C., N. Canton, O.
Reichert, Donald M., Akron, O.
Robinson, Albert A., Kenton, O.
Roose, C. Richard Jr., Leetonia, O.
Rosenthal, Merritt, Brooklyn, N. Y.
Russack, David, Youngstown, O.
Scott, James W., Bellefontaine, O.
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Spurlock, Francis N., Uhrichsville, O.
Stoeckel, Carl E., Clarks Summit, Pa.
Stype, Roy, Wooster, O.
Timko, Joseph R., Campbell, O.
Webber, Ronald, Cleveland, O.
Wiley, Thomas P., Akron, O.
Witchey, Ronald W., Tarentum, Pa.
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Zickar, Robert W., Farrell, Pa.
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Black, Donald W., Willshire, O.
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Bozarth, John P., Ada, O.  
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Colburn, Marilyn B., Findlay, O.  
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Cowles, Lawrence, Wellington, O.  
Davis, Jack H., Ada, O.  
Decker, Jack, Kenton, O.  
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Diehl, Frank, Marysville, O.  
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Fox, Charles R., East Palestine, O.  
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Riggs, Eldon L., Upper Sandusky, O.  
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Rupert, Robert, Spencerville, O.  
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Smith, Joseph W., Bellaire, O.  
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Webster, George L., Sandusky, O.  
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Euliss, Wade C., Burlington, N. Car.
Harnishfeger, John, Lima, O.
Hicks, Raymond F., Akron, O.
Hoyt, Harold, Conneaut, O.
King, Lawrence, Ada, O.
Kozich, John D. Jr., Lorain, O.
McCullough, David, Middletown, O.
Mallett, Donald, Zanesville, O.

Maurer, Earl H., Apple Creek, O.
Milner, Walter, Lima, O.
Powell, Richard L., Ada, O.
Roberts, Raymond, Lima, O.
Robinson, James K., Bellefontaine, O.
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Zurz, Richard, Ada, O.

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Binkley, Cora W., Lima, O.
Becson, Joseph E., Arlington, O.
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Butterfield, William, Lima, O.
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Cooper, Jessie H., Lima, O.
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Curtis, Jack, Zanesville, O.
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Davis, Virginia, Ada, O.
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Ell, Marguerete Bird, Marysville, O.
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Gunther, Treva H., Carey, O.
Hanes, Adrian R., Ada, O.
Heinrich, Lilian E., Lima, O.
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Dibble, Lowell, Lima, O.
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Goldin, Edward L., Newburgh, N. Y.
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Mitchell, Robert A., Spencerville, O.
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Rishel, Richard C., Benton Ridge, O.
St. Louis, Robert, Dayton, O.
Sample, Richard L., Randolph, N. Y.
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Schuster, Jack R., Elyria, O.
Sifford, Raymond, Lancaster, O.
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Van Ho, Earl W., Ada, O.
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Gron, George C., Akron, O.
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Herke, Homer H., Cleveland, O.
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Lilak, Walter, Lorain, O.
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Minardi, Fred, Cuyahoga Falls, O.

Mires, Charles W., Liberty Center, O.
Nutter, David, Zanesville, O.
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Osowski, Casimir, Cleveland, O.
Patterson, Russell Wm., Napoleon, O.
Phillips, Marshall E., Mt. Gilead, O.
Polen, Colleen, Canton, O.
Ramsey, Carol, Lima, O.
Richardson, Robert, Zanesville, O.
Ridenour, June, Vermillion, O.
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Schwager, Wm. R., Ada, O.
Seely, Preston, Barberton, O.
Shurtz, Frank S., Zanesville, O.
Soden, Robert B., Milltown, N. J.
Sommers, Chester, Lucasville, O.
Stamets, Evelyn, Ft. Wayne, Ind.
Sutton, Robert, Kinsman, O.
Taifalidakis, Helen, Youngstown, O.
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Vedda, Charles, Lakewood, O.
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Zinken, Donald L., Baltic, O.

