The Strouss Memorial Auditorium, at Its Dedication, May 9, 1949

Commencement at Stambaugh Auditorium

Youngstown College

1952 - 1953

CORRESPONDENCE

on the following subjects may be addressed as indicated:

GENERAL INFORMATION	*President*
ADMISSIONS	*Registrar*
ALUMNI INTERESTS	*Director of Public Relations*
BUSINESS MATTERS, EXPENSES	*Business Manager*
EDUCATIONAL PROGRAM	*Dean of the College (or of the school concerned)*
EMPLOYMENT OF SENIORS, ALUMNI, OR STUDENTS	*Director of Placement*
SCHOLARSHIPS	*Dean of the College*
STUDENT INTERESTS	*Dean of the College*
TEACHER PLACEMENT	*Director of Teacher Placement*
TRANSCRIPTS, ACADEMIC REPORTS	*Registrar*
VETERANS' INTERESTS	*Assistant Business Manager*

Visitors are welcome. Most administrative offices are open Monday through Friday from 8:30 to 4:30 and on Saturday until 12.

The college's telephone number is 4-4437.

YOUNGSTOWN COLLEGE BULLETIN

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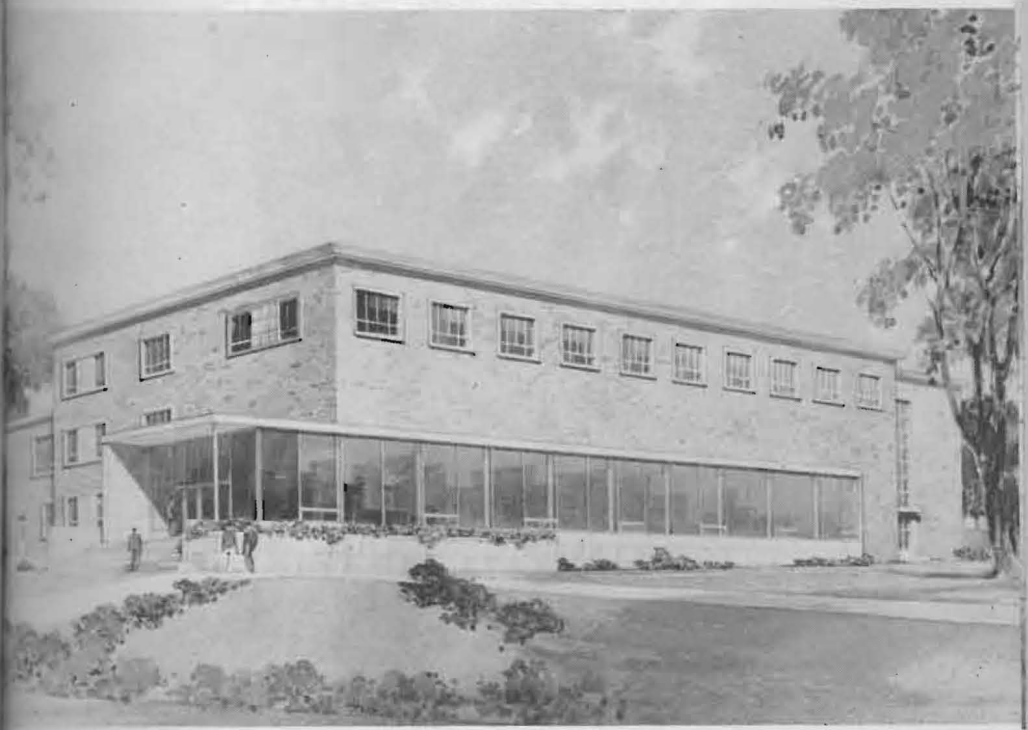
Main Building



William Rayen School of Engineering

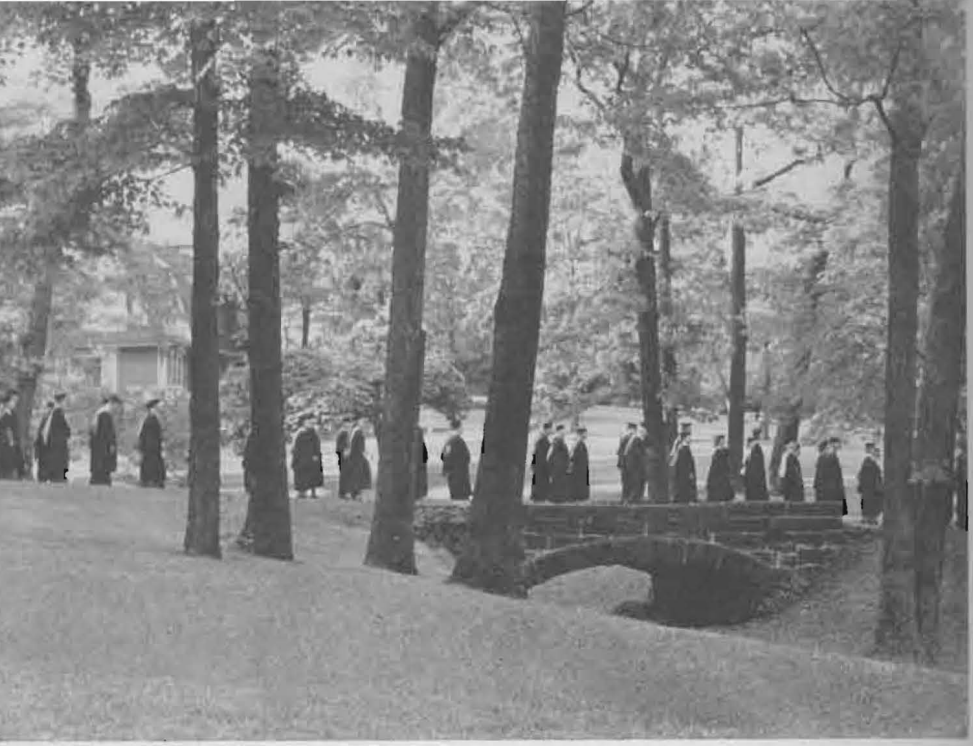
Dana School of M

Pollock House

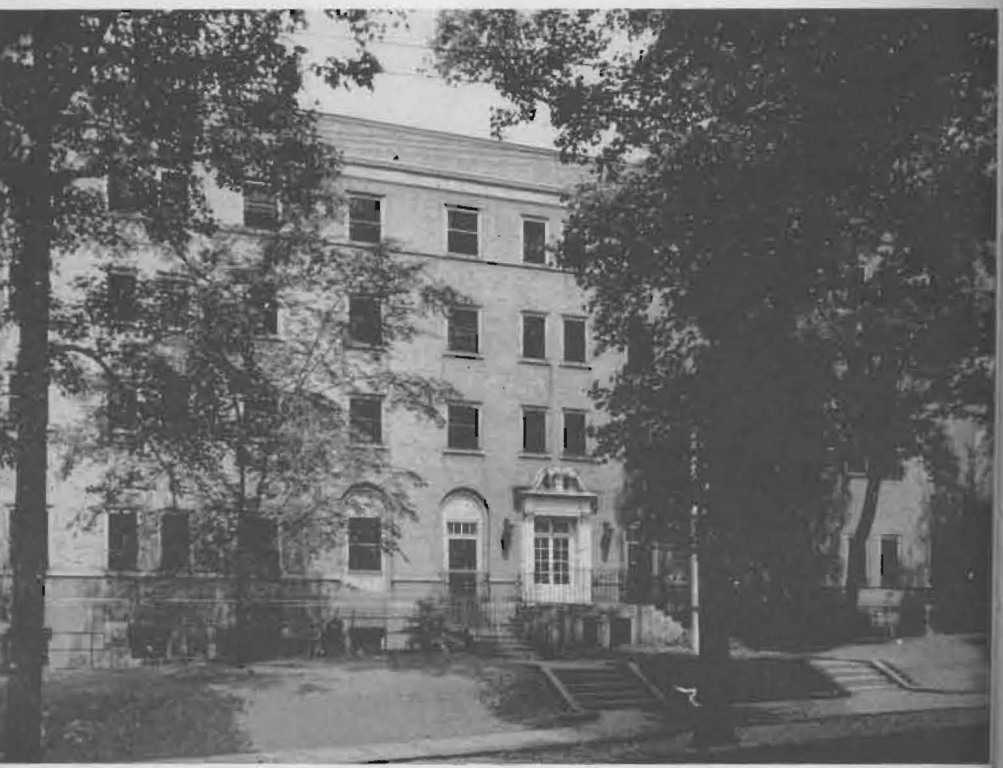
Ford Hall

The President's Home

West Hall



Baccalaureate Scene



Buechner Hall for Women

Bulletin of

Youngstown College

Catalog Number

1952-53

Youngstown, Ohio

Youngstown College is accredited by the Department of Education of the State of Ohio, the Ohio College Association, and the North Central Association of Colleges and Secondary Schools. It is a member of the American Council on Education, the Association of American Colleges, and the Association of Urban Universities. The School of Law is accredited by the League of Ohio Law Schools; the Dana School of Music of Youngstown College is a member of the National Association of Schools of Music; and the college is on the approved list of the American Medical Association.

Youngstown College grants the degrees of Bachelor of Arts, Bachelor of Engineering, Bachelor of Laws, Bachelor of Music, Bachelor of Science, Bachelor of Science in Business Administration, and Bachelor of Science in Education.

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THE COLLEGE CALENDAR, 1952-1953

All Units except the School of Law

First Semester

1952

September 12, Friday ..... Freshman Day
September 15, Monday, 8:00 a. m. ..... Classes begin
November 26, Wednesday, 10:00 p. m. ..... Thanksgiving vacation begins
December 1, Monday, 8:00 a. m. ..... Thanksgiving vacation ends
December 20, Saturday, 12 noon ..... Christmas vacation begins

1953

January 5, Monday, 8:00 a. m. ..... Christmas vacation ends
January 22, Thursday, 8:00 a. m. ..... Final examinations begin
January 31, Saturday, 12 noon ..... First semester ends

Second Semester

February 2, Monday, 8:00 a. m. ..... Second semester begins
April 2, Thursday, 10:00 p. m. ..... Easter vacation begins
April 6, Monday, 8:00 a. m. ..... Easter vacation ends
May 13, 14, 15, Thursday, Friday, Saturday ..... Senior examinations
May 27, Wednesday, 8:00 a. m. ..... Final examinations begin
May 30, Saturday ..... Memorial Day (no classes)
May 31, Sunday ..... Baccalaureate Service
June 4, Thursday, 10:00 p. m. ..... Second semester ends
June 5, Friday ..... Commencement

Summer Session

June 8, Monday, 8:00 a. m. ..... Summer session begins
July 4, Saturday ..... Independence Day (no classes)
July 11, Saturday, 12 noon ..... First half of summer session ends
July 13, Monday, 8:00 a. m. ..... Second half of summer session begins
August 15, Saturday, 12 noon ..... Summer session ends

The School of Law

1952

September 29, Monday ..... Fall quarter begins
December 18, Thursday ..... Fall quarter ends

1953

January 5, Monday ..... Winter quarter begins
March 26, Thursday ..... Winter quarter ends
March 30, Monday ..... Spring quarter begins
June 20, Thursday ..... Spring quarter ends
July 6, Monday ..... Summer quarter begins
September 24, Thursday ..... Summer quarter ends

THE BOARD OF TRUSTEES

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WILLIAM H. BUNN
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President, The General Fireproofing Company

J. EUGENE BENNETT
General Counsel and Secretary, The Youngstown Sheet and Tube Company

WILLIAM E. BLISS
Vice-President, The Standard Slag Company

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Physician

JOSEPH G. BUTLER III
Director, The Butler Art Institute

JOHN R. T. CLINGAN
Vice-President, The Niles Fire Brick Company

SIDNEY J. COLLINS
Clark and Collins, Certified Public Accountants

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President, The Commercial Shearing and Stamping Company

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General Secretary, The Young Men's Christian Association

OSCAR F. GAYTON
The Mutual Life Insurance Company of New York

EDWIN H. GOTT
General Superintendent, Youngstown District, United States Steel Company

WILLIAM F. MAAG, JR.
Editor and Publisher, The Youngstown Vindicator

J. LESTER MAUTHE
President, The Youngstown Sheet and Tube Company

JOHN N. MCCANN
Physician

J. RUSSELL MCKAY
President and Attorney, The Home Savings and Loan Company

THOMAS H. MURRAY
President and Treasurer, The Heller-Murray Company

WILLIAM B. POLLOCK II
President, The William B. Pollock Company

FRANKLIN B. POWERS
Manchester, Bennett, Powers, and Ullman

FRANK PURNELL
Chairman of the Board, The Youngstown Sheet and Tube Company

WM. HAIG RAMAGE
President, Valley Mould and Iron Corporation

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President, The Sharon Steel Corporation

CLARENCE J. STROUSS, JR.
The Northwestern Mutual Life Insurance Company

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Pastor, Cathedral of St. Columba

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President, Mullins Manufacturing Corporation

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President, The Falcon Bronze Company

Life Member, Emeritus

JACOB C. BARRETT
Retired

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JOHN W. FORD, *President*
Judge, Mahoning County Common Pleas Court

J. EUGENE BENNETT
General Counsel and Secretary, The Youngstown Sheet and Tube Company

WILLIAM F. MAAG, JR.
Editor and Publisher, The Youngstown Vindicator

J. RUSSELL MCKAY
President and Attorney, The Home Savings and Loan Company

MRS. ALFRED E. REINMAN

THE FACULTY

HOWARD WATKIN JONES ..... *President*

A. B., Hiram College; A. M., Western Reserve University; D. Ped., Westminster College.

JACOB SCHMITT† ..... *Professor Emeritus of Piano*

Mus. B., Dana's Musical Institute; Mus. M., Dana's Musical Institute; Mus. D., Dana's Musical Institute. Pupil of Emil Liebling and W. H. Sherwood.

MABEL ARTMAN ALLAN*[2] ..... *Accounting*

B. S. in B. A., Ohio State University; A. M., Ohio State University. Graduate study: Columbia University.

DOUGLAS PETER ANGER* ..... *Physical Education*

B. S., Anderson College.

J. LEONARD AZNEER* ..... *Philosophy and Religion*

A. B., Yeshiva College; Master of Hebrew Letters, Jewish Theological Seminary. Previous study: Temple University; Rabbi Isaac Elchanan Theological Seminary. Ordination as rabbi and graduate study: Jewish Theological Seminary.

THEODORE BAAR[2] ..... *String Instruments (Cello), Piano*

Conservatory of Music, Vienna. Member of Vienna, Youngstown, and Cleveland symphony orchestras.

SAMUEL BADAL, JR. ..... *Organ*

Cincinnati Conservatory of Music; Cleveland Institute of Music. Pupil of Parvin Titus, Garth Edmundson, and Edwin Arthur Kraft.

ARDEN ROSS BARBER*[1] ..... *English*

A. B., Denison University; M. Ed., University of Pittsburgh.

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†Died May 1, 1952.

NOTE. This section is based on the year extending from June 1951 to June 1952, unless otherwise noted. The significance of reference marks is as follows:

*Not carrying full teaching load.

[1]Summer 1951 only.
[2]Not teaching second semester 1951-52.
[3]Did not teach first semester 1951-52.
[4]Not teaching 1951-52.
[5]Began January 3, 1952.
[6]Began March 24, 1952.
[7]Beginning September 1952.
[8]Beginning June 1952.

JOHN WINCHELL BARE ..... *Psychology*

A. B., Ohio Wesleyan University; A. M., Ohio Wesleyan University; M. Ed., University of Pittsburgh.

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B. S., Carnegie Institute of Technology.

EDEY JOSEPH BELLAMA* ..... *Engineering Drawing*

Bliss Electrical School; University of Detroit; Pennsylvania State College.

KARL H. BENKNER ..... *Mechanical Engineering*

M. E., Military Technical Academy, Charlottenburg, Germany. Graduate study: Carnegie Institute of Technology.

JAMES EUGENE BENNETT, JR.* ..... *Law*

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MARGARET BINGHAM*[2] ..... *Education*

B. S. in Ed., Kent State University. Graduate study: Clark University; Columbia University; University of Chicago.

DONALD BLOCK* ..... *Industrial Engineering*

B. S. in I. E., Ohio University.

PAULINE ESTERHAY BOTTY ..... *Sociology*

HEAD OF THE DEPARTMENT OF SOCIOLOGY

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Certificate, Winona School of Photography. Previous study: Northwestern University; Kent State University.