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Kerby, Yale Leland, Tecumseh, Mich.
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McKown, Robert, Ada, O.
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Agin, Olive R., Dunkirk, O.
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Angell, Barbara J., Lima, O.
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Baldwin, Phyllis Wood, Marysville, O.
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Beyer, Dwight L., Waldo, O.
Beyer, Verna, Waldo, O.
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Bloom, Helen N., Belle Center, O.
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Cox, Patsy, Roundhead, O.
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Cramer, Mary Y., Van Wert, O.
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Drury, Carolyn, Van Wert, O.
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Epler, Ada G., Marion, O.
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Estill, Ruth, Lima, O.
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Fessler, Beatrice I., Ottawa, O.
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Friar, Mabelle J., Galion, O.
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Greer, Mildred O., Marysville, O.
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Jackson Center, O.
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Bellefontaine, O.
Kennedy, Lenore A., Van Wert, O.
Kerr, Ethel L., East Liberty, O.
Klehm, Dorothy, Marion, O.
Knerr, Betsy R., Wapakoneta, O.
Koch, Iola M., Van Wert, O.
Koehl, Zella K., Ottawa, O.
Kramer, Iness A., Lima, O.
Ladd, Fern E., Ada, O.
Landers, Martha S.,
North Lewisburg, O.
Lashey, Clementine, Marion, O.
Lemley, Kathryn J., Marysville, O.
Lenhart, Ada P., Belle Center, O.
Litten, Louise, Vaughnsville, O.
Livingston, Helen, Van Wert, O.
Loescher, Helen E., Lima, O.
Lott, Helen G., Marion, O.
Louden, Mary E., North Lewisburg, O.
McAlexander, Alice J.,
West Liberty, O.
McFarland, Cuba B., Bellefontaine, O.
McGowam, B. Mabel,
Jackson Center, O.
McKnight, Beverly, Marion, O.
Maddox, Alma L., Marion, O.
Matthews, Mabel M., Marion, O.
Maxim, Lova, Marion, O.
Meddles, Dorothy H.,
West Mansfield, O.
Messenger, Clara, Marion, O.
Mikesell, Dr. Hobart, West Liberty, O.
Miller, Mary F., DeGraff, O.
Mills, Ruth, Lima, O.
Moeller, Lenora M., Van Wert, O.
Morgan, Florence M., Galion, O.
Morris, Helen L., Bellefontaine, O.
Morris, Margaret H., Lima, O.
Moyer, Beulah G., Lafayette, O.
Musser, Hazel S., Middleburgh, O.
Myers, Nillie M., Marion, O.
Neely, Juanita, Lima, O.
Neidig, Sara, West Mansfield, O.
Nelson, Hilda L., Lima, O.
Notestine, Fern, Lewistown, O.
Penner, Florice A., Oakwood, O.
Peter, Julia R., Lima, O.
Petersen, Mabel, Mt. Gilead, O.
Pilkington, Mary E., Marion, O.
Prentice, Evelyn P., Melrose, O.
Rauch, Margaretta, Van Wert, O.
Reed, Pearl H., Milford Center, O.
Reese, Dorothy F., Ada, O.
Reichenbach, Esther, Bluffton, O.
Renner, Evangeline A., Peoria, O.
Retterer, Madeline, Marysville, O.
Rhinehart, Laura D., Galion, O.
Rice, Martha K., Prospect, O.
Ridenour, Letha, Lima, O.
Rhill, Gretchen, Plain City, O.
Rinnert, Viola P., Marion, O.
Roberts, Alice W., Bellefontaine, O.
Rodman, Mary E., Prospect, O.
Roebke, Mary Jane, Van Wert, O.
Rolst, Suzellen C., Marion, O.
Rolsten, Olive, Van Wert, O.
Rowe, Dorothy M., Convoy, O.
Royer, Mariann, Roundhead, O.
Sanderson, Frank W. Jr., Mentor, O.
Schneider, June Ann, Marysville, O.
Schurr, Zylphe S., Bellefontaine, O.
Scott, Ero C., Plain City, O.
Seitz, Dixie J., Lima, O.
Shaffer, Ardyth, Mendon, O.
Shawam, Marie, DeGraff, O.
Sheets, Mary B., Lima, O.
Shick, Cora, Huntsville, O.
Shoup, Jane S., Richwood, O.
Sine, Marjorie, Zanesfield, O.
Slechter, Edith J., Lima, O.
Sloane, Bonnie, Sidney, O.
Small, Iola M., Lewistown, O.
The Register

Smith, Donna B., Marion, O.
Smith, Dorothy, Marion, O.
Smith, Jacqueline, Elida, O.
Smith, Lester, Wapakoneta, O.
Snider, Bruce C., Marion, O.
Snyder, Twila, Marysville, O.
Sours, Mary F., Bellefontaine, O.
Spain, Esther L., Middleburg, O.
Stahler, Crystal, Quincy, O.
Staley, Josephine, Lima, O.
Staley, Pauline E., Pemberton, O.
Stevens, Margaret F., Lima, O.
Stillings, Jo Ann, Richwood, O.
Stirn, Rachel W., Beaverdam, O.
Stoddard, Ina M., Irwin, O.
Straley, Jean, Marysville, O.
Stratton, Abbie, Grover Hill, O.
Stratton, Betty E., Bluffton, O.
Stratton, Robert E., Bluffton, O.
Strayer, Mary Jane, Bellefontaine, O.
Teece, Dorothy, Zanesfield, O.
Thatcher, Rushie, Delphos, O.
Theurer, Mary E., DeGraff, O.
Thomas, Dorotha, Marion, O.
Thomas, F. Verna, Grover Hill, O.
Trees, Lottie, Marysville, O.
Trowbridge, Martha, Ada, O.
Turner, Bernice, Huntsville, O.
Turner, Mary B., Huntsville, O.
Turner, Ruth, Marion, O.
Vail, Jane T., Marion, O.
Van Demark, Helen L., Elida, O.
Vicario, Maxine, Bellefontaine, O.
Vorhees, Bernice G., Sidney, O.
Warner, Ellen, Richwood, O.
Watkins, Nelle, Lima, O.
Watkins, Richard S., Prospect, O.
Weaver, Helen E., Bellefontaine, O.
Weaver, Jack, Van Wert, O.
Weaver, Lois M., Van Wert, O.
Weimer, Anna K., Bellefontaine, O.
Wells, Della G., Marysville, O.
Wenzel, Ernest
Wert, Mary Mabel, Pemberton, O.
Westlake, Christine, Marysville, O.
Westlake, Clara J., Marysville, O.
Westlake, Mary E., Marysville, O.
Wheeler, Gertrude, Wapakoneta, O.
Wheeler, Margaret M., Van Wert, O.
Wilcox, Bernice F., Broadway, O.
Williams, Monnie, Marion, O.
Winegardner, Estel
Wolf, Marie P., Van Wert, O.
Wolfe, Evelyn, Bellefontaine, O.
Woodruff, Helen,

North Lewisburg, O.

Yoder, Bertha, West Liberty, O.
Yoder, Lois P., West Liberty, O.
Yoder, Margaret, West Liberty, O.
Yoder, Nancy, West Liberty, O.
Yoder, Phyllis, West Liberty, O.
Zahler, Mary L., Belle Center, O.
Zook, Marian, West Liberty, O.