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---

†Died August 1, 1951

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ERNEST ARCHIBOLD GRIMES* ..... *Electrical Engineering*
B. E. E., University of Akron.

ARNOLD GROSS* ..... *Engineering Drawing*
B. M. E., Ohio State University.

KATHRYN TERESA GUARNIERI[2] ..... *Voice*
Mus. B., Dana's Musical Institute; F. C. M., Dana's Musical Institute; Mus. M., Dana's Musical Institute. Pupil of Enrichetta Lupi-Bosisio, Genoa; Theodore Bjorkstein, Paris; Oscar Saenger, Jacques Coini, and Frank LaForge, New York.

MARY ALICE HADDOW ..... *Education*
B. S., New York University; A. M., New York University. Graduate study: Columbia University (Teachers College).

PHILIP JEROME HAHN ..... *Merchandising*
B. S. in Ec., Juniata College; M. B. A., Harvard University.

HILDA GEORGE HANNA ..... *Secretarial Studies*
A. B., Ohio State University. Graduate study: Kent State University.

BERNARD HIRSHBERG HARTZELL ..... *Business Organization*
A. B., University of Michigan; M. B. A., Western Reserve University.

HELENA HASTINGS*[2] ..... *Education*
B. S. in Ed., Ohio State University; M. Ed., University of Pittsburgh. Graduate study: Cleveland Institute of Art.

ZENOS ERIC HAWKINSON ..... *History*
A. M., University of Chicago. Graduate study: University of Chicago.

TEDFORD MORGAN HENDRICKSON* ..... *Mechanical Engineering*
B. M. E., Ohio State University. Registered Engineer.

SIDNEY HIRSOHN*[7] ..... *Sociology*
A. B., West Virginia University; A. M., Clark University; A. M., University of Chicago.

MAUDE ALISON HOBSON*[2] ..... *Geography*
B. S. in Ed., Clark University (School of Geography).

ETHEL MARIE HOPKINS*[4] ..... *Biology*
B. S., Columbia University.

FRANCIS BLAKE HOPKINS* ..... *Biology*
A. B., Ohio Northern University; M. S., University of Michigan.

HUGH NELSON HOUCK* ..... *Industrial Engineering*
B. S. in I. E., Geneva College. Previous study: Massachusetts Institute of Technology. Graduate study: University of Pittsburgh.

HUBERT COLEMAN HOWARD ..... *English*
A. B., Ohio Wesleyan University; A. M., Ohio State University; Ph. D., Ohio State University.

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B. S. in Ed., Ohio University; A. M., Columbia University (Teachers College).

ELMER WILLIAM HYKES* ..... *Accounting*
A. B., Bliss College; B. S., Bliss College. Graduate study: University of Denver; Ohio State University.

DONALD ISAMAN*[1] ..... *Art*
B. S. in Ed., Kent State University. Graduate study: University of Pittsburgh.

DAVID SCOTT IVES ..... *Greek, Humanities, Italian*
A. B., Baldwin-Wallace College; A. M., Western Reserve University. Graduate study: University of Chicago; Western Reserve University.

CLINGAN JACKSON*[2] ..... *Political Science*
A. B., University of Colorado.

JOHN MICHAEL JANOSIK* ..... *Secretarial Studies*
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WILLIAM G. NELSON, M. Litt. ..... *Veterans Education Officer*

Registrar's Staff

WEALTHIE B. PRINCE, B. S. in Ed. ..... *Assistant Registrar*

MARY B. SMITH, A. M. ..... *Assistant Registrar*

Assistants: Bernice M. Brownlee, B. S. in Ed.; Mary A. Sebestyen, B. S.

Business Staff

WILLIAM G. NELSON, M. Litt. ..... *Assistant Business Manager*
Katherine Demshuk, B. S. in B. A. ..... *Secretary*
Assistants: Terry Ann Bierman, Sally Connelly, Rose DeArcangelis, Clara Hans.

LILLIAN J. COLE ..... *Auditor*
M. ELIZABETH WILLIAMS ..... *Associate Auditor*
Martha Summers ..... *Assistant*

CATHERINE L. BACHA ..... *Cashier*

VIRGINIA G. BRAINARD ..... *Manager of the Bookstore*
Coty R. Graham ..... *Assistant*

KATHERINE F. SCHESLER ..... *Manager of the Cafeteria*

RICHARD G. WEBER ..... *Superintendent of Buildings and Grounds*

SAMUEL BLICK ..... *Associate Superintendent of Buildings and Grounds*

HARRY MILLARD ..... *Superintendent of Rayen Building*

PAUL E. DRANE, Master Sergeant ..... *Assistant Military Property Custodian*

Athletics

WILLARD L. WEBSTER, B. S. ..... *Director of Athletics*

Miscellaneous

RUTH C. SWANSON, A. M. ..... *Secretary, Department of Education*

NICHOLAS W. MAINE, A. B. ..... *Manager, Chemical Stockroom*

MARTHA AYRES ..... *Supervisor of Machine Records*

R. O. T. C. Administration

PAUL W. BLEVINS, Master Sergeant ..... *Administrative Chief*

PAUL G. CUMMINGS, Sergeant First Class ..... *Administrative Assistant*

PAUL E. DRANE, Master Sergeant ..... *Supply*

COMMITTEES OF THE FACULTY
and Administrative Staff, for 1952-53

The chairman of a committee is the first member named.
The President is *ex officio* a member of each committee.

Academic Standards: Mr. Dykema, Mr. Beckman, Mrs. Botty, Mrs. Bridgham, Mrs. Dehnbostel, Mr. Ellis, Mr. Skeggs, Mr. J. E. Smith, Mr. Swartz, Mr. Westenfield, Mr. Worley.

Athletics: Mr. Gould, Mr. Beard, Mr. Pickard, Mr. Scudder, Mr. J. E. Smith, Mr. Webster.

Credits and Admission: Mr. Buchanan, Mr. Dykema, Mr. Gould, Mrs. Smith.

Executive: Mr. Jones, Mr. Ellis, Mr. Gould, Mr. R. L. Miller, Mr. W. H. Miller, Mr. J. E. Smith, Mr. Wilcox.

Health: Mrs. Smith, Mrs. Browne, Mrs. Dehnbostel, Mr. Webster, Mr. Yozwiak.

Libraries: Mr. Gould, Mrs. Dehnbostel, Mr. D'Isa, Mr. Hawkinson, Miss Jenkins, Mr. Mayer, Mr. O'Brien, Mr. Richardson, Mr. Westenfield, Mr. Worley.

Personnel: Mr. J. E. Smith, Mr. Gould, department head concerned.

Pre-Medical and Pre-Dental Studies: Mr. Webster, Mrs. Botty, Mr. Howard, Mr. Scudder.

Professional Forums: Mr. Crites, Mr. Gosselin, Mr. Kitchen, Mr. Reilly, Mr. Swartz.

Publications: Mr. Ives, Mrs. Botty, Mr. Dykema, Mr. Ellis, Miss Flint, Mr. Gould, Miss Jenkins, Mr. Kitchen, Mr. Marcy; *Jambar* adviser, *Neon* adviser.

R. O. T. C. Affairs: Mr. J. E. Smith, Lt. Col. Lash, Capt. Jones.

Scholarships: Mr. J. E. Smith, Mr. Buchanan, Mr. Gould, Mr. Pickard, Mrs. Smith.

Social: Mr. Flad, Mr. Benkner, Mrs. Botty, Mr. Cohen, Mr. Crites, Mrs. Dehnbostel, Mr. Nelson, Mr. Skeggs.

Visual Education: Mr. Pirie, Miss Chapman, Mrs. Ebeling, Miss Jenkins, Mr. Elser, Mrs. Hanna, Mr. Worley.

Committees with Student Representation

Assemblies: Mr. Stearns, Mr. Elser, Mr. Foley, Mr. Kitchen, Mr. N. V. Ross, Mr. Rosselli, three students.

Co-ordination and Calendar: Miss Buehrle, Miss Flint, Mr. Foley, Mr. W. H. Miller, one student.

Curriculum: Mr. J. E. Smith, Mrs. Barnes, Mr. Charignon, Mr. C. A. Evans, Mr. Howard, Mr. Ives, Mr. R. L. Miller, Mr. W. H. Miller, Mr. Reid, Mr. Scudder, Mr. E. B. Smith, Lt. Col. Lash, Mr. Wilcox, two students.

Discipline: Mr. J. E. Smith, Mr. Beard, Mrs. Botty, Mr. Foley, three students.

Faculty-Student Relations: Mr. J. E. Smith, Mrs. Dykema, Mr. Pickard, three students.

General Information

OBJECTIVES

The Shenango and Mahoning valleys constitute a highly industrialized community of more than half a million people, including a large number of foreign birth or parentage. This community has need of educational opportunities for young men and women of college age, and also for other men and women who desire a college education. Youngstown College attempts to meet their needs by offering them something for their personal development, something to enable them to fulfill their obligations of citizenship, and something for their practical work in life.

The program of the college focuses upon the development of the individual student along the three-fold lines of moral and social integrity, intellectual and cultural interests, and occupational competency.

To achieve these ends, the college seeks to provide a broad, liberal, and cultural education characterized by habits of free inquiry, powers of exact observation, a love of truth, a taste for good reading, familiarity with the general content of the various fields of knowledge, rigorous discipline in some chosen field, and ability to express thoughts clearly and forcefully.

This program aims to develop a sound philosophy of life including an appreciation of those moral, religious, intellectual, and aesthetic values which make life satisfying: standards of rational conduct and discipline derived from an intelligent understanding of one's self in relation to others and coming from within rather than from external authority; and stability and integrity of character, arising from sound principles and a sustained religious faith, irrespective of church affiliation.

HISTORICAL SKETCH

Youngstown College had its origin in a night school founded by the Young Men's Christian Association in 1888. Work of a higher academic level was first offered in 1908, when the School of Law was organized, and by 1920 the school was empowered to grant the degree of Bachelor of Laws. With the addition of other departments and courses, the College of Arts and Sciences was established in 1927; and in the following year the institution was named Youngstown College. In 1930 the degree of Bachelor of Arts was conferred for the first time.

In 1941 Dana's Musical Institute, founded in 1869 in nearby Warren, was moved to Youngstown and became Dana School of Music of Youngstown College. The engineering department became William Rayen School of Engineering in 1946, and in 1948 the business administration department became the School of Business Administration.

The entire control of and responsibility for the institution were transferred in 1944 from the trustees of the Young Men's Christian Association to the Board of Trustees of Youngstown College.

During its earlier years the school had a number of homes. Starting in the old Central Y.M.C.A. building, it occupied various sites on Wick Avenue until in 1931 the present Main Building was completed and became the school's permanent headquarters. As the college has grown, not only has new construction been necessary, but nearby estates and other properties have been acquired and their buildings utilized, so that today the campus extends through much of an area about three blocks long and a block and a half wide, in the old residential section that has become the cultural center of the city.

ERRATUM TYPOGRAPHI PESSIMUM: The first paragraph on page 34 belongs at the foot of page 33.

THE GENERAL PROGRAM OF THE COLLEGE

Youngstown College is a coeducational, non-sectarian, and non-profit organization; it is open to anyone of good character with the proper academic qualifications. Efforts are made to give all necessary guidance and assistance to war veterans.

For administrative purposes Youngstown College is divided into five main units:

The College of Arts and Sciences
The School of Business Administration
William Rayen School of Engineering
Dana School of Music
The School of Law

In all units except the School of Law*, work is offered in both day and evening classes, with no difference in credit toward degrees, and at all hours from 8 a.m. to 10 p.m. Monday through Friday and from 8 a.m. to noon on Saturday. The main academic year is from September to June, in two eighteen-week semesters. The summer session extends from June to August, in two five-week terms. (A special bulletin provides full information about the summer school.) Courses are so arranged that a student graduating from high school in either January or June, and wishing to enter college at once, may arrange a satisfactory schedule.

The College of Arts and Sciences

The College of Arts and Sciences aims to provide a liberal education, to train teachers for elementary and secondary schools, and to prepare students for graduate and professional schools. It also provides the non-professional elements in the curriculums of the Schools of Business Administration, Engineering, and Music, including the science courses in the engineering curriculum.

Work done primarily in the College of Arts and Sciences leads to one of three degrees: Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Education. The major work may be in art, biology, chemistry, classical studies, economics, education (teacher training), English, French, German, history, Italian, Latin, library service, mathematics, metallurgy, military science, music, philosophy, physical education, physics, political science, psychology, religion, sociology, or Spanish, or in a combination of sciences, social studies, or the humanities. Courses are also offered in astronomy, Bible, communication (written and oral), dramatics, general science, geology, geography, Greek, Hebrew, home economics, humanities, journalism, nursing, Portuguese, Russian, and speech. For other subjects, the index may be consulted.

*The School of Law has all its classes in the evening and is on the quarter system.

The School of Business Administration

The School of Business Administration offers courses leading to the degree of Bachelor of Science in Business Administration, with the major in accounting, advertising, business art, general business, merchandising, or secretarial studies; or, for the teaching of commercial subjects, to that of Bachelor of Science in Education with the major in business education (done in conjunction with the Department of Education).

The *Secretarial School* offers a two-year curriculum leading to the title of Associate in Business Administration, and provides the courses for the first two years of work toward the degree of Bachelor of Science in Business Administration with a major in secretarial studies.

William Rayen School of Engineering

William Rayen School of Engineering offers complete courses in six main branches of its field, all leading to the degree of Bachelor of Engineering: chemical, civil, electrical, industrial, mechanical, and metallurgical engineering.

Dana School of Music

Dana School of Music offers complete courses preparing for public school music teaching, private teaching, and concert work. Private instruction is available in voice and in all standard instruments. Professional courses lead to the degree of Bachelor of Music, with the major in voice, an instrument, theory and composition, sacred music, or music education; the non-professional student may elect to work for the degree of Bachelor of Arts, with the major in the history and literature of music.

The School of Law

The School of Law offers a complete course leading to the degree of Bachelor of Laws. The school operates on the quarter plan; classes meet in the evening only, throughout the year. Five years or a total of nineteen quarters constitute the complete course.

BUILDINGS AND OTHER FACILITIES

Youngstown College offers a combined course by which a student who has completed three years of work in the College of Arts and Sciences may receive the degree of Bachelor of Arts after finishing two years of work in the School of Law. Three more years in the law school entitle him to the degree of Bachelor of Laws.

(A map of the campus is printed on the inside of the back cover of this catalog.)

The central group of buildings lies north and west of the junction of Wick and Lincoln Avenues and houses most of the College of Arts and Sciences and the School of Business Administration. The principal buildings of Dana School of Music are on Wick Avenue a block north of the main campus, while that of William Rayen School of Engineering is on Wick Avenue about a block to the south. The School of Law utilizes the first floor of Ford Hall, at the southeast corner of Wick Avenue and Spring Street.

The most prominent of the central group is the *Main Building*, a limestone structure of conventional Tudor style on the northwest corner of Wick and Lincoln Avenues. Built in 1931, it was enlarged in 1949 by the addition of Clarence J. Strouss Memorial Auditorium. Besides the principal administrative offices and the auditorium, it contains classrooms, laboratories, and department offices of the College of Arts and Sciences, as well as the Main Library, the Bookstore, and a student-counseling center.

Along Bryson Street near Spring Street, but with its entrance on the campus side, a new *library building* is under construction, for which over a million dollars has been pledged by companies and individuals in the Mahoning valley, The Association of the Friends of Youngstown College Library, and students and faculty of the college. In addition to complete and centralized library facilities, including space for 250,000 books, seats for 600 readers, and an audio-visual auditorium, the building will contain faculty offices, classrooms, and athletic offices. It is scheduled to be ready for use in September 1952.

The buildings close to the Main Building supplement the classroom and office space of the two schools in the central area and augment the facilities of the music and law schools. Immediately north of the Main Building is the *Secretarial School Building*, to the west is the *Athletic Building*, and north of the latter is *West Hall*, all three formerly parts of private estates. North of West Hall are three interconnected units known collectively as the *Annex*, a part of which at present houses the Law Library. These structures, former barrack buildings remodeled and equipped in 1946 for college use, are scheduled for early removal as space becomes available elsewhere. Between West Hall and the Secretarial School Building stands *Central Hall*, a large frame structure, on the first floor of which is a cafeteria, while on the second are music and other facilities.