SUMMER

College of Liberal Arts

Adams, Birdie, Caledonia, O.
Adams, George, Youngstown, O.
Alge, Esther, Arlington, O.
Amburger, Edward, Ada, O.
Augsburger, Frances L.,
Columbus Grove, O.
Augenstein, Wava, Mt. Vernon, O.
Babcock, Martha S., Forest, O.
Baker, Helen L., Lima, O.
Baughman, Dwight Joe, Ada, O.
Baxley, Nellie J., East Liberty, O.
Beach, Gae M., Lima, O.
Bealer, Evangeline, Ridgeway, O.
Beeson, Lois, Arlington, O.
Bell, Mary Louise, Jackson Center, O.
Binkley, Cora Mae, Lima, O.
Bledsee, George, Cleveland, O.
Blodgett, Mary, Lima, O.
Bloom, Helen, Belle Center, O.
Boger, Kathryn, Lima, O.
Booth, Grace, Bellefontaine, O.
Bowman, Beverly, Mt. Blanchard, O.
Bozarth, John P., Ada, O.
Bracy, Genevieve, Marion, O.
Braden, James, Galion, O.
Brake, Ercil M., Milford Center, O.
Brian, Ethel, Scott, O.
Bright, Anna, Lima, O.
Brown, Kenneth E., Bradford, O.
Bulle, Agnes M., Sidney, O.
Burgess, Helen, Lima, O.
Burwell, Carolyn, Ada, O.
Catalano, James J., Lorain, O.
Chaffee, Ginny Lee, Bedford, O.
Clingerman, Erdine H.,
Bellefontaine, O.
Coit, Daisy F., Spencerville, O.
Cole, Robert C. Jr., Ada, O.
Conrad, Richard A., Sidney, O.
Cooper, Jessie, Lima, O.
Cooper, Margaret Ann, Marion, O.
Core, Dorothy, Rushsylvania, O.
Covert, Jayne T., Richwood, O.
Cox, George, Lafayette, O.
Cox, Helen B., Marion, O.
Cox, Patsy, Roundhead, O.
Craig, Ilah, Delphos, O.
Cramer, Dwilla, Ada, O.
Cremeanc, Joseph E., Lima, O.
Crites, Mildred, Lima, O.
Dague, Mina E., Bellefontaine, O.
Davis, John S., Delphos, O.
Davis, Virginia, Delphos, O.
Decker, Jack, Kenton, O.
Deerhake, Bernard J., Lima, O.
DeBene, Joyce, Girard, O.
DeBene, Norene, Girard, O.
DeBene, Pauline, Girard, O.
DeWeese, Roma J., Sidney, O.
Diehl, Charles H., Ada, O.
Diehl, Frank, Ada, O.
Dillon, Mildred F., Belle Center, O.
DiPietro, Vincent, Patterson, N. J.
Duchac, Neil, Ada, O.
Earl, Charles, Uniopolis, O.
Earl, Shirley, Lima, O.
Edwards, Margaret J., Van Wert, O.
Ell, Marguerite B., Marysville, O.
Elliott, Una B., Ada, O.
Ellis, Minnie, Sidney, O.
Ellis, Rita, Lakeview, O.
Elsass, Doyle E., Anna, O.
Emerick, Ramona, Continental, O.
Emslie, Elizabeth, Richwood, O.
Epler, Grace, Marion, O.
Epler, Irene, Marion, O.
Estill, Ruth M., Lima, O.
Everett, Dana, Columbus Grove, O.
Fall, Sarah L., Ada, O.
Fetter, Marilyn, Anna, O.
Figueroa, Arturo, New York, N. Y.
Fink, Samuel, Arlington, O.
Franklin, Eleanor L., Lima, O.
Fryer, Helen, Spencerville, O.
Fuertes, Rolando G., Habana, Cuba
Fullerton, Aurelia, Huntsville, O.
Gabriel, Louise E., Marysville, O.
Gallant, Louise, Lima, O.
Gamble, Stephen D., Lima, O.
Geer, Ruth E., Sidney, O.
Geiger, Doris, Green Springs, O.
George, Io, Bucyrus, O.
Gilmer, Ethel, Carey, O.
Gersuch, Charles, Ft. Recovery, O.
Grassley, Iva Delong, Wapakoneta, O.
Gratz, Eric Kay, Celina, O.
Greer, Hazel, Marysville, O.
Grimes, Charlotte, West Liberty, O.
Grindle, Ann, Maumee, O.
Gunther, Treva H., Carey, O.
Hager, Alice, Wapakoneta, O.
Haines, Virginia, Belle Center, O.
Hanes, Adrian, Ada, O.
Hardman, Richard D., Edison, O.
Harp, Bess, Ada, O.
Harrod, Janet, Ada, O.
Hayden, Harold R., Ada, O.
Haynes, Kenneth D., Akron, O.
Heileman, Evelyn, Waynesfield, O.
Heileman, Mary M., Waynesfield, O.
Heileman, Nevelyn, Waynesfield, O.
Heirich, Lillian, Lima, O.
Heintz, Bernadine, Maplewood, O.
Hertenstein, Dorothy, Kettlersville, O.
Himes, Verona, Findlay, O.
Hindall, Shirley Jayne, Ada, O.
The Register

Hissong, Faye, Lima, O.
Hockett, Pauline, Mansfield, O.
Holman, Ruth E., Lima, O.
Hugger, Mary, Lima, O.
Hughes, Norman, Mansfield, O.
Hurley, Dorothy, Bellefontaine, O.
Hurley, Gladys, Lakeview, O.
Jackson, Patricia, Kenton, O.
Jeffery, V. James, Urbana, O.
Johnson, Beulah, Marion, O.
Johnson, Rowena, Van Wert, O.
Jones, Darrel E., Continental, O.
Justus, Kenneth W., Lima, O.
Kah, Carolyn, Wapakoneta, O.
Kain, Richard, Arlington, O.
Karch, James, Dayton, O.
Karipides, Dimitrios G., Canton, O.
Kauffman, Bernice B.,
    Bellefontaine, O.
Keller, William B., Kenton, O.
Kinkade, Patrick J., Zanesville, O.
Klamfoth, Janet, Wapakoneta, O.
Kreglow, Roberta, Ada, O.
Kreimendahl, Richard, Celina, O.
Krofft, Clara, Amanda, O.
Krofft, Mary, Ada, O.
Lamb, Bessie M., Ada, O.
Lambright, Joan, Lima, O.
Landwehr, Bernard J., Ada, O.
Lange, Kathleen, Kelleys Island, O.
LaRue, Edith, Columbus, O.
Leibold, John W., Ada, O.
Leighty, Amy, Greenville, O.
Lenhart, Jean, Belle Center, O.
Lenhart, Leroy, Belle Center, O.
Lewis, Martin, Marion, O.
Long, Charles, Ada, O.
Longberry, Thelma, Richwood, O.
Loughridge, John, Kenton, O.
Lusk, Kenneth, Lima, O.
McAlpin, Marilyn, Hartpster, O.
McCurdy, LeClare R., Ada, O.
McGinley, John, Lima, O.
McGinnis, Hazel, Belle Center, O.
McGinnis, Howard, Belle Center, O.
McGrath, Ann, Ada, O.
McMillen, Evonda, Ada, O.
McMillen, Ruth, Ada, O.
McPeek, Lewis, Marion, O.
Mace, Kathryn, Spencerville, O.
Maddox, Alma, Marion, O.
Mahan, Grace, Lima, O.
Mall, Walter H., Toledo, O.
Margolis, Howard, Cleveland, O.
Markle, David H. Jr., Ada, O.
Marshall, Margaret, Ada, O.
Matson, Patricia J., Ada, O.
Maurer, Isabelle E., Mendon, O.
Maxim, Lova, Marion, O.
Messenger, Clara, Marion, O.
Messenger, Paul, Ada, O.
Miller, Max, Elida, O.
Molitor, Clarence, Sidney, O.
Monroe, Nancy, Van Wert, O.
Moore, Constance, Belle Center, O.
Moorman, Mary, Spencerville, O.
Morris, Margaret, Lima, O.
Moser, Elmira, Columbus Grove, O.
Murphy, Nancy, Springfield, O.
Myers, Nellie, Marion, O.
Nelson, Hilda, Lima, O.
Newell, Edna, Carey, O.
Noblet, Sylvia, Ada, O.
Noblet, Thurman, Ada, O.
Norbeck, Jack, Ada, O.
Notestine, Fern, Lewistown, O.
Omerod, Arthur D., Ada, O.
O’Neil, James C., Marion, O.
Pamer, John R., Akron, O.
Patterson, Jeannette, Caledonia, O.
Pepper, Marcia, Sidney, O.
Plikerd, Dorothea, Spencerville, O.
Plikerd, William D., Lima, O.
Pomerantz, Leonard,
    Washington, D. C.
Poole, Richard D., Vinton, Va.
Price, Frances, Ada, O.
Pugh, Hugh Owen, Venedecia, O.
Pumphrey, Florence, Ada, O.
Putman, Florence, Ohio City, O.
Ramsey, James, Elgin, O.
Reichenbach, Esther, Bluffton, O.
Retterer, Madeline, Marysville, O.
Riggs, Eldon, Upper Sandusky, O.
The Register