Other classrooms and offices of the College of Arts and Sciences are in Pollock House and Ford Hall, which are described elsewhere, and in South Hall and Rayen Building.

Rayen Building is the former home of the old Rayen School, the first secondary school in Youngstown, founded and long maintained with private funds but eventually incorporated into the city's school system. After Rayen School had moved to larger quarters, the building, still affectionately known to hundreds of Youngstowners as "Rayen School", was made available to Youngstown College and now houses William Rayen School of Engineering as well as the mathematics and physics departments of the College of Arts and Sciences and a library of mathematics, physics, and engineering books. The engineering school also uses most of *South Hall*, formerly the Y. M. C. A. Youth Center building, on Rayen Avenue east of Wick Avenue.

Further description of the engineering and music facilities will be found in the sections devoted to those schools.

The college has no dormitories, but women students who wish dormitory accommodations and activities may occupy a section of magnificently equipped Buechner Hall, a privately operated residence hall for women on Bryson Street near Spring Street, about a block from most parts of the college.

For gymnasium and other athletic work the college uses the equipment of the Y. M. C. A., about four blocks away, and the Y. W. C. A., about a block away. Athletic teams use Rayen Stadium and South Field House, by arrangement with the Board of Education of the City of Youngstown.

In addition, Mill Creek Park affords excellent facilities for biological study; through the social agencies of the city, sociology students may do practical social work; and three local radio stations grant the use of their equipment for various college purposes. Continuous or occasional use is also made of various other facilities of such agencies as the City of Youngstown, the Mahoning Chapter of the American Red Cross, the Mahoning County Tuberculosis and Health Association, the Public Library of Youngstown and Mahoning County, the Butler Art Institute, Stambaugh Auditorium, St. John's Protestant Episcopal Church, St. Joseph Roman Catholic Church, and First Presbyterian Church. Reciprocal agreements for the use of certain equipment are in effect with the Public Library, the Board of Education, and the Mahoning Law Library Association.

Youngstown College is grateful to these and other agencies for their generosity and helpfulness in meeting a community need. The spirit of co-operation thus manifested is a healthful one and engenders a favorable atmosphere in which to work and to carry forward the college's program.

Libraries

The college libraries, described separately below, contain about 65,000 volumes. About 4,000 volumes are added each year, and nearly 500 periodicals are subscribed to.

Across the street from the college is the main building of the Public Library of Youngstown and Mahoning County. Through a friendly, co-operative relationship, its 270,000 books and about 575 periodicals are also available to the students and faculty of the college. Avoiding duplication so far as practicable, the Public Library supplements the college libraries in the general fields of study and in local history. A number of valuable titles from it are on long-term loan to the college, and its microfilm-reading equipment is also available.

The Association of the Friends of Youngstown College Library, organized in 1938 by the Youngstown chapter of the American Association of University Women, has contributed through its annual drives more than $140,000 for books and equipment and for a new building.

It is expected that by the fall of 1952 all of the college's book collections will have been transferred to the new library building described on page 34. At present, the libraries and their locations are as follows:

The *Main Library* occupies the fourth floor of the Main Building. In addition to books and periodicals, it has globe and wall maps and dramatic and linguistic recordings. It was the first library in Ohio to install a microlibrary reader. The reserve collection and a reading and study room are on the first floor of the Main Building in Strouss Memorial Auditorium.

The *Rayen Building Library* contains most of the books and the current periodicals on mathematics, physics, and engineering.

The *Music Library* is at Dana School of Music and includes a well-rounded collection of band and orchestra music, recordings of standard compositions, and reproducing equipment. It contains the complete works of Bach, Beethoven, and Brahms. (Books about music are in the Main Library.)

The *Law Library* is in the Annex and contains more than 10,000 volumes, with pertinent indices and periodicals. The collection has been frequently enlarged through a special arrangement with the Mahoning Law Library Association.

Faculty and students of the School of Law are privileged to use the library of the Mahoning Law Library Association, in Mahoning County Courthouse, and members of the association may use the law library of the college.

Hours. During the regular academic year the Main Library is open from 8:45 a. m. to 9 p. m. Monday through Thursday, from 8:45 a. m. to 6 p. m. on Friday, and from 8:45 a. m. to noon on Saturday. The hours during the summer and between terms, and the hours of the other libraries, may be learned at the circulation desk in the Main Library.

Loan Privileges. Faculty members may retain books for a whole semester, subject to their recall if needed. Students are issued books on presentation of identification cards. Regular library privileges are extended to Youngstown College alumni and to members of the Association of the Friends of Youngstown College Library upon application.

Laboratories

The *biology* laboratories are equipped for individual performance of standard exercises in all basic courses and in the more advanced phases of embryology, histology, and anatomy.

The Ford Hall greenhouse facilitates the study of plant physiology. For the study of local flora and fauna, Mill Creek Park provides an excellent natural area of over three square miles and also a museum, in which are two well-equipped classrooms.

The *chemistry* laboratories have individual equipment for all standard experiments in general, biological, and physical chemistry, qualitative and quantitative analysis, organic preparations, and organic analysis. Furnaces, pulverizers, ultra-violet apparatus, and drying, vacuum, and high-temperature ovens make possible much research work. Such special equipment as the Beckman pH Meter, electric analyzer, Electropode, Geiger-Muller counter, polarimeter, spectrometer, and electric titrimeter affords extensive work in instrument analysis, preparing students for jobs for which they might otherwise not be considered.

The *physics* laboratory has all the apparatus for college-grade experiments as published by the Central Scientific Company, and all major equipment is kept permanently assembled. Direct current and single- and three-phase alternating current are provided. A special classroom, connected directly with the laboratory, is equipped for large-scale demonstrations, which are supplemented by motion pictures and other visual aids.

The *optics* laboratory is equipped for the measurement of the interference, diffraction, polarization, and reflection of light, and the reflection of stray light has been minimized. Besides a self-contained unit for the Fresnel biprism experiment, there are collimators, telescopes, microscopes, comparitors, and spectro-

scopes; a large selection of prisms, filters, lenses, and diffraction gratings and slits; light sources such as sodium vapor, carbon arc, and Geissler tubes; and specimens of the new type of reflection coating on glass.

The *engineering* laboratories are described in the William Rayen School of Engineering section.

R. O. T. C. Facilities

Equipment for instruction in military science and tactics is the most modern available and includes small arms, communications materiel, and anti-aircraft weapons ranging from machine guns to the 90-millimeter anti-aircraft guns and their associated fire control equipment. Additional items are procured as they become available from Army stocks. Drill periods are conducted at Harrison Field, just east of the main campus. Range facilities for firing the caliber .22 rifle are also available.

Ford Hall

Ford Hall, at 547 Wick Avenue, was given to the college in 1951 by Judge and Mrs. John W. Ford and Judge Ford's sister, Mrs. Benjamin Agler. It had been the Ford family home. Its grounds, together with those of Pollock House and Dana School of Music, form the spacious north campus of the college. The building's unique and interesting interior proved readily adaptable to its present use. Its first floor provides a home for the School of Law, while the second floor is occupied by the college's art department. The greenhouse is a highly useful addition to biology facilities, and the tennis team has at last a practice court.

Pollock House

Pollock House, at 603 Wick Avenue, across from Dana School of Music, provides a place where campus groups may have dinners, teas, and other social gatherings in pleasant and commodious surroundings. It was given to the college by its former owners, Mr. and Mrs. William B. Pollock II.

Its two upper floors are used for classrooms and offices, but the spacious parlors, dining room, and kitchen are available to

responsible groups for specific events. Its comfortable atmosphere makes the hall an appropriate setting for social occasions that answers a long-standing campus need. A small fee is assessed each student toward its maintenance.

Strouss Memorial Auditorium

Clarence J. Strouss Memorial Auditorium was dedicated on May 9, 1949, in honor of Clarence J. Strouss, late president of the Strouss-Hirshberg Company and long a devoted friend and trustee of Youngstown College.

The hall is an enlargement of a much smaller unit originally contained in the Main Building, of which the new structure forms a wing. The present auditorium seats 800 people, 150 of them in a balcony, and with its ample stage provides vastly improved facilities for concerts, operas, plays, lectures, and college assemblies. The Drama Guild, with funds made available by the Student Council, has been augmenting the theatrical equipment with the aim of making the auditorium one of the best-equipped college playhouses in the state.

SERVICES AND OPPORTUNITIES

The Bookstore

The Youngstown College Bookstore, on the first floor of the Main Building, is the agency through which most textbooks and other required supplies are sold. Other stores in the Youngstown area do not stock most college textbooks, and they are not authorized to issue books or materials on Veterans Administration book orders except for certain specifically authorized items.

On the other hand, the Bookstore does not attempt to compete with other stores in the area and carries very few items beyond those prescribed for courses. It does, however, stock in limited quantities a wide selection of standard works in inexpensive editions, because of their value as collateral reading. The Bookstore will order any book on specific request and a suitable down payment.

Normally it is open from 8:30 to 11:30 a. m., 12:30 to 4:30 p. m., and 6:30 to 8:30 p. m. Monday through Friday, and from 8:30 a. m. to noon on Saturday.

Cultural Opportunities

Students in Youngstown College have unusual opportunities for hearing a wide range of the best in music. Besides programs by the faculty, students, and organizations of Dana School of Music, there are concerts by the Youngstown Philharmonic Orchestra, concerts sponsored by the Monday Musical Club, and recitals under the auspices of the American Guild of Organists. These activities bring to Youngstown some of the world's greatest musical artists.

In the field of drama, students may enjoy not only college plays but also the productions of two praiseworthy theater groups of the vicinity. In the city itself, not far from its center, is the Playhouse, an amateur project in whose plays members of the college community frequently participate. Ten miles to the southwest are the Canfield Players, another amateur organization, open to students and, like the Playhouse, interested in quality production of worthwhile drama.

Immediately adjacent to the college is the Butler Art Institute, a building of great architectural beauty, which con-

tains valuable permanent collections of paintings and other art treasures and has frequent temporary exhibits of high importance.

Another civic building of rare beauty is Stambaugh Auditorium, which houses one of the great organs of the country and provides ample facilities for lectures, dances, musical programs, and other functions, including the college commencement exercises. The main hall, noted for its acoustic excellence, seats 2,600 people. Many great visiting artists have expressed their appreciation of this beautiful auditorium.

Religious Opportunities

The Young Men's Christian Association, the Young Women's Christian Association, and many churches are within easy walking distance of the college. Two religious counselors have full-time offices on the campus, one supported by the Roman Catholic Diocese of Youngstown and the other by the Council of Churches of Youngstown and Vicinity. The college has chapel services, and there are active student religious groups on the campus.

Social Opportunities

Youngstown College offers its students frequent social opportunities. Through the dances and receptions sponsored by the Student Council and by various fraternities and other groups, and through the other activities of these organizations and of the various special-interest clubs, opportunity is afforded to meet faculty members and fellow-students and to develop pleasant associations and friendships. Pollock House and the Student Counseling Center afford attractive settings for social hours; in the latter there are weekly teas for all students and faculty members; while the cafeteria in Central Hall provides between meal hours the casual atmosphere of a coffee shop and snack bar. In addition, activities at the Y. M. C. A., Y. W. C. A., and various churches are open to all who are interested, and women students living at Buechner Hall may participate in activities there.

Personal Counseling

Any student who has a personal problem or feels the need of advice or counsel for any reason may avail himself freely of the time and services of any of four counselors, of whom two are religious advisers and two are faculty members. In addition, a fifth counselor is available to residents of Buechner Hall.

Health Service

To promote and maintain good health, every student is given a medical examination by the college physician upon entrance and once a year thereafter, as scheduled by the Director of Health. A chest x-ray is required annually and is provided on the campus through co-operation with the Mahoning County Tuberculosis and Health Association. A student with a suspected health defect is referred for further examination to his own physician and, if necessary, to a specialist. Psychiatric help is also available.

The *Health Center* is on the second floor of Central Hall. A college nurse is on duty from 8 a. m. to 8 p. m. Monday through Friday and from 8 a.m. to noon on Saturday; she can always be located through the college switchboard operator. The Health Center provides emergency care; continued treatment, if necessary, is paid for by the student.

Group insurance to cover hospital and/or surgical care is available to all students at the time of registration, at a semi-annual fee payable in advance. The plans are voluntary, community-sponsored, and non-profit, with no occupational restrictions. Membership may be retained after leaving college. Students interested may inquire at the Registrar's Office.

Physical Education Program

The student's physical development is promoted through two principal means: required physical education courses, which include both physical activity and instruction in personal hygiene; and intramural sports. Students have their choice of a wide variety of forms of physical activity, and are encouraged

to choose games and sports from which they are likely to derive healthful pleasure in later life. There are also intercollegiate athletic teams.

The college is a member of the American Student Health Association and the National Collegiate Athletic Association.

Guidance and Testing Program

The college maintains a guidance and testing program, in charge of a trained psychometrist. It includes the entrance examinations administered to every entering student, in general intelligence and in proficiency in English, and the comprehensive examinations at the end of the sophomore year, for all students. In addition, tests in intelligence, personality, mechanical comprehension, and special aptitudes may be taken by any student at any time. The English proficiency test may be re-taken at times announced by the Testing Office and the Department of English.

The Testing Office is in Room 211, Main Building, and is open from 9 a.m. to noon and 1 p.m. to 5 p.m. Monday through Friday, 9 a.m. to noon on Saturday, and 6 p.m. to 8 p.m. on Tuesday.

Other Tests

The program described above is covered by the Guidance Fee paid each semester. Not included in that program are still other tests taken only by limited groups, such as the Graduate Record Examinations for those interested in graduate work and the Chartered Life Underwriters examinations taken by students of certain courses in business organization. The fees for such tests are not paid to or through the college business office; the student interested may inquire at the office of the Dean of the College for details.

Placement Service

With the co-operation of the Ohio State Employment Service, the college maintains a full-time Placement Office, whose services are free to undergraduates, graduating students, and alumni for either permanent employment, including teaching positions, or part-time work. It is on the second floor of Annex III and is open from 9 a.m. to 5 p.m. Monday through Friday and from 9 a.m. to noon on Saturday.

Music students and alumni of Dana School of Music should also note the placement information in the School of Music section.

The Campus Bulletin

The *Campus Bulletin,* issued from the registrar's office Monday, Wednesday, and Friday from September to June, contains notices of all kinds relating to campus activity. Similar bulletins are issued from time to time during the summer session.

Self-Help

The central location of the college makes it possible for many students to earn part or all of their expenses by working in nearby stores and industrial plants. The Placement Office assists students seeking such employment.

However, if the student plans to do such work while enrolled in classes, he is advised to carry only a part-time college program, since the college accepts no substitute for satisfactory academic work. He should keep in mind that for each semester hour of credit, at least three hours of academic work are expected (see General Regulations), so that a 16-hour weekly program should take at least 48 hours a week of his time.

Room and Board

The college has no dormitories, but is glad to assist any student seeking desirable living quarters in a private home. For Buechner Hall, for women, see the index.

The college cafeteria, in Central Hall, serves meals at reasonable rates from 7 a. m. to 7 p. m. daily except Saturdays and Sundays. There are also several commercial restaurants near the campus.

Lockers

The college provides lockers for full-time students, without charge beyond a small sum to cover clerical costs. For this handling charge and the necessary deposit, see Fees and Expenses. Two students are assigned to each locker.

At the end of each term, or earlier if the student withdraws from college, all personal effects must be removed from

every locker. The college assumes no responsibility for personal property left in a locker at any time.

Alumni

An up-to-date record of the 3,349 graduates of Youngstown College is maintained in the Office of Public Relations. As far as possible, the graduate's record shows his place of employment and the type of work he is doing, in addition to other information. About half of the graduates live in Youngstown.

Alumni are kept informed of college events through the *Alumni News*, published by the Office of Public Relations and edited by the journalism instructor. The *News* is distributed without charge to all Alumni Association members.

A group of artists among the alumni have formed the Youngstown Experimentalists and exhibit their work annually.

For alumni library privileges, see page 37.

The Alumni Association

The Youngstown College Alumni Association is the official organization of alumni of the college. Membership in it is extended to all graduates of Youngstown College and its predecessors and to all former students who were in attendance for two school years. Dues are $1.00 a year, payable to the association's treasurer. The group has begun a stronger and more active program, under a revised constitution.

The officers for 1952-54 are Howard C. Rempes, Jr., '38, president; Bruce Black, '30, vice-president; Frank McLaughlin, '47, vice-president; John H. Herrlich, '32, vice-president; Nancy Fitori Kubina, '43, secretary; Rose Rosapepe D'Orazio, '40, treasurer.

For the Alumni Association of Dana School of Music, see the Dana School of Music section.

STUDENT ACTIVITIES

The college encourages student participation in extracurricular activities. However, since the student's scholastic standing is always of first importance, participation in extracurricular activities is limited to students whose point indexes are as high as their class rankings require, as stated under General Regulations. Thus a student on probation may not take part in such activities. Also, participation may be forbidden to any student as a disciplinary measure.

Honor Point System

Achievement in extracurricular activities together with scholarship is recognized through the Honor Point System, initiated by the Student Council and approved by the faculty. Each year the three graduates having the most points receive YC pins (see Awards and Prizes). A list of activities and the points awarded for them is available at the Dean's office.

Student Council

The student body of Youngstown College is represented in all affairs pertaining to it by Student Council, organized under a constitution and recognized by the administration. The council is composed of representatives of each social fraternity and of non-fraternity students. A member of the faculty and a member of the administrative staff are chosen by the administration to act as advisers to the group. All meetings of the council are open to all students, and any matter may be brought before a meeting by requesting that it be included in the agenda for the meeting.

Student Council exercises concurrently with the Faculty Executive Committee the power to charter all student organizations, to conduct student elections, to hear appeals from groups or individuals, to establish necessary disciplinary regulations, to appoint student members to joint faculty-student committees, and to supervise programs financed by the Student Activity Budget.

The Student Activity Budget is based on the Student Activity Fund after 10% has been set aside for spring varsity sports

and another sum set apart as a reserve. The Student Activity Fund, into which goes all of every Student Activity Fee, is the sole financial support for activities sponsored by Student Council (the *Neon* Fee's purpose is to cut the *Neon's* price to students). The fund is administered by a Student-Faculty Relations Committee, composed of three faculty members and three members of the council's finance committee. This committee determines financial policies and approves the semester budgets, which are made up by the council treasurer and recommended to the committee by the council.

Budget allocations are made for the following student activities: art shows, debate, dramatic productions, intramural sports, the *Jambar*, music organizations open to all students, the *Neon*, and student radio programs. These sums are administered by the groups to whom they are allotted. Administered by Student Council itself are the sums allotted for council expenses, the *Student Handbook*, all-college social functions, special projects, and matters connected with membership in the National Student Association.

Publications

The *Student Handbook* is published at the beginning of each college year by the Student Council to inform new students about college activities and traditions.

The *Neon* is the college yearbook, published by a staff of students chosen by the Student Council. The editors are usually seniors, but other positions are filled by lowerclassmen. This project gives students experience in editorial work and in advertising, financing, and other phases of business management.

The *Jambar* is a bi-weekly newspaper, published by a student staff chosen by the editor, who must be approved by the Student Council. Students interested in journalism may serve on the staff to gain experience. The paper is supported partly by Student Activities funds and partly by advertising. It conducts a weekly radio program of sports and other college news over Radio Station WKBN.

The *Jambar* won the Scripps-Howard award for the best bi-weekly college newspaper in Ohio in 1940, 1941, 1948, and 1949 and was voted the second best in 1945 and 1950. It once

took first place in advertising layout over all other college newspapers in the state at the annual convention of the Ohio College Newspaper Association, and in 1950 took second place. Four more awards were won at the 1952 convention.

Student publications serve as laboratories for journalism classes, with credit in limited amounts given for work on the publications.

Dramatics and Debate

The Drama Guild produces several plays each year in cooperation with the Department of Speech and Dramatics, and each year for the past three years an all-college variety show has been successfully staged. The college is also represented in intercollegiate debating and speech contests.

Musical Organizations

Many campus musical organizations are open to all students of the college. For a list of these, see the Dana School of Music section.

Art Exhibits

At the invitation of the Butler Art Institute, the Art Club has for many years sponsored an annual exhibition of the work of Youngstown College art students. The work is displayed at the institute for about a month in the early spring, with awards from various sources; in 1952 a $50 purchase prize was given by Student Council to the winner in oils. The Youngstown Experimentalists, a group of alumni artists, were invited to show their work at the 1952 exhibition, and both students and alumni frequently exhibit work at the institute's Spring Salon and other showings.

Radio Programs

In addition to the *Jambar* radio program mentioned above, students of the college conduct a weekly half-hour program of music, news, and other entertainment, over Radio Station WFMJ and other programs from time to time over Station WBBW. All programs are planned, written, produced, and announced entirely by students.

Honorary and Professional Societies

Alpha Psi Omega is a national honorary dramatic fraternity, the local chapter of which was established in 1939. It gives recognition to those who have excelled on the college stage.

Phi Epsilon is a local honorary chemistry fraternity. When founded it was for the better students from all the sciences, but it has since restricted its membership to chemistry majors.

Omicron Lambda is a local honorary society for biology majors. Several field trips a year are a part of its instructional program.

Phi Mu Alpha Sinfonia is a national honorary music fraternity for men, of which Delta Eta chapter is at Dana School of Music.

Sigma Alpha Iota is a national honorary music fraternity for women, of which Alpha Nu chapter is at Dana School of Music.

Alpha Gamma Sigma is a local honorary business administration fraternity for women.

Alpha Tau Gamma is a local honorary accounting fraternity.

Alpha Mu is a local honorary advertising and merchandising fraternity.

Mu Pi Epsilon is a local honorary engineering fraternity.

The Youngstown College Chapter of the American Chemical Society, Student Affiliates, is composed of students interested in any phase of chemistry.

The Youngstown College Chapter of the American Society for Metals, Student Affiliates, is open to students interested in the manufacture and treatment of metals.

The Youngstown College Student Chapter of the Ohio Society of Professional Engineers is open to all engineering students in good standing, except freshmen. The society has as its aim the preservation of ethical and professional standards within its field.

Social Fraternities

The social fraternities in Youngstown College (local unless otherwise noted) are:

All-College

Alpha Theta Delta*
Beta Sigma Omicron†*
Gamma Sigma*
Kappa Alpha Psi†‡
Kappa Sigma Kappa†
Nu Sigma Rho
Omega Psi Phi†
Phi Gamma
Phi Lambda Delta*
Phi Sigma Epsilon
Pi Beta Chi
Sigma Delta Beta
Sigma Sigma

Departmental or Otherwise Limited

Secretarial School:
Alpha Iota†*
Alpha Sigma Chi
Delta Chi Epsilon
Eta Delta Sigma
Omega Kappa Upsilon
Tau Kappa Nu*

School of Business Administration:
Sigma Kappa Phi†

Pan-Hellenic Council

Pan-Hellenic Council is composed of two representatives from each active all-college social fraternity and, with two faculty advisers appointed by the president of the college, supervises the relations of such fraternities among themselves and with other groups.

Other Student Organizations

Alpha Phi Omega†§
Alpha Pi Epsilon†§*
Art Club
Drama Guild
Elementary Teachers Professional Club
Gessner Law Club
International Relations Club
Make Democracy Work Club
Newman Club
Psychology Club
Religion in Life Club
Shenango Valley Youngstown College Students Club
Speech Society
Women's Intramural Planning Board

†National fraternity *Women's fraternity §Service fraternity ‡Inactive

AWARDS AND PRIZES

Winners of awards and prizes are announced each year at Commencement, unless otherwise indicated below.

The YC Pins. Youngstown College annually awards a pin to each of the three graduating students who have the largest numbers of honor points (see page 47) in scholastic and extracurricular activities. Each recipient must have earned the majority of his points in scholarship.

The pin is pearl-studded, in the form of a Y superimposed on a C. When the size of the graduating class warrants, the number of pins may be increased.

The Youngstown College Awards for Scholarship. Seven cash awards, donated by a friend of the college and totaling $1000, are made annually as follows:

To the best all-around student, $250, on the basis of academic achievement and extracurricular activity through four years of college.

In the humanities: to the student ranking first, $150, and to the student ranking second, $100, on the basis of four years of study.

In English: to the student ranking first, $150, and to the student ranking second, $100, on the basis of four years of study.

In the social science sequence courses: to the student ranking first, $150, and to the student ranking second, $100, on the basis of comprehensive examinations at the end of the second year.

The Greek Prize. An anonymous philhellene provides an award for the best work in elementary ancient Greek. The winner must have done at least B work in the course. In the absence of a deserving recipient, the prize may be awarded for excellence in advanced Greek.

The Roberts Deliberating Club Award in Social Sciences. The Roberts Deliberating Club of Youngstown annually awards $50 to the graduating student ranking highest in the social sciences.

The Chi Omega Alumnae Award. The Youngstown Chapter of the Chi Omega Alumnae gives an annual cash award to the highest-ranking woman student majoring in the social sciences.

The Omicron Lambda Honorary Biology Fraternity Award for Scholarship. Omicron Lambda Fraternity gives an annual cash award to the outstanding sophomore biology student.

The Scudder Award. Phi Epsilon Fraternity annually presents a certificate to the outstanding student in chemistry. The recipient must have a general average of B and have thirty hours in chemistry. The award is named for Dr. Eugene Dodd Scudder, head of the department of chemistry.

The McCall Prize in Art. A prize of $25 is provided by Mr. C. F. McCall for the best work exhibited by a student of Youngstown College in the Spring Salon of the Butler Art Institute. The winner is announced at the time of the exhibit

The Sigma Kappa Phi Fraternity Scholastic Award. Sigma Kappa Phi Fraternity awards a certificate and an emblem each year to the member of the graduating class with the highest point average in all business administration subjects who has majored in accounting and fulfilled the requirements for a degree or title in business administration. The recipient must have completed at least 60 semester hours of work at Youngstown College.

The Professional Engineers Award. The Mahoning Valley Chapter of the Ohio Society of Professional Engineers, Tri-County Section, gives an annual award to the engineering student outstanding in academic achievement and personality over a period of four years. The student must have done all the work for his degree at Youngstown College.

The award is made in honor of the memory of Louis A. Deesz, the first dean of the William Rayen School of Engineering.

The American Society of Mechanical Engineers, Youngstown Section, Awards in Mechanical Engineering. The American Society of Mechanical Engineers, Youngstown Section, grants an annual award to the outstanding graduate in mechani-

cal engineering. In addition, awards made possible by Mr. Henrik Ovesen, a life member of the society, are given to the two students with the next highest standings.

The Land Title Guaranty and Trust Company Award. The Land Title Guaranty and Trust Company of Youngstown awards annually a prize of $100 to the student in the School of Law making the highest average grade in the regular course examinations in Real Property I, II, and III.

The winners of the following awards are sometimes announced at times other than Commencement:

The Nathan Hale Chapter, Sons of the American Revolution, Awards. The Nathan Hale Chapter, Sons of the American Revolution, annually awards a medal to each of two R. O. T. C. cadets, as follows:

To the cadet who completes the basic course with the most outstanding excellence in all academic subjects (exclusive of military), military science, leadership, and character.

To the cadet who completes the advanced course with the most outstanding excellence in all academic subjects, (exclusive of military), military science, leadership, and character.

The names of the recipients are inscribed on a plaque presented to Youngstown College by the donors. No student may receive either award unless he has completed one full year of the R.O.T.C. course at Youngstown College.

The Mahoning Chapter, Reserve Officers Association, R.O.T.C. Honor Awards. The Mahoning Chapter, Reserve Officers Association, annually awards a medal to each of two R.O.T.C. cadets, as follows:

To the cadet completing the basic course who is selected for and enrolls in the advanced course and who has best exhibited during his career at Youngstown College the qualities of leadership.

To the cadet completing the advanced course who is commissioned in the Officers' Reserve Corps of the Army of the United States and who has best exhibited during his career at Youngstown College the qualities of leadership.

Participation in extracurricular activities of the college for which honor points are awarded, as well as performance as a cadet, is considered in making selections for these awards.

The United States Anti-aircraft Association Medal. The United States Anti-aircraft Association awards a medal annually to the cadet completing the first year of the advanced course who is the most outstanding in all academic subjects (exclusive of military), military science, and personal qualifications, and who has completed one full year of the R. O. T. C. course at Youngstown College.

The Mahoning Chapter, Daughters of the American Revolution, Awards. The Mahoning Chapter, Daughters of the American Revolution, annually awards a medal to each of two freshmen completing the first year of the basic course, as follows:

To the cadet with outstanding excellence in all academic subjects (exclusive of military), military science, leadership, and character.

To the cadet who during the year has best exhibited the qualities of leadership. Participation in extracurricular activities of the college for which honor points are awarded, as well as performance as a cadet, is considered in making the selection for this award.

Essay Contests. From time to time various organizations sponsor essay contests among the student body. The pertinent information is disseminated through normal campus channels.

SCHOLARSHIPS AND LOAN FUNDS

All scholarships are under the supervision of the faculty Committee on Scholarships. Inquiries may be addressed to the Dean.

The Youngstown College Student Scholarship Fund. This fund is financed by a group of prominent business and professional men and women of the Mahoning Valley for the purpose of aiding worthy students. Fifteen full scholarships and thirty half-scholarships were available for 1952-53, and were granted on the basis of high school record, competitive examination, and recommendation of the high school principal or teachers. Selection is made by the Committee on Scholarships.

The Youngstown Sheet and Tube Company Scholarships. These scholarships were established in 1951 by the Youngstown Sheet and Tube Company. Of the five offered each year, three are four-year scholarships for sons of company employees and provide tuition and fees for full-time work in the College of Arts and Sciences, the School of Business Administration, or William Rayen School of Engineering. The other two are for part-time study and are granted to employees on a year-to-year basis. Further details are available from the company, to whom application is made.

The Sharon Steel Corporation Scholarships. These three four-year scholarships were established in 1945 and 1946 by the Sharon Steel Corporation, which awards them each year to sons and daughters of its employees who are interested in studying engineering, metallurgy, or business administration. Each scholarship provides for the recipient's tuition, fees, textbooks, and supplies at Youngstown College to the extent of $300 a year for four years. In addition, the Sharon Steel Corporation offers each winner part-time and vacation employment during his four years at Youngstown College.

The scholarships are awarded on the basis of academic achievement, character, personality, and participation in extra-curricular activities in high school. Every applicant must be the son or daughter of an employee of Sharon Steel Corporation's Roemer Works, Lowellville Works, or main office, or one of its subsidiary companies: The Niles Rolling Mill Company, Niles,

Ohio; Brainard Steel Company, Warren and Orwell, Ohio; or Sharonsteel Products Company, Farrell, Pennsylvania.

The Westinghouse Achievement Scholarship in Electrical Engineering. This scholarship, established in 1952 by the Westinghouse Educational Foundation, is awarded annually to a junior majoring in electrical engineering, for high academic achievement and demonstrated qualities of leadership. The stipend is $500. The recipient is chosen on the basis of recommendations by the faculty of William Rayen School of Engineering.

The Westinghouse Achievement Scholarship in Mechanical Engineering. Like the Westinghouse Achievement Scholarship in Electrical Engineering, but for a junior majoring in mechanical engineering.

The William F. Maag, Jr., Scholarship. This scholarship was established in 1947 by the Chamber of Commerce of Youngstown in honor of Mr. William F. Maag, Jr. The revenue from invested capital pays the tuition and fees for one year of a student chosen annually by Mr. Maag.

The President and Mrs. Howard W. Jones Scholarship. This scholarship has been provided since 1947 by the faculty of Youngstown College in honor of President and Mrs. Jones. The funds for it are contributed annually and it pays the tuition and fees for one year of a student chosen by Dr. and Mrs. Jones.

The Women's Auxiliary of the Mahoning Valley Chapter of the Ohio Society of Professional Engineers Scholarship Grant. An annual grant of $100 is given to a deserving junior in William Rayen School of Engineering by the Women's Auxiliary of the Mahoning Valley Chapter of the Ohio Society of Professional Engineers.