Riley, Roger D., Lafayette, O.
Rolsten, Mary, Lima, O.
Romey, James, Lima, O.
Rozelle, M. Elizabeth, Delphos, O.
Rozelle, Helen, Delphos, O.
Scarberry, Thelma, Jackson Center, O.
Scherzter, Ruth, Marion, O.
Schlickman, Dixie, Willshire, O.
Scott, Betty Ray, Alger, O.
Sevits, Barbara, Lima, O.
Shackelford, Lois, Lima, O.
Shackelford, Waldon, Lima, O.
Shadley, Pauline, Ada, O.
Shaw, Cleo, Harrod, O.
Sheets, Mary, Lima, O.
Shockley, Marjorie, Lima, O.
Shoemaker, Grace, Dunkirk, O.
Shoemaker, Raymond, Lima, O.
Shoemaker, Robert, Dunkirk, O.
Shunkwiler, William, Willoughby, O.
Simpson, Richard T., Conneaut, O.
Slusser, Irene, Findlay, O.
Smalley, Mary, Ohio City, O.
Smith, Don R., Dayton, O.
Smith, Donna, Marion, O.
Smith, Suzanne, Warren, O.
Snyder, Hazel, Celina, O.
Snyder, Twila, Marysville, O.
Spicer, Margaret, Quincy, O.
Stedcke, Lois, St. Marys, O.
Stephens, Frank, Ada, O.
Stevens, Margaret, Lima, O.
Stober, Claude, Kenton, O.
Stoddard, Ina, Irwin, O.
Stoll, Beverly, Wapakoneta, O.
Stoll, Ruby, Wapakoneta, O.
Stratton, Robert, Bluffton, O.
Swager, Christine, Ada, O.
Swager, Robert G., Ada, O.
Swinney, Everett, Ada, O.
Tallman, Constance, West Mansfield, O.
Tapp, Leon, Ada, O.
Tarelton, Earl, Marysville, O.
Tarn, Mary Ellen, Barberton, O.
Terry, Don, Rushsylvania, O.
Thomas, Edsel E., Lima, O.
Thomas, Ruth J., Mendon, O.
Tinsler, Shirley, Ada, O.
Toban, Jacqueline, Ada, O.
Trees, Lottie, Marysville, O.
Ulrick, Edgar C., Lima, O.
Van Denmark, Helen, Elida, O.
Van Horn, Candace, Lima, O.
Vorhees, Bernice, Sidney, O.
Walker, James H., New York, N.Y.
Walton, Marjorie, La Rue, O.
Warner, Ellen, Richwood, O.
Watts, Nelle, Lima, O.
Webster, George Lee, Sandusky, O.
Weidig, John Charles, Zanesville, O.
Wells, Gwendolyn, Arlington, O.
Welty, Kathryn, Lima, O.
Westlake, Christine, Marysville, O.
Wetherill, Ira Dean, Lima, O.
Wheeler, Gertrude, Wapakoneta, O.
Wick, Ruth A., Sidney, O.
Wiegand, Alice, Ft. Jennings, O.
Williams, Forest J., Lima, O.
Wolf, Emily, Marion, O.
Wurster, Helen R., Celina, O.
Yevichin, Milton, Waynesfield, O.
Young, Carl E., Ansonia, O.
Zimmerman, Mary A., Harrod, O.
Zuspan, Virginia M., Edison, O.

COLLEGE OF ENGINEERING

Barnett, Thomas R., Dunkirk, O.
Bricker, Malcolm, Cambridge, O.
Croushore, Gerald, Wilmerding, Pa.
Eppley, Donald F., Ada, O.
McHugh, Charles Wm., St. Clairsville, O.
Malek, John, Turtle Creek, Pa.

Moyers, Warren, Ada, O.
Murphy, James, Ada, O.
Murray, J. Roger, Ada, O.
Murray, Maurice, Ada, O.
Mutz, Richard, Sandusky, O.
Pacella, Anthony Jr., Newburgh, N.Y.
Schilling, Everett, Zanesville, O.

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Seitz, John D. Jr., Ada, O.
Shoupe, Robert E., Lima, O.
Shump, Allen R., Troy, O.
Steinke, Lester A., Sidney, O.

Stone, John R., Caledonia, O.
Trauger, Ronald L., Plymouth, O.
Wren, Bruce, Lima, O.