The Benjamin T. Davis Scholarship. This scholarship was established in 1949 by Judge John W. Davis as a memorial to his brother. The stipend is three hundred dollars. It is awarded annually to a boy graduate of Fitch High School, Austintown, chosen by the Superintendent of Austintown Township schools, the principal of Fitch High School, and the president of the Austintown Township Board of Education.

The Rachel Davis Scholarship. This scholarship is like the Benjamin T. Davis Scholarship except that it is a memorial to Judge Davis's sister and is for a girl graduate, chosen similarly.

Music Scholarships. A limited number of scholarships are awarded by the college for proficiency in a band or orchestra instrument, singing, or accompanying. Applications may be sent to the dean of Dana School of Music.

The Strouss-Hirshberg Music Center Scholarships. These scholarships have been made possible each year since 1947 by the Strouss-Hirshberg Music Center. They provide annually one hundred dollars for each of four students in Dana School of Music. Applications may be sent to the dean of Dana School of Music.

The William H. Dana Scholarship Loan Fund. This fund was established by the Alumni Association of Dana School of Music as a memorial to the school's founder. Information about loans may be secured from the association's secretary, at Dana School of Music.

The Salem Community Scholarship Association. Any student living in the Salem community who has satisfactorily completed at least two years of formal education beyond high school may apply to the president of the Salem Community Scholarship Association, Salem, Ohio, for a loan to help him complete his training.

Graduate Scholarships. Many graduate scholarships, fellowships, and assistantships are available from other institutions. Notices of these are frequently posted on the college bulletin boards.

Fulbright Scholarships. United States government scholarships for foreign study are available to undergraduates as well as to graduate students.

The Cecil Rhodes Scholarships. Men students of Youngstown College are eligible to apply for these scholarships, which provide for study at Oxford University in England. Scholarships are awarded each year to students selected through personal interviews by a regional committee.

General Requirements and Regulations

ADMISSION

Any graduate of a first grade high school or an accredited secondary school may be admitted to Youngstown College upon proper application and presentation of a satisfactory official transcript of his high school credits and evidence of his good character.

The applicant, if accepted, is admitted to the Lower Division of the college. He becomes a candidate for a degree when he has completed 60 semester hours of credit and has been admitted to the Upper Division.

Application

Application is made on a form available at the Registrar's office. It must be accompanied by an official statement of high school credits and by the Matriculation Fee of $5.00, and should be submitted to the Registrar as soon as possible after graduation from high school.

The office of the Registrar is on the first floor of the Main Building. It is open from 8 a.m. to 5 p.m. and from 6:30 p.m. to 8:30 p.m. Monday through Friday and from 8 a.m. to noon on Saturday.

Guidance Examinations

Every prospective freshman takes general examinations for guidance purposes. For fall enrollment, these are taken on Freshman Day (see the Calendar); for other terms, at designated times. An applicant who shows low results in these examinations or who stood in the lowest third of his high school class may be refused admission; if admitted, he will be on probation until he has demonstrated his ability to do satisfactory college work.

Entrance Requirements, and Deficiencies

The applicant must present 16 high school credits, including certain specified requirements which vary according to the

degree sought. An applicant deficient in an entrance requirement may be accepted, but must make up the deficiency before he can be admitted to the Upper Division. Means of making up such deficiences are indicated below.

Admission to the college does not mean that the student is equally qualified as a candidate for every degree offered. The student should have this in mind if he later changes the degree for which he is working, since his high school credits may not satisfy the entrance requirements for his new objective, even though they were adequate for the former one.

For admission to courses leading to the various degrees, the entrance requirements are as follows:

For the degree of *Bachelor of Arts* or *Bachelor of Science*:

English	3 units
A foreign language†	2 units
United States history and civics	1 unit
Algebra*	1 unit
Geometry*	1 unit
A laboratory science*	1 unit
Others	7 units

For the degree of *Bachelor of Engineering*:

English	3 units
United States history and civics	1 unit
Algebra*	2 units
Plane geometry*	1 unit
Solid geometry*	½ unit
Physics*	1 unit
Others**	7½ units

For the degree of *Bachelor of Science in Business Administration* or *Bachelor of Science in Education*:

English	3 units
United States history and civics	1 unit
Mathematics*	1 unit
Science or additional mathematics*	1 unit
Others	10 units

†A high school graduate lacking this entrance requirement may make up the deficiency by taking a first-year foreign language course without college credit; see "Credit Evaluation for the Foreign Language Requirement" in the College of Arts and Sciences section. However, foreign language study is not required for the Bachelor of Science degree if the major is in nursing or medical technology.

*A high school graduate who lacks this entrance requirement may make up the deficiency by taking the appropriate high-school-level course offered by the mathematics department or the physics department. No college credit is given for such a course.

**One unit of mechanical drawing is highly recommended.

For the degree of *Bachelor of Music*:

English	3 units
A foreign language†	2 units
Mathematics*	1 unit
Science or history	1 unit
Others	9 units

For the requirements in musical training and ability, see the Dana School of Music section.

For the suggested pre-law and pre-medical courses:

The same as for the Bachelor of Arts degree.

G. E. D. Test Credits

Certain credits for successful results in United States Army General Educational Development Tests may be accepted as high school credits toward meeting entrance requirements, but not as college credit.

Admission to Advanced Standing

A student applying for permission to transfer from another college must present, one month before his enrollment, a transcript of all his previous high school and college work. He must present evidence of honorable dismissal from the college last attended; no applicant will be accepted who is not eligible to return to his former institution. His class standing at Youngstown College will depend on the quantity and quality of his previous credits. (For R. O. T. C. credit, see "Military Science and Tactics.") A transfer student with 45 or more hours of credit must file an application for admission to the Upper Division when he applies for admission to Youngstown College.

Special Students

Occasionally a student who is not a high school graduate, but who because of maturity seems able to do college work, may be admitted as a special student. He works and receives grades like the ordinary student, but his credits can not be accepted toward a degree unless he completes the work for and receives his high school diploma.

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†See corresponding note on preceding page.

*See corresponding note on preceding page.

Registration of Freshmen

Although the student enrolling for the first time is instructed at the Registrar's office about scheduling his courses and registering, he will find it helpful to read the section "General Regulations". It may be pointed out here that an extra fee is charged for late registration, when that is permitted.

Freshman Day

Freshman Day is the day on which prospective freshmen for the fall semester take their guidance examinations and receive information helpful in enrolling and getting started properly. It occurs just before the opening of the fall semester; the date is given in the Calendar.

English Test Requirement

One of the tests given entering freshmen is a standardized test widely used among colleges to discover a student's competence in using and understanding the English language. The results indicate to the student and to his instructors his standing in these respects in relation both to his classmates and to other students throughout the nation. Any student may re-take the test to demonstrate improvement in his proficiency in English.

GENERAL REGULATIONS

Scheduling of Courses; Advisement

A student already attending college makes out his schedule of courses for the next semester during a period of the semester in progress designated as the Advisement Period. The student plans his schedule in consultation with his faculty adviser, and every student's schedule must have the signed approval of his adviser, even when a prescribed curriculum leaves him no actual choice of courses.

A student entering for the first time, or a former student wishing to re-enter, may get instructions for scheduling and advisement from the Registrar's office.

The student planning his program should understand that some courses are not offered every term. Those offered in a particular semester or summer session, with their times and places, can be ascertained from the *Schedule of Classes* for that term, which is published in time for use in advisement and scheduling for the term in question. For information as to what courses will be offered in the future, or when a particular course will be offered again, the student may consult the dean of the unit concerned.

Although the college tries, through the advisement system, to insure the student's taking all the courses needed for his degree, ***the ultimate responsibility for meeting any requirement rests with the student.*** He will do well to read the statements under "Candidacy for a Degree", below.

Some Definitions

The *class hour** is a 50-minute period of classwork and is the basic unit of instruction. The term *semester hour** signifies one class hour a week carried for one 18-week semester (or the equivalent in a summer term). A *semester hour of credit*** is the amount of credit given for one semester hour successfully completed, and represents *three hours of work* each week throughout the semester.

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*Often called simply "hour" when the meaning is clear.

**Often called simply "hour of credit." The expression "credit hour", used by some people, sometimes means "semester hour of credit" and sometimes merely "semester hour."

The Work/Credit Ratio

As seen above, credit is based on a work/credit ratio of 3 to 1 (three hours of work a week to one semester hour of credit). Of these three hours of work, the class hour is one; the other two are the time spent by the student in preparing for the work of the class hour, or in supplementing it. In other words, *for every class hour, two additional hours are expected to be spent outside of class* in studying, reading, writing, laboratory activity, or whatever the work of the course calls for. The exact amount may vary from day to day, depending on the particular assignment, the individual student, and other factors; but assignments are normally made on this one-plus-two principle, and the student is responsible for completing them.

Thus, for example, a so-called "three-hour" course actually involves nine hours of work a week, consisting of at least 150 minutes of class sessions (that is, three class hours*) and six hours of study or other work done out of class. If the course work involves laboratory periods, these form a part of the weekly total of nine hours.

Accordingly, the student carrying a 16-hour schedule, for example, should count on devoting an average of 48 hours a week to study and classwork (exclusive of time spent in extracurricular activity, commuting, eating, etc.). The slower student may find that more than 48 hours is necessary. These facts should be kept in mind especially by students planning to hold jobs while attending college.

The Student Load

The amount of college work carried from week to week is called the student's *load*. For convenience, the load for a single week is measured in class hours; the same load, carried for a whole semester, is measured in semester hours.

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*In a three-hour course the class hours may take the form of three 50-minute sessions, or two 80-minute sessions, or (as in some laboratory courses) one or two 50-minute sessions and one or more laboratory periods which include instruction, or any other practicable form.

The normal load for a semester is fifteen or sixteen semester hours of work, not including orientation, required physical education, and certain music ensemble work. A student with a point index of 2.0 or better may carry eighteen hours with his adviser's approval, which ordinarily is given. A student following a business administration, engineering, or music curriculum may carry as many hours as the curriculum requires, on the approval of the dean of his school; such approval ordinarily is given. Any other student wishing to carry more than sixteen hours of academic work must have his written request to do so approved by his adviser and by the Committee on Academic Standards. The form for such a request is available at the Registrar's office. After grades for the preceding term are reported, a dean may reduce the schedule of any student in his unit whose record is poor.

Any student may, on his adviser's approval, carry a course in military science in addition to the load allowed him according to the preceding paragraph.

Auditors

A student may register for and attend any course as an auditor. An auditor is not held responsible for the regular classwork and preparation of assignments and receives no credit for the course. However, he pays the regular tuition for the course, as well as any applicable course-fees, and it is counted in his load.

An auditor is not to be confused with a special student (see page 61).

Registration

Every student registers in person for the work of each session on or before a final registration date. Only under exceptional circumstances may a student register after that date, and one who does is charged a fee. One who has begun his registration before the deadline may complete it late, but must likewise pay a fee. There is no reduction of tuition or other fees because of late entrance into courses.

No student may enter a course after the fourteenth calendar day of a semester or after the seventh calendar day of a summer term.

For freshman registration see page 62.

Change of Registration

A student wishing to alter his schedule after registration must fill out a Change of Registration form, have it signed by the instructor or instructors concerned, by his adviser, and by the business manager, and present it for approval by the Registrar. A mark of failure is recorded for a course dropped without this procedure, since such withdrawal is not official.

Anyone changing his registration after a date set by the administration pays a fee, unless the administration has requested the change.

Class Rank

A student who has from 29 to 60 semester hours of credit is a sophomore; one who has from 61 to 93 is a junior; and one with 94 or more is a senior. The student must also have met the grade requirements for his class (see page 69).

Upper and Lower Divisions

Courses numbered from 100 to 199 are designed for the freshman level; from 200 to 299, the sophomore; from 300 to 399, the junior; and from 400 to 499, the senior. The freshman and sophomore levels constitute the Lower Division, and the junior and senior levels the Upper Division.

No freshman may take an Upper Division course without the approval of the Dean of the College. A senior taking a 100-level course will receive only two-thirds of the normal credit for it, unless the head of his major department waives this rule. For the amount of work required at each level, see General Requirements for Graduation.

Candidacy for a Degree

Any student who wishes to become a candidate for a degree from Youngstown College must file with the Dean of the College an application for admission to the Upper Division when he has completed from 45 to 60 semester hours. A transfer student with 45 or more semester hours must file such an application when he applies for admission to Youngstown College. Until admitted to the Upper Division, no student may be given

junior or senior class standing or be considered a candidate for a degree.

His application form must indicate:

1. The degree for which he is a candidate. He may thereafter change his degree objective only by filing a new application for admission to the Upper Division as a candidate for the new degree.

2. That he has completed all lower-level secondary and general education requirements, or that specified deficiencies exist of which the student's adviser certifies his awareness.

3. His major subject, with the signed approval thereof by the head of the major department. He may thereafter change his major only by formal application to the Dean of the College and with the approval of the heads of both the old and the new major departments.

A student registering as a junior or a senior in September 1952 is not affected by the foregoing regulations; however, the student registering then as a junior *must file at the same time an application for graduation* with the Dean of the College.

Sophomore Examinations

Every sophomore must take comprehensive examinations before he can have junior ranking. (This rule has been temporarily suspended.)

Grading System

The grade for a course completed may be: A, excellent; B, good; C, average; D, poor but passing; or F, failure.

The grade of E is given if the work for a course (including the final examination) is incomplete when grades are submitted. If the work is not completed within 60 days thereafter, the grade becomes F unless circumstances warrant an extension of the time. The instructor is notified before such an F is recorded.

If a student has been absent without explanation and it is not known whether he has dropped the course, the grade of E

may be given if, in the teacher's judgment, the work missed can be practicably made up and a grade other than F is possible on its completion.

If a student has received an E in a prerequisite course and has been allowed to enter the following course, he should see that the E is removed by the end of the sixth week of the second course. Otherwise, if the E becomes a grade that does not satisfy the prerequisite, he will receive F in the second course for having to drop it later than the sixth week.

The grade of F can result from (1) work of failing quality; (2) failure to complete work, as stated above; (3) dropping a course improperly (unofficial withdrawal); or (4) cheating, or dishonesty of any kind in the work of the course.

Other marks recorded are:

AUD, signifying that the student has attended the class as an auditor (see page 65).

WP (withdrawal with passing status), representing official withdrawal from a course before the end of the sixth week of a semester, the first week of a five-week summer course, or the second week of a ten-week summer course.

WF (withdrawal with failing grade), representing official withdrawal from a course when WP is no longer applicable.

(WP and WF are determined and recorded by the registrar, not by the teacher.)

A student may appeal to the Committee on Credits and Admissions for reconsideration of any final grade, if he feels that the grade was given without proper regard for some pertinent factor or circumstance.

The distribution of grades follows in general the "Normal Curve", according to which from 5% to 10% of the grades in a class are A's, 20% to 25% B's, 40% C's, 20% to 25% D's, and 5% to 10% F's. The teacher, however, is expected to use his judgment and to regard the curve as a guide rather than as something to be rigidly imposed.

Teachers may use plus and minus modifications of the grades A, B, C, D, and F; but the Registrar does not record such modifications, and they are disregarded in calculating point indexes.

Grade Reports

A report of his grades is sent to every student as soon after the close of a semester as possible. A teacher may use any means agreeable to his class to provide such information more quickly.

The Point Index, and Scholastic Standing

The student's scholastic standing is indicated by his point index (also called "point average"). For determining this, every grade has a point value for each semester hour it represents, as follows: A, 3 points; B, 2 points; C, 1 point; D, no points; F or WF, −1 point. For example, an A in a 3-hour course is worth 9 points; an F in a 4-hour course means −4 points. To find the point index, the total number of points earned is divided by the number of semester hours completed with passing grades. Thus a student who successfully completes 16 semester hours and earns 24 points has a point index of 1.50. (See also Repetition of Courses, below.)

The Honor Roll

The honor roll, announced once each year, consists of the five per cent of each class who have the highest point averages. Class rank is determined by the definitions found on page 66. A student with less than 12 semester hours of credit acquired at Youngstown College is not included in the roll.

For freshmen and sophomores, the top five per cent are determined on a college-wide basis; for juniors and seniors, those included are the five per cent who stand highest among the candidates for each degree.

A student with an E on his record at the time the calculations for the honor roll are made is necessarily excluded from consideration.

Grade Requirements

A student must have a point index of not less than 1.00 to be eligible for a degree.

A student whose cumulative point index is less than 0.50 at the end of either semester of his freshman year, or less than 0.75 at the end of either semester of his sophomore year, or less than 1.00 at the end of any semester thereafter, will be on

probation the following semester; if he does not raise his point index to the required minimum during the probationary semester, he will not be readmitted.

A candidate for the degree of Bachelor of Engineering whose cumulative point index is less than 1.00 at the end of any semester will be on probation the following semester; if he fails to raise his point index to 1.00 during the probationary semester, he will not be readmitted as a candidate for the Bachelor of Engineering degree.

A student who receives grades of F in half, or more than half, of the total number of semester hours for which he is registered will not be readmitted.

Repetition of Courses

A student may repeat a course (except in military science) once. If the grade thus sought is prerequisite to another course, the repetition must be successfully completed before the other course is taken. No course may be repeated if the student has received credit for a more advanced course in the same subject.

If a course is repeated, only one of the two grades—the higher, if any—is used in calculating the point index, providing no F is involved; but if either grade is F or WF, both grades are reckoned in the point index.

Attendance

If a student is irregular in class attendance, the number of semester hours of credit he would otherwise earn may be reduced.

Absence from an Examination

A student must have the instructor's consent in order to take any examination at a time other than the scheduled one. The instructor, if he gives such consent, may waive the Fee for Irregular Examination if such action seems warranted. If the test is to be taken at the Testing Office, the student presents there a permit signed by the instructor. Permit forms are available at the unit dean's or the Registrar's office.

Chapel and Assembly

Chapel meetings are at St. Joseph Roman Catholic Church, for Roman Catholic students; for Protestant students they are

at St. John's Protestant Episcopal Church. Both churches are close to the campus.

College assemblies take place in Clarence J. Strouss Memorial Auditorium.

Honorable Dismissal

Ordinarily a transcript of credits serves as a statement of honorable dismissal except when such a statement is not merited, since a transcript bears indication of whether a student is withdrawing in good standing, as well as of any disciplinary action he may have incurred while attending Youngstown College, and since no transcript is issued to a student who has not met all his financial obligations to the college.

If a separate statement of honorable dismissal is needed, the Dean of the College will furnish one, provided the student is of good character, has a satisfactory record of conduct, has no financial obligations to the college, and is withdrawing voluntarily for acceptable reasons; and provided the student, if withdrawing during a term, follows the official procedure for a change of registration (see page 66). A statement of dismissal issued with any of these conditions unmet may be expected to include an explanation of the circumstances.

GENERAL REQUIREMENTS FOR GRADUATION

The requirements for graduation may be those stated in the catalog in effect at the time of the student's entrance into Youngstown College or those stated in any subsequent catalog; but the student must select *one* of the pertinent catalogs and complete the requirements as stated therein.

Requirements for Any Degree or Title

A candidate for any degree or title must fulfill the following requirements:

Application. An application to graduate must be filed with the Dean of the College. For the time and fee for this procedure, see page 81. To avoid a penalty, it must be done by the first day of the last fall semester before the time of intended graduation. No application for graduation is accepted after March 31.

NOTE: *In September 1952 (only), a student registering as a junior must file at the same time an application for graduation (instead of an application for admission to the Upper Division as described on pages 66-67).*

Residence. The last 30 semester hours of the work leading to the degree or title must be completed at Youngstown College; except that in curriculums such as the pre-law and the pre-medical, which allow the student to earn his final credit hours *in absentia*, the last 30 hours prior to this final stage must be spent at Youngstown College. Any modification of this requirement must be approved by the Dean of the College.

Grades. The point index must be not less than 1.00 (see page 69).

Requirements for Any Degree

A candidate for a degree must also fulfill the following requirements:

Entrance Deficiencies. Any deficiency in entrance requirements for the desired degree must be made up before the student is admitted to the Upper Division.

This is the student's responsibility. The entrance requirements for the several degrees differ; they are listed on

pages 60-61 and should be read carefully. This is especially important when a student changes the degree for which he is working, as his high school credits, though satisfactory for his original objective, may not satisfy the entrance requirements for the new one. *The fact that a student has been admitted to the college does not mean that he is equally qualified to become a candidate for every degree the college offers.*

Course Levels. At least 60 semester hours of work must be completed in courses numbered 200 or higher, of which at least 40 hours must be in courses numbered 300 or higher.

Major and Minors. The proper major and minor requirements must be completed as described below.

Religion. The candidate must complete either a three-semester-hour course in the Department of Philosophy and Religion, or Humanities 401 or 402. (For convenience, this general requirement is repeated in the list of requirements for each degree.)

Additional Requirements for Each Degree

For the degrees of *Bachelor of Arts, Bachelor of Science,* and *Bachelor of Science in Education,* the requirements are given in the College of Arts and Sciences section.

For the degree of *Bachelor of Science in Business Administration,* the requirements are in the School of Business Administration section.

For the degree of *Bachelor of Engineering,* the requirements are in the William Rayen School of Engineering section.

For the degree of *Bachelor of Music,* the requirements are in the Dana School of Music section.

Modifications for R. O. T. C. Students

For the student taking R. O. T. C., certain courses that would otherwise be included in his curriculum may be waived, as follows:

a. A student completing Military Science 101, 102, 201, and 202 may omit Social Science 102, 2 hours of physical education (1 hour of physical activity and 1 hour of hygiene), and

3 hours of other work to be decided in consultation with his adviser.

b. A student completing Military Science 301, 302, 401, and 402 may omit Psychology 201 (except as a prerequisite to other courses) and 9 other hours to be determined in consultation with his adviser. For the degrees of Bachelor of Arts, Bachelor of Science in Business Administration, and Bachelor of Science in Education, the work thus omitted may include 3 hours of science, provided that the candidate for the Bachelor of Arts degree takes 8 hours of biology, chemistry, or physics.

Except for courses specifically named above, work thus waived must not include courses required for the degree toward which the student is working.

Major and Minor Requirements

Each student must complete a major and at least one minor within the semester hours of credit he needs for graduation.

A departmental major consists of at least 30 semester hours of work in one department.* A combined major, for which the work is in more than one department, consists of at least 45 semester hours.

A minor consists of at least 15 semester hours of work in a department other than that of the major.

The head of the student's major department determines the course requirements for both the major and the minor or minors and sees that they are met. He may require the student to do more, but not less, than the minimums stated above. Both major and minor work must meet his approval. The grade in any course that is to be counted toward a major or a minor must be C or better.

As soon as a student has decided on his major, he should consult the head of the department in which his major work will be done. While no student is compelled to declare his major before he applies for admission to the Upper Division, in some departments it is essential that the planning be done not later than the beginning of the sophomore year, or in some cases earlier, to avoid delay in graduation.

*For this purpose, Dana School of Music and William Rayen School of Engineering are departments, and each foreign language is a department.

Requirements for a Second Baccalaureate Degree

A student who has a degree from Youngstown College and desires a second degree must earn 18 semester hours of credit in addition to the total that he had when he completed the requirements for the first degree, meet all requirements for the second degree, and complete the requirements for another major.

A student who has a degree from another institution and desires a degree from Youngstown College must complete a total of 30 semester hours, meet all requirements for the second degree, and complete the requirements for a new major.

Curriculums to Meet Special Requirements

All states have detailed programs of courses necessary for teaching certificates; medical schools have specific requirements for pre-medical work; and many law, theological, technological, and graduate schools have more or less mandatory recommendations for those seeking admission. A prospective teacher, therefore, or anyone wishing to enter a professional, technological, or graduate school of any kind should consult the Dean of the College as early as possible. Such special needs can usually be met within the degree requirements of Youngstown College, but the proper selection of courses may have to begin in the freshman year.

Commencement Exercises

There is only one graduation ceremony each year: in June, at the end of the second semester of the academic year. A student who completes the requirements for a degree or title at the end of a first semester receives his diploma in June and is present, if at all possible, at the commencement exercises as a member of the graduating class. A student not eligible to graduate in June but planning to complete the necessary work during the ensuing summer session is present in cap and gown at the June ceremony but does not receive his diploma until he completes the requirements.

FEES AND EXPENSES

All tuition and fees for any term are due at the opening of that term. No student may attend classes until he has completed his registration by paying his tuition or arranging with the business manager for its payment. (Late registration entails a penalty fee; see page 80.) If payment is by installments there is a carrying charge on the unpaid balance, and lapse of payment results in suspension from classes; see Tuition Payment by Installments, pages 81-82.

No student may enroll for a new term until he has paid all his previous tuition. No student may graduate or receive a transcript of credits who has not met all his college obligations by May 1 of the year of his intended graduation or transfer, or by the previous December 1 if he intends to transfer at the end of the first semester.

The Business Office, including the cashier's window, is open during the following hours: 8:30-11:30 a.m., 12:30-4:30 p. m., and 6:30-8:30 p. m. Monday through Friday, and 8:30 to noon on Saturday.

Tuition and Fees for One Term

The rates in the following tables are for a single term (semester or quarter, as indicated). Certain non-academic courses* are not counted in totaling semester hours for tuition purposes.

In the College of Arts and Sciences, the School of Business Administration, and William Rayen School of Engineering

Each semester:

Tuition (full-time or part-time), each semester hour	$10.00
Fees payable by every student carrying eleven or more semester hours	22.50
This sum comprises the following fees:	
Athletic	$5.00
Guidance	1.00
Health	3.00
Library	5.00
Neon	2.50
Student Activity	5.00
Student Union	1.00

*Physical Education activity courses, and music ensemble courses open to all students.

Fee payable by every student carrying from six to ten semester hours (inclusive) 5.00

This fee covers the privileges of the Student Activity, Library, and Athletic fees. A student carrying less than six semester hours does not have to pay the fee but may enjoy its privileges by paying it.

In the Dana School of Music

Each semester:

Tuition (for total of 11 to 15 semester hours) ..... $ 94.00
Each semester hour of credit over 15 ..... 10.00

Applied Music charge (3 or 4 semester hours) * 100.00
Each additional hour of applied music 30.00

Fees payable by every full-time music student 24.50

This sum comprises the following fees:

Athletic	$5.00
Guidance	1.00
Health	3.00
Library	5.00
Neon	2.50
Student Activity	5.00
Student Union	1.00
Lecture-Recital	2.00
	$218.50

For part-time applied music charges, see "Tuition Rates for Applied Music" in the Dana School of Music section.

In All Units
(except the School of Law)

Fees payable when applicable, each semester:

Gymnasium fee $7.50

This is a course-fee for each of the four required physical activity courses. For women, the $7.50 includes a charge of $1.50 for locker and equipment.

Laboratory or other special course-fees ..... see Courses of Instruction

Records and Reports Fee ..... $2.50 to $10.00

These and other special fees are explained on pages 79-81, except for the physical activity course-fee (gymnasium fee), which is found under Physical Education.

NOTE: It is understood that any or all exceptions to the payment of fees shall be determined by the business manager.

*As semester hours of academic work for credit, these hours of applied music are included in the 11 to 15 hours covered by the tuition charge. As work in applied music, they require private instruction; the charge for this covers two private lessons a week in the major applied music subject, one

In the School of Law

Tuition, each quarter: each subject $35.00
Student Fee (each fall and winter quarter only) 5.00

This fee covers the privileges of the Student Activity, Library, and Athletic fees.

Records and Reports Fee (each quarter, if applicable) ..... $2.50 to $7.50

This fee varies according to the load carried.

In the Secretarial School

See the special brochure issued for this school. For full-time work taken for college credit, the tuition and fees are the same as for the School of Business Adminstration.

NOTE: It is understood that any or all exceptions to the payment of fees shall be determined by the business manager.

Summer Session

The tuition rate for the summer session is $10.00 a semester hour, plus any additional course fees such as for laboratory courses. A special bulletin describing the summer session is published each April.

Audited Courses

A person auditing a course or courses pays tuition at the regular rate of $10.00 a semester hour, plus any laboratory or other special fees that may be applicable.

Regular Fees

Fees payable by every full-time student support services and activities as follows:

The *Student Activity Fee* ($5.00) goes entirely into the Student Activity Fund, which provides most of the financial

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private lesson a week in the minor applied music subject, and the use of practice rooms. A *voice* or *instrumental* major for the Bachelor of Music degree may enroll for and earn *four* semester hours of credit; a *theory-composition* or *music education* major, *three* hours. For all these majors, the amount of private instruction is the same; but the difference in the amount of practice required leads to a difference in progress and hence in credit hours earned.

For refunds in the event of withdrawal from applied music courses, see page 83.

support for the activities sponsored and supervised by Student Council. For a list of these many activities and an explanation of how the fund is administered, see pages 47-48. Among other benefits, payment of the fee entitles the student, without further charge, to attend all-college social functions sponsored by Student Council and to receive a copy of each issue of the *Jambar* (the student newspaper); it also entitles him to reduced prices for admission to certain college plays.

The *Neon Fee* ($2.50) enables the *Neon*, the college yearbook, to be offered to all students at a price much lower than would otherwise be possible.

The *Health Fee* ($3.00) makes possible, and entitles the student to the advantages of, the services described on page 43.

The *Athletic Fee* ($5.00) helps meet the cost of equipping, training, and transporting teams for participation in intercollegiate football and basketball events and of staging and advertising such events, and entitles the student to admission to Youngstown College football and basketball games in Youngstown.

The *Library Fee* ($5.00) contributes to the maintenance of library service, including books, periodicals, and other facilities, and entitles the student to full use of these facilities. A description of the libraries begins on page 36.

The *Guidance Fee* ($1.00) makes possible the program of testing and guidance described on page 44. It also covers the cost of mimeographing final and other class examinations and of purchasing the standard tests frequently used.

The *Student Union Fee* ($1.00) is used to operate and maintain suitable centers for off-hour and relaxational student activity, including Pollock House.

Regular Fee for Music Students

Lecture-Recital Fee. A fee of $2.00, payable by each full-time music student, makes possible a series of lecture-recitals by prominent artists, composers, and musicologists.

Special Fees

The following fees are payable by those to whom they apply. Any exception is determined by the business manager.

Records and Reports Fee. A fee of from $2.50 to $10.00, depending on the number of semester hours carried, may be charged anyone whose work, status, and/or purposes are such as to involve an amount of processing, record-keeping, or other clerical expense beyond that ordinarily necessary.

Laboratory fees and similar special course-fees, indicated in the descriptions of the courses for which they are charged, cover the cost of materials consumed or other expenses peculiar to the courses concerned.

Instrument Rental Fee. A fee of $3.00 a semester is charged for the use of a college-owned string, brass, or wood-wind instrument. Organ practice is charged for by the hour at the prevailing rate. For further information, see the Dana School of Music section.

Matriculation Fee. A fee of $5.00 is charged every new student, once only, to cover the cost of his initial registration. It must accompany his application for admission.

Late Registration Fee. A fee of $2.00 is charged any student who completes his registration after the final registration date.

Change of Registration Fee. A fee of $2.00 is charged anyone changing his registration after a date fixed by the administration, unless he does so at the request of the administration.

Reinstatement Fee. A fee of $2.00 is charged anyone readmitted to classes after a suspension.

Fee for Credit by Equivalency or Examination. A tuition fee of $10.00 is charged for each hour of credit honored for graduation when such credit is given as the result of examination or equivalency evaluation without the student's having attended the regular classes for the course of instruction. This type of credit must have the approval of the department head, the division head or unit dean, and the dean of the college.

Fees for Irregular Examinations. When a student is allowed to take an examination at a time other than the scheduled one, a fee of $5.00 for a final examination or $3.00 for any other examination is charged at the discretion of the instructor, except in case of illness, when the student must present a letter from his physician.

Graduation Fee. A fee is charged anyone who is to receive a degree or a title. The fee, which includes cap and gown rental, must be paid by May 1 of the year of expected graduation, whether the degree is to be received in June or in August; the amount depends on when the application for graduation (see General Requirements for Graduation) is filed, as follows:

If the application for graduation is filed	*the fee is*
Before the last fall semester before graduation	$ 7.00
During the last fall semester before graduation	10.00
During the last February before graduation	15.00
During the last March before graduation	20.00

These fees apply for each degree or title granted (unless honorary), except that if two degrees are to be received by one person at the same commencement, the total fee is $5.00 more than the pertinent amount listed above.