COLLEGE OF PHARMACY

Abbott, John F., Ada, O.
Adams, James R., Lima, O.
Adelstein, Irving, Cleveland, O.
Allen, Ray B., Cleveland, O.
Almendinger, John, Norwalk, O.
Aruta, Frank, Geneva, O.
Banford, Donald J., Dayton, O.
Barton, Mason James, Youngstown, O.
Bramscheiber, Lowell,
Oconto Falls, Wisc.
Brown, Frederick R., Ironton, O.
Buell, Lewis, Nelsonville, O.
Camin, Lawrence, University Hgts., O.
Campbell, J. Frederick,
Bellefontaine, O.
Childs, Edwin, Youngstown, O.
Clark, John A., Cleveland Hgts., O.
Cooper, William H., Tippecanoe, O.
Cumbie, Burke, Youngstown, O.
Cymbor, Joseph M., Bridgeport, O.
Davis, Anna Durden, Akron, O.
Davis, Leonard, Cleveland, O.
Dean, David Dudley, Jr., Bluffton, O.
Deckard, Robert K., Columbus, O.
Dennowitz, Kenneth C., Ada, O.
Deysher, Edward C., Lima, O.
Dixon, James, Bellaire, O.
Duck, Orville, Ada, O.
Edgerton, Richard T., Salem, O.
Ellis, James F., Zanesville, O.
Figley, William W., Ada, O.
Foster, Teddy L., Portsmouth, O.
Franz, Charles, Cleveland, O.
Gellman, Irvin, Cleveland, O.
Gray, Pat, Findlay, O.
Gray, Robert, Ada, O.
Hakes, Robert B., Rocky River, O.
Hansaker, John E., Lima, O.

Hanselman, William, Ft. Wayne, Ind.
Hart, Donald, Malvern, O.
Hearn, Earl J., Pittsburgh, Pa.
Hofelt, Rufus, Beaver Falls, Pa.
Hoffman, Jack, Greentown, O.
Hofmann, Earl M., Lima, O.
Hunter, Edna, Lima, O.
Jacobs, Marvin R., Cleveland, O.
Jenkins, John Richard, Lancaster, O.
Kahn, Fred, Cleveland Hgts., O.
Klosterman, Walter E., Dayton, O.
McDowell, John, Ada, O.
McKinney, James L.,
Cuyahoga Falls, O.
Makoff, Albert, University Hgts., O.
Miller, Jack E., Lima, O.
Patsiavos, James C., Springfield, O.
Peoples, Richard M., Leipsic, O.
Pretzlafl, Adolph M., Cleveland, O.
Prinz, Rudy, Niles, O.
Reichert, Donald M., Akron, O.
Reynolds, James S., Barberton, O.
Romano, Philip, Euclid, O.
Rubenstein, Alva, Ashtabula, O.
Russell, Robert J., Chillicothe, O.
Scheer, Jerry, Cleveland, O.
Schwind, Robert F., Lakewood, O.
Spurlock, Francis M., Uhrichsville, O.
Steele, Don Phillip, Enon, O.
Steil, James Wm., Zanesville, O.
Stype, Roy, Wooster, O.
Sylor, John T., Canton, O.
Vedda, Charles, Lakewood, O.
Waite, Richard, Lansing, O.
Zacharies, William, Ashtabula, O.
Zebre, Anne, Akron, O.
COLLEGE OF LAW