Transcript of Credits Fee. One transcript of credits is furnished free of charge. A fee of $1.00 is charged for each additional or subsequent transcript.

Student Locker Deposit and Fee. A student assigned a locker deposits fifty cents at the time of assignment. At the end of the semester, or upon withdrawal from college, he is refunded the deposit less a handling charge of ten cents. For further information on lockers, see page 45.

Military Equipment Deposit and Fee. Every student taking military science deposits $10.00 at the beginning of the college year, toward coverage of the cost of United States government property assigned him. When he turns in all such property at the end of the year or upon withdrawal from college, he is refunded $9.50.

Tuition Payment by Installments

Tuition (together with any other fees payable at the beginning of a term) may be paid in installments. The student

electing to do so makes a down payment upon enrolling and arranges with the business office for payment of the balance. The business manager must approve the schedule of payments before the student may attend classes.

The minimum down payment for a student in the School of Law or a private student in the School of Music is 33⅓% of the total due; for others, 25%. There is a carrying charge of 10% on the unpaid balance remaining after the down payment; the minimum carrying charge is $1.00. Any installment contract must be paid in full before the expiration of two-thirds of the term for which it is made.

A student who fails to meet an installment payment when due is suspended from classes until payment has been made. He must then pay the Reinstatement Fee.

No student may enroll for a new term until all his previous tuition and fees have been paid.

Withdrawals and Refunds

No student may enroll for less than a full term. If a student must withdraw from a course or from the college on account of illness or other compelling cause, he must fill out an official Change of Registration form and present it to the registrar and business manager. Failure to attend class or merely giving notice to the instructor is not an official notice of withdrawal.

If a student is permitted by the registrar to withdraw from a course or from the college, the tuition charge for the session, based on the date of the official acceptance of the change of registration or withdrawal, will be as follows:

Length of Term	16-19 Weeks Incl.	12-15 Weeks Incl.	9-11 Weeks Incl.	3-5 Weeks Incl.
One week or less	20%	20%	25%	50%
Between one and two weeks	20%	40%	50%	100%
Between two and three weeks	40%	60%	75%	100%
Between three and four weeks	60%	80%	100%	100%
Between four and five weeks	80%	100%	100%	100%
Over five weeks	100%	100%	100%	—

A student who, after registering, withdraws less than 30 days before the beginning of classes is assessed the minimum charges shown above.

If a course is cancelled by the college, tuition paid for it will be refunded in full or credited against another course or courses, as the student wishes.

Applied music. The foregoing applies to all courses except those in applied music. An applied music course dropped will be charged at the private lesson rate (see Tuition Rates for Applied Music, in the Dana School of Music section) times the number of lessons taken. Whenever the value of a particular credit hour of applied music must be reckoned, the first two credit hours of applied music will be valued at $35.00 each and the third hour at $30.00.

Buechner Hall

The attractive facilities of Buechner Hall (see page 35) are available for women at the following rates: single rooms, $8.00 a week; large double rooms, $6.00 a person a week; small double rooms, $4.50 a person a week. Each guest must purchase weekly a non-transferable meal ticket, good for seven days, at a price of $6.00 (plus Ohio sales tax). All arrangements are made directly with the authorities of Buechner Hall, which is not a part of Youngstown College.

Cafeteria Service

Food at the College Cafeteria is served on a "pay-as-you-go" basis. No meal tickets are sold, nor are charge accounts maintained.

COURSE NUMBERS, ABBREVIATIONS, AND CHANGED COURSES

Course Numbers

Hyphen. A hyphen between numbers (e. g., 101-102), indicates that credit is not given toward graduation for the work of the first semester until the work of the second semester is completed, except when special permission is granted by the head of the department in which the course is given.

Comma. Ordinarily, a comma between numbers (e. g., 105, 106) indicates that the course extends throughout the year, but that credit toward graduation is given for either semester. If the first semester of such a course is prerequisite to the second, it is so designated.

Levels. Courses numbered from 100 to 199 are designed primarily for freshmen; 200 to 299, for sophomores; 300 to 399, for juniors; and 400 to 499, for seniors.

Abbreviations and Reference Marks

The abbreviation *"h. c."* at the end of a course description stands for "semester hour (s) of credit". Credit for a two-semester course is indicated by such a notation as *"3 + 3 h. c."*, meaning "three semester hours of credit each semester".

"Prereq." stands for "prerequisite".

An asterisk or other reference mark used in a curriculum ordinarily refers to a note immediately following that curriculum. Occasionally, however, such a note may be at the foot of the page.

Changed Courses

Changes such as the alteration of a course number, the replacing of one course by another, or the shifting of a course from one department to another, are not mentioned in course descriptions. Changes and deletions since 1948 include the following:

Former Course	*Changed to or Replaced by*	*Effective*
Accounting 201-202X	Accounting 201L-202L	1951-52
Accounting 205X	Accounting 205L	1951-52
Accounting 308-309	Accounting 303-304	1949-50

CHANGED COURSES

Former Course	*Changed to or Replaced by*	*Effective*
Accounting 310	Accounting 410	1950-51
Accounting 401-402	Accounting 401	1950-51
Accounting 409-410	Accounting 407 and 408	1949-50
Accounting 421	Accounting 451	1951-52
Art 105, 106	Art 223, 224	1948-49
Art 121	Education 124	1952-53
Art 206, 207	Art 316, 317	1948-49
Art 208, 209	Art 325, 326	1948-49
Art 215, 216	Art 327, 328	1948-49
Art 221	Education 224	1952-53
Art 309	Art 319, 320	1948-49
Art 310, 311	Art 410, 411	1948-49
Art 321	Education 324	1952-53
Art 322, 323	Education 322, 323	1952-53
Art 332	Education 334	1952-53
Astronomy 101, 102	Astronomy 103	1948-49
Aviation 171	dropped	1948-49
Biology 120	dropped	1951-52
Biology 121	dropped	1951-52
Biology 122	dropped	1948-49
Biology 123	dropped	1948-49
Biology 231	dropped	1952-53
Biology 232	Biology 230 and 250	1948-49
Biology 233	Biology 308	1952-53
Biology 260	Biology 406	1952-53
Biology 401, 402, 403, 404	Biology 414	1952-53
Biology 410	Biology 405	1949-50
Biology 411	Biology 413	1952-53
Business Organization 204	Business Organization 215	1948-49
Business Organization 205	Business Organization 216	1948-49
Business Organization 206	Business Organization 306	1948-49
Business Organization 224	Merchandising 224	1951-52
Business Organization 225	Merchandising 225	1951-52
Business Organization 227-228	Advertising 227-228	1951-52
Business Organization 303	Business Organization 202	1951-52
Business Organization 310	Economics 310	1951-52
Business Organization 311-312	Merchandising 311-312	1951-52
Business Organization 315	Economics 315	1950-51
Business Organization 325	Business Organization 225	1949-50
Business Organization 326	Merchandising 326	1951-52
Business Organization 327-328	Business Organization 227-228	1949-50
Business Organization 329	Advertising 329	1951-52
Business Organization 330	Advertising 330	1951-52
Business Organization 331	Merchandising 331	1951-52
Business Organization 332	Merchandising 332	1951-52
Business Organization 333	Merchandising 333	1951-52
Business Organization 401	Advertising 401	1951-52
Business Organization 409	Merchandising 409	1951-52

Former Course	*Changed to or Replaced by*	*Effective*
Business Organization 410	Merchandising 410	1951-52
Business Organization 411	Advertising 411	1951-52
Business Organization 411-412	Business Organization 411	1950-51
Business Organization 414	Advertising 414	1951-52
Business Organization 415	Advertising 415	1951-52
Business Organization 425	Merchandising 425	1951-52
Business Organization 431	Merchandising 431	1951-52
Business Organization 432	Merchandising 432	1951-52
Business Organization 451	Merchandising 451	1951-52
Carriers	dropped	1949-50
Chemistry 216	dropped	1951-52
Chemistry 317	dropped	1951-52
Chemistry 406	dropped	1952-53
Chemistry 408	dropped	1951-52
Common Law Procedure	Civil Procedure	1949-50
Economics 104	Business Organization 110	1950-51
Economics 301	History 301	1948-49
Economics 302	History 302	1948-49
Economics 310	Economics 319	1952-53
Economics 311	Economics 321-322	1950-51
Economics 312	Economics 325-326	1950-51
Economics 321-322	Business Organization 341-342	1951-52
Economics 323-324	Business Organization 343-344	1951-52
Economics 325-326	Business Organization 345-346	1951-52
Economics 327-328	Business Organization 347-348	1951-52
Education 302 and 303	Library Science 302	1950-51
Education 306	Education 311	1950-51
Education 306X	Education 311	1950-51
Education 330 and 331	Education 330	1949-50
Education 404 and 404A	Education 404	1948-49
Education 441, 442	Education 441	1950-51
Engineering 102	Engineering 202	1950-51
Engineering 103 and 104	Engineering 203 and 204	1949-50
Engineering 105	dropped	1951-52
Engineering 125	Chemistry 103	1949-50
Engineering 201	Engineering 103	1950-51
Engineering 201-202	Engineering 301-302	1949-50
Engineering 203-204	Engineering 211-212	1949-50
Engineering 301	Engineering 303	1949-50
Engineering 302	Engineering 304	1949-50
Engineering 303	Engineering 371L	1950-51
Engineering 304	Engineering 470L	1950-51
Engineering 306	Engineering 360	1949-50
Engineering 308	Engineering 361	1949-50
Engineering 309	Engineering 362	1949-50
Engineering 313L	dropped	1952-53
Engineering 318	Engineering 374	1949-50
Engineering 319	Engineering 471	1949-50
Engineering 320	Engineering 472	1949-50
Engineering 324	Engineering 220	1949-50

CHANGED COURSES

Former Course	*Changed to or Replaced by*	*Effective*
Engineering 342	Engineering 350	1949-50
Engineering 343, 344	Engineering 351, 352	1949-50
Engineering 345	Engineering 353	1949-50
Engineering 346	Engineering 354	1949-50
Engineering 350	Chemistry 250	1951-52
Engineering 350-351	Physics 426-427	1949-50
Engineering 353-354	Engineering 343-344	1949-50
Engineering 360	Engineering 440	1949-50
Engineering 360	Business Organization 310	1950-51
Engineering 373-374	Engineering 476-477	1949-50
Engineering 403	Engineering 473	1949-50
Engineering 405	Engineering 474	1949-50
Engineering 406	Engineering 475 and 475L	1949-50
Engineering 407	Engineering 372	1949-50
Engineering 408	Engineering 373	1949-50
Engineering 412 and 412L	dropped	1952-53
Engineering 418 and 418L	dropped	1951-52
Engineering 440	dropped	1950-51
Engineering 470-471	Engineering 401-402	1949-50
Engineering 476-477	dropped	1951-52
Engineering 478 and 478L	dropped	1951-52
English 101L	English 101R	1952-53
English 103-104	Communication 105-106-107	1952-53
English 115 and 116	Speech and Dramatics 115, 116	1951-52
English 213	Speech and Dramatics 213	1951-52
English 215, 216	Speech and Dramatics 215, 216	1951-52
English 217	Speech and Dramatics 217	1951-52
English 219, 220	Speech and Dramatics 219, 220	1951-52
English 221	Speech and Dramatics 221	1951-52
English 223, 224	Speech and Dramatics 223, 224	1951-52
English 315	Speech and Dramatics 315	1951-52
English 317	Speech and Dramatics 317	1951-52
English 319, 320	Speech and Dramatics 319, 320	1951-52
English 321	Education 321	1950-51
English 323	Speech and Dramatics 323	1951-52
English 355X, 355Y	English 355L	1951-52
English 356	dropped	1949-50
English 357X, 357Y	English 357L	1951-52
English 361	English 461 and 462	1950-51
English 363	English 463 and 464	1950-51
English 419, 420	English 421 and 422	1950-51
English 421	Speech and Dramatics 421	1951-52
English 422	Speech and Dramatics 422	1951-52
French 203 and 204	French 201 and 202	1952-53
French 411	French 411, 412	1950-51
General Science 223	Education 223	1950-51
General Science 225	dropped	1951-52
General Science 246	dropped	1951-52
Geography 104	Business Organization 110	1950-51

Former Course	*Changed to or Replaced by*	*Effective*
German 203 and 204	German 201 and 202	1952-53
German 211, 212	German 215, 216	1950-51
German 213	dropped	1948-49
Greek 203-204	Greek 201, 202	1952-53
History 315, 316	History 315	1951-52
Home Economics 101	Home Economics 101 and 101L	1951-52
Home Economics 103	Home Economics 203	1948-49
Home Economics 104	Home Economics 204	1948-49
Italian 203 and 204	Italian 201 and 202	1952-53
Italian 313	Italian 411	1948-49
Italian 411	Italian 411, 412	1950-51
Jurisprudence	dropped	1950-51
Library Science 214	dropped	1951-52
Library Science 302	dropped	1951-52
Library Science 330	Library Service 330	1951-52
Library Science 402	dropped	1951-52
Mathematics 314	dropped	1951-52
Mathematics 401, 402	dropped	1948-49
Mathematics 404	dropped	1948-49
Music 205, 206 and 305, 306	Music 305, 306	1948-49
Music 309, 310	dropped	1948-49
Music 331-332	Music 209-210	1948-49
Music 423	Music 431-432	1948-49
Music 424	Music 427-428	1948-49
Music 425	Music 430	1948-49
Nursing 403	Biology 383	1950-51
Orientation	Orientation 100	1951-52
Philosophy and Religion 105	Philosophy and Religion 303	1949-50
Philosophy and Religion 106	Philosophy and Religion 208	1949-50
Philosophy and Religion 201	dropped	1949-50
Philosophy and Religion 202	dropped	1950-51
Philosophy and Religion 303	Sociology 409	1948-49
Philosophy and Religion 306	Philosophy and Religion 305	1949-50
Photography 151	Chemistry 125	1951-52
Photography 252	Chemistry 225	1951-52
Physical Education 101, 102	Physical Education 121, 122	1949-50
Physical Education 105	Physical Education 107 and 108	1951-52
Physical Education 106	Physical Education 107 and 108	1951-52
Physical Education 111, 112	dropped	1949-50
Physical Education 113, 114	Physical Education 121, 122	1949-50
Physical Education 115, 116	Physical Education 121, 122	1949-50
Physical Education 117, 118	Physical Education 121, 122	1949-50
Physical Education 119, 120	Physical Education 121, 122	1949-50
Physical Education 205, 206	Physical Education 221, 222	1949-50
Physical Education 211, 212	dropped	1949-50

CHANGED COURSES

Former Course	*Changed to or Replaced by*	*Effective*
Physical Education 213, 214	Physical Education 221, 222	1949-50
Physical Education 215, 216	Physical Education 221, 222	1949-50
Physical Education 217, 218	Physical Education 221, 222	1949-50
Physical Education 219, 220	Physical Education 221, 222	1949-50
Physical Education 303	Physical Education 203	1948-49
Physical Education 311	Physical Education 311-312	1951-52
Physical Education 311-312	Physical Education 311	1949-50
Physical Education 400	dropped	1951-52
Physical Education 413	Physical Education 213	1952-53
Physical Education 416	Physical Education 418 and 428	1951-52
Physics 151	Photography 151	1949-50
Physics 252	Photography 252	1949-50
Physics 317 and 317L	Engineering 317 and 317L	1951-52
Political Science 215-216	History 215, 216	1948-49
Political Science 309 and 310	History 309, 310	1948-49
Political Science 401	Political Science 312	1948-49
Political Science 402	Political Science 307	1948-49
Political Science 404	dropped	1950-51
Psychology 427	dropped	1949-50
Russian 203 and 204	Russian 201 and 202	1952-53
Secretarial Studies 106	dropped	1949-50
Secretarial Studies 109	Secretarial Studies 202	1949-50
Secretarial Studies 301	Secretarial Studies 300-301	1949-50
Sociology 303	Sociology 409	1951-52
Sociology 402 and 403	Sociology 402-403	1950-51
Sociology 402-403	Sociology 312, 313	1951-52
Spanish 203 and 204	Spanish 201 and 202	1952-53
Spanish 203A, 204A	Spanish 203L, 204L	1951-52
Spanish 203L, 204L	Spanish 201L, 202L	1952-53
Spanish 411	Spanish 411, 412	1950-51
Speech and Dramatics 103-104	Communication 105-106-107	1952-53

The College of Arts and Sciences

ORGANIZATION AND DEGREES

Organization and Program

Work done primarily in the College of Arts and Sciences leads to one of three degrees: those of Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Education. The major work may be in any of the departments listed below:

Division of Language and Literature
- Department of Ancient Languages
- Department of English
- Department of Modern Languages
- Department of Speech and Dramatics

Division of Social Sciences
- Department of Economics
- Department of History
- Department of Philosophy and Religion
- Department of Political Science
- Department of Psychology
- Department of Sociology

Departments of science and mathematics
- Department of Biology
- Department of Chemistry
- Department of Mathematics
- Department of Physics

Other departments
- Department of Art
- Department of Education
- Department of Library Service
- Department of Military Science and Tactics
- Department of Physical Education

Interdepartmental majors are possible in classical studies, in military science, in social studies, in Romance languages, and in humanities. Courses are also offered in astronomy, communication, general science, geology, geography, home economics, humanities, journalism, metallurgy, and nursing. Pre-law, pre-medical, and other pre-professional curriculums are available regularly. For other subjects the index may be consulted.