Barber, James H., Ada, O.
Barnes, Joseph E., Portsmouth, O.
Beech, Loren E., Arlington, O.
Beekley, John L., McArthur, O.
Berry, James A., Springfield, O.
Betz, Robert S., Gallipolis, O.
Bleahu, Michael, Canton, O.
Burwell, Lloyd, Ironton, O.
Clark, Edward F., Lima, O.
DaPore, Joseph, Ada, O.
DaPore, Nancy, Ada, O.
Durstchi, Herbert, Ada, O.
Euliss, Wade, Burlington, N. C.
Evans, Robert E., Marion, O.
Evans, Telly, Cambridge, O.
Gillis, Walter D., Ada, O.
Harnishfeger, John, Lima, O.
Hoyt, Harold, Conneaut, O.
Kavanaugh, Paul, Akron, O.
Kozich, John D. Jr., Lorain, O.
Lair, Anthony, Spring Valley, O.
Maurer, Earl H., Apple Creek, O.
Maurer, Robert W., Lima, O.
Micheli, Frank J., Zanesville, O.
Micheli, James A., Zanesville, O.
Neage, Steve E., Canton, O.
Otley, Thomas H., Ada, O.
Robinson, James K., Bellefontaine, O.
Sibbring, Aubrey, Zanesville, O.
Smith, Daniel, Greenville, O.
Stuckey, John S., Marion, O.
Taylor, W. Eugene, Lewisburg, O.
Thatcher, Calvin, Findlay, O.
Turner, Harry E., Mt. Vernon, O.
Visca, Frank, Monessen, Pa.
Wilkes, Bernard, Ada, O.
Williams, Clarence R., Steubenville, O.
Zehring, Robert H. Jr., Miamisburgh, O.
Zurz, Richard, Ada, O.
# Geographical Distribution
1951–52

<table>
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<th>OHIO COUNTIES</th>
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**Total**  811

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**OUTSIDE OHIO**

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**Grand Total**  868

*This figure includes regular students enrolled September to June 1951–52; Not Special or Extension.*
March 8, 1954

STATEMENT OF POLICY

The following arrangements have been agreed upon regarding students in Extension Courses:

Those students who are now enrolled in a course of study with the University and who will have completed one full year's work with Ohio Northern in addition to having completed other graduation requirements may be granted a degree from Ohio Northern University provided their last quarter's work is done on campus.

W. Gringle McIntosh, President
MEMORANDUM

TO: Dr. Woofter

DATE: March 23, 1955

SUBJECT: Class of 1956

Attached is the check list for the graduates of 1956 in the College of Engineering.

SIGNED: Lawrence H. Archer, P.E.
Dean, College of Engineering
ALL ENGINEERS
Freshman Year
1952-1953

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<td>Physical Education (P.E.101, 102, 103)</td>
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<td>Math (121, 122, 123)</td>
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<td>Chemistry (101, 102, 103)</td>
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<td>English (C-1, 2, 3)</td>
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<td>Shop (M.E.101, 102, 103)</td>
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<td>Drawing (M.E.111, 112)</td>
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<td>Slide Rule (M.E.123)</td>
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Total: 16 16 17

Summer Camp
1953

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<td>Surveying I (C.E.211)</td>
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Total: 5

Sophomore Year
1953-1954

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<td>Math (211, 202, 203)</td>
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<td>Engineering Physics (241, 242, 243)</td>
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<td>Problems (M.E.201, 202)</td>
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Total: 18 18 18
# Civil Engineering

## Junior Year
1954-1955

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<td>Statics and Mechanics of Materials (C.E. 311)</td>
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<td>(C.E. 312, 313)</td>
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<td>Geology and Highways (C.E. 321, 323)</td>
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## Senior Year
1955-1956

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ELECTRICAL ENGINEERING

Junior Year
1954-1955

Alternating Current Circuits & Alternating Current Machines I (E.E. 311, 312, 313) ...... 5 4 5
Statics & Mechanics of Materials I (C.E. 311, 312) .......... 5 5
Heat I (M.E. 311) ........................................... 5 - -
Dynamics, & Mechanism II (M.E. 322, 323) .................. 5 5
Differential Equations (321) .................................. 4 - -
Direct Current Machines (E.E. 322) ............................ 4 - -
Electronics I (E.E. 323) ...................................... - 5
Business Law (Economics 313) ................................. - 3

19 18 18

Senior Year
1955-1956

Electronics II (E.E. 411) ........................................ 5
Alternating Current Machines II ................................. 4
Electrical Measurements & Illumination (E.E. 402, 433) .... 3 3
Electrical Design (E.E. 422, 423) .............................. - 3 2
Transient Circuits (E.E. 431) .................................. 5
Communication Circuits (E.E. 441, 442) ....................... 4 4
Radio Fundamentals and Television Fundamentals (E.E. 452, 453) .. 5 5
Servomechanisms (E.E. 472) .................................. 3 - -
Electric and Magnetic Fields (Physics 413) .................... - 5
Elective .......................................................... - 0 2

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### Senior Year

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