Requirements for Degrees

Following are the requirements for the degrees for which the work is done entirely or primarily in this unit. It is the student's responsibility to see that he satisfies all graduation requirements. The general requirements for all degrees are stated

on page 72ff. Students enrolled or planning to enroll in the R.O.T.C. should note the relevant information on page 73.

The Degree of Bachelor of Arts

To be granted the degree of Bachelor of Arts, a student must have met the general requirements for all degrees (see page 72ff.), have received credit for 125 semester hours of work, and have met the following requirements:

Communication.....Satisfactory proficiency (8 or 9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education.....4 hours

Physical Education 107 and 108 (hygiene), 2 hours; and four physical activity courses, totaling 2 hours. Night students may take other physical education courses in place of the activity courses.

Orientation 100.....Credit

Not required of night students.

Social Science 101 and 102.....6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion.....3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Science.....11 hours

Eight hours must be entirely in biology, in chemistry, or in physics. The other three hours may be in astronomy, biology, chemistry, geology, mathematics, or physics.

History 201 and 202.....6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

English.....3 hours

Three hours of literature.

Psychology 201.....3 hours

A foreign language.....A reading knowledge (12 hours)

A reading knowledge is defined as the equivalent of what a student should know after two years of successful college study. A certificate indicating that the student has fulfilled this requirement must be obtained from the head of the Department of Foreign Languages. For the application of high school language credits toward this requirement, see page 94.

The Degree of Bachelor of Science

To be granted the degree of Bachelor of Science, a student must have completed the general requirements for all degrees; have received credit for 136 semester hours of work;* have completed a major in biology, chemistry, mathematics, metallurgy, military science, physics, or a pre-medical combination of sciences; and have completed the following requirements:

Communication.....Satisfactory proficiency (8 or 9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education.....4 hours

Physical Education 107 and 108 (hygiene), 2 hours; and four physical activity courses, totaling 2 hours. Night students may take other physical education courses in place of the activity courses.

Orientation 100.....Credit

Not required of night students.

Social Science 101 and 102.....6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion.....3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Science.....Completed through the major

History 201 and 202.....6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

†A foreign language.....A reading knowledge of scientific French or German (12 hours)

A reading knowledge is defined as the equivalent of what a student should know after two years of successful college study. A certificate indicating

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*To permit sufficient specialization without reducing too greatly the student's general education, more semester hours of work are required for this degree than for that of Bachelor of Arts or Bachelor of Science in Education, and the curriculums leading to it take longer than the usual eight semesters to complete. However, by attending summer sessions, any of the curriculums can be completed in four years.

†Not required of those offering nursing or medical technology as the major. The student majoring in military science may meet this requirement with any modern foreign language.

that the student has fulfilled this requirement must be obtained from the head of the Department of Foreign Languages. For the application of high school language credits toward this requirement, see page 94.

The Degree of Bachelor of Science in Education

To receive the degree of Bachelor of Science in Education, the student must have met the general requirements for all degrees, have received credit for 125 semester hours of work, have completed a curriculum leading to a provisional teaching certificate, and have met the following requirements:

Communication.....Satisfactory proficiency (8 or 9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education.....4 hours

Physical Education 107 and 108 (hygiene), 2 hours; and four physical activity courses, totaling 2 hours. Night students may take other physical education courses in place of the activity courses.

Orientation 100.....Credit

Not required of night students.

Social Science 101 and 102.....6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion.....3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Science.....9 hours

The nine hours may be in any science or sciences.

History 201 and 202.....6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

English.....3 hours

Three hours of literature, or (in certain curriculums) English 251.

The Combined Course Leading to the Degrees of Bachelor of Arts and Bachelor of Laws

A student who has completed in the College of Arts and Sciences at least 95 credit hours and has satisfied all requirements for the Bachelor of Arts degree except the completion of 125 hours of credit and the completion of a major, will be granted the degree of Bachelor of Arts on the satisfactory com-

pletion of two years of regular work in the law school. The student may satisfy his major requirements by utilizing the 32 semester hours of credit acquired in the law school toward a combined major in social science, or by completing a major of 30 semester hours in some department of the College of Arts and Sciences. He may carry nine hours of undergraduate work a semester while in law school.

By this arrangement students are enabled to secure the arts degree after three years of work in the college followed by two years of work in the law school. The degree of Bachelor of Laws will be granted after the completion of three additional years of work in the law school. For the required course of study for the degree of Bachelor of Laws, see the curriculum in the School of Law section.

The Combined Liberal Arts-Professional Course for Medical Students

A student who has completed at least 100 credit hours toward the degree of Bachelor of Arts (or 111 hours toward the degree of Bachelor of Science) and has satisfied all requirements for the degree except the completion of the total number of credit hours required and the completion of a major, will be granted the degree of Bachelor of Arts (or Bachelor of Science) on the satisfactory completion of the remaining number of credit hours at any medical school granting the degree of Doctor of Medicine and approved by the American Medical Association, provided that he has been accepted for further study at the medical school. The student may satisfy his major requirement by utilizing the credit accepted for medical school work toward a combined major in pre-medical sciences.

In this way the student is enabled to secure the Bachelor of Arts or Bachelor of Science degree after from three to three and a half years of work in the college followed by approximately a year of work in medical school.

Credit Evaluation for the Foreign Language Requirement

For the Bachelor of Arts degree, 4 high school credits, if all in the same language, will satisfy the requirement, with no further work in college. A student who has 3 high school credits in one language may meet the requirement by taking

1 semester of additional work in that language. A student with 2 high school credits in one language may meet the requirement by taking 2 semesters of additional work in that language. A student with 1 or no high school credits in language may meet the requirement by taking 4 semesters of work in one language, but he receives college credit for only two of them, the other two serving to make up his entrance deficiency.

For the Bachelor of Science degree, the same principle applies. However, a student who wishes to meet the requirement for this degree with German and who does not take German 215-216, Chemical German, must pass an examination in scientific German in order to be certified.

The reading knowledge necessary for either degree may be acquired in any way the student chooses; but in the absence of high school or college credits as stated above, the student must pass an examination in order to be certified.

COURSES OF INSTRUCTION

and Curriculums

It is important that the student familiarize himself with the course-numbering system and its significance, as well as the abbreviations used to indicate the amount of credit. These are explained on page 84.

ANCIENT LANGUAGES AND LITERATURE

See Greek, Hebrew, and Latin. For literature in translation, see Humanities, and Philosophy and Religion 230, 303, and 330.

Combined Major in Classical Studies

A combined major in classical studies consists of 45 semester hours in courses chosen from the following: Greek 101-102, 201, 202, 301, and 302; History 311 and 312; Humanities 401 and 402; Latin 101-102, 201, 202, 301, 302, 303, 304, and 305; and Philosophy 301. The student should consult the director of the Division of Language and Literature before starting work toward this major.

ART

A suggested curriculum for the degree of Bachelor of Arts with a major in art appears below, after the course descriptions. For the degree of Bachelor of Science in Business Administration with a major in business art, a required curriculum will be found in the School of Business Administration section; for the curriculum required for the degree of Bachelor of Science in Education with a major in art education, see Education.

Lower Division Courses

110, 111. COLOR AND DESIGN I. Experimentation with all kinds of materials and media. Realizing the effects of color with color, color into color, and light on color; creating collages and mobiles to realize space, and experiments with light on these; shadow forms; use of various textures in collages and in two-dimensional design; relation of light and dark; getting forceful and expressive shapes. 110 is prerequisite to 111. Fee: $1.00 each semester. *3 + 3 h. c.*

113, 114. HISTORY AND APPRECIATION OF ART: GENERAL. Lectures on what constitutes art: the plastic means rather than the subject matter, and the relationship of parts; attention to developments, influences, and experiments. Study of reproductions of museum collections and of surveys made. *3 + 3 h. c.*

150. MECHANICAL DRAWING. Proper use of instruments, correct drafting-room practice, conventional representation; lettering, free-hand sketching, geometric construction, orthographic and oblique projection, sectioning and isometric drawing. For the prospective art teacher. Not accepted for credit toward the Bachelor of Engineering degree. Fee: $1.00. *3 h. c.*

201, 202. LIFE DRAWING AND PAINTING. Experience in drawing from the human figure. Attention to the power of line, the relation of shapes and colors, and their organization in established space. Reference to important historical styles influencing contemporary work. Fee: $2.00 each semester. *3 + 3 h. c.*

203, 204. DRAWING AND PAINTING. Space division, the plastic means, line, plane, volume; light and dark, color and texture, and their relation to form and pattern. Use of different media—pencil, charcoal, water color, opaque water color, pastel, oil, and collage—for still life, figure composition, life, landscape, and abstract forms, to develop a sense of plastic organization. Prereq.: Art 110, 111. 203 is prerequisite to 204. Fee $1.00 each semester. *3 + 3 h. c.*

211, 212. COLOR AND DESIGN II. The fine relationships of color, tone, line, shapes, notan, and texture, especially as applied to textiles; further experiments with collages and mobiles to develop sensitivity in combining materials; systems in pattern construction. Prereq.: Art 110, 111. 211 is prerequisite to 212. Fee: $1.00 each semester. *3 + 3 h. c.*

223, 224. ADVERTISING ART I. Practice with different styles of lettering; application of principles of Art 110, 111 to layouts; reproduction of silk screen, linoleum block, monoprint, and dry point; study of cur-

rent tendencies. Prereq.: Art 110, 111, except that 111 is not required of candidates for the Bachelor of Science in Business Administration degree. 223 is prerequisite to 224. Fee: $1.00 each semester. *3 + 3 h. c.*

Upper Division Courses

301, 302. COLOR AND DESIGN III. Continuation of Art 211, 212. Study of the functions of the plastic means, line, plane, form, color, notan, and texture; their testing with many materials used in industrial design; application to practical problems: e. g., installations for art exhibitions. Prereq.: Art 211, 212. 301 is prerequisite to 302. Fee: $1.00 each semester. *3 + 3 h. c.*

303, 304. FIGURE DRAWING AND PAINTING I. Practice in oil painting. The student is encouraged to see significantly rather than imitatively, and to develop an explorative interest in techniques. Attention to the relation of shapes and volumes in the figure and in groups of figures, to achieve good organization. Prereq.: Art 203, 204. 303 is prerequisite to 304. Fee: $1.00 each semester. *3-or-4 + 3-or-4 h. c.*

305. HISTORY AND APPRECIATION OF ART: ITALIAN RENAISSANCE. Review of formalism, mysticism, and classicism; the new humanism; detailed study of the great artists and their connection with the history and philosophy of the times. Prereq.: Art 113, 114. *3 h. c.*

306. HISTORY AND APPRECIATION OF ART: MODERN. Viewing of art works through slides, prints, and originals to clarify ideas of the nature of creative art; classification according to trends and influences from earlier art expressions. Prereq.: Art 203, 204 or equivalent. *3 h. c.*

316, 317. INTERIOR DECORATING. Application of experiences in Art 110, 111 to rooms and furnishings; development of feeling of space in interiors. Study of period furnishings, new designs, and textiles; building of models to carry out decoration plans; new trends. Visits to houses with special arrangements or styles of furnishings. Prereq.: Art 110, 111. 316 is prerequisite to 317. Fee: $1.00 each semester. *3 +3 h. c.*

319, 320. JEWELRY AND METAL WORK I. Designing and shaping of copper ware; punching, etching, engraving. Jewelry design and fabrication. The properties and limitations of metals, learned through experience. Prereq.: Art 110, 111. 319 is prerequisite to 320. Fee: $1.00 each semester. *3 + 3 h. c.*

325, 326. POTTERY AND MODELING. Pottery-shaping: coiling, hand-building, pinching; decoration and glazing; fashioning figures and heads to arrive at sculptural form; mold-making and casting; bas-relief. Prereq.: Art 110, 111. 325 is prerequisite to 326. Fee: $2.00 each semester. *3 + 3 h. c.*

327, 328. ADVERTISING ART II. Modern layout practice and technique, with various media, including silk screen, air brush, collage; bookplates, trademarks, containers, illustration, booklets, menus; rapid and fine lettering; design as a basic element. Prereq.: Art 223, 224. 327 is prerequisite to 328. Fee: $1.00 each semester. *3 + 3 h. c.*

329, 330. SCULPTURE. A special discipline, correlated with some of the "form in space" problems dealt with in earlier design classes but here concentrated through a more specific medium. Each student has ample opportunity to model in clay or carve directly in wood or soft stone. Prereq.: Art 110, 111. Fee: $2.00 each semester. *3 + 3 h. c.*

403, 404. FIGURE DRAWING AND PAINTING II. Continuation of Art 303, 304. 403 is prerequisite to 404. Fee: $1.00 each semester. *3 + 3 h. c.*

405. HISTORY AND APPRECIATION OF ART: ORIENTAL. The art of India, China, and Japan from the earliest times to the present, and its relation to the philosophies and religions of those countries; comparison of the characteristics of the great periods. Prereq.: Art 113-114, 305, and 306. *3 h. c.*

410, 411. ADVANCED MODELING. Application of the principles of Art 110, 111 to clay and plaster; abstract volumes and their relations; modern tendencies in pottery forms and figure work. Prereq.: Art 325, 326. 410 is prerequisite to 411. Fee: $2.00 each semester. *3 + 3 h. c.*

419. JEWELRY AND METAL WORK II. Advanced work in processes: new problems in brass, silver, copper, and gold. Prereq.: Art 319, 320. Fee: $1.00. *3 h. c.*

Suggested Curriculum for the Degree of Bachelor of Arts with a Major in Art

First Year	Hrs.
Art 110, 111 Color and Design I	6
Art 113, 114 History and Appreciation of Art: General	6
Comm. 105-106 Basic Course	6
*Foreign language (or electives)	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	33

Second Year	Hrs.
Art 203, 204 Drawing and Painting	6
Art elective (200 or above)	3
Comm. 107 Basic Course	3
Engl. 200, 203, 204, 205, or 206	3
*Foreign language (or electives)	6
Hist. 201 and 202 The United States	6
Psychology 201 General Psychology	3
Physical Education (activity)	1
	31

Third Year	
Art 301, 302 Color and Design III	6
Art 303, 304 Figure Drawing and Painting I	3-6
Art elective (200 or above)	3
History elective	3
Literature elective	3
Philosophy and Religion elective, or Humanities 401 or 402	3
*Science	8
	34-32

Fourth Year	
Art 305 History and Appreciation of Art: Italian Renaissance	3
Art 306 History and Appreciation of Art: Modern	3
*Mathematics or science	3
Sp. and Dram. 219, 220 Play Production I	6
Electives (Upper Division)	12-14
	27-29

*See the requirements for the Bachelor of Arts degree, on page 91.

ASTRONOMY

See also General Science 121.

Lower Division Course

103. DESCRIPTIVE ASTRONOMY. A descriptive and non-mathematical study of the stars and the solar system. Analysis of present theories of the universe and some observation with telescope or field glass. *3 h. c.*

BIBLE

See Philosophy and Religion: also Humanities.

BIOLOGY

Biology courses are offered to meet the needs of the following students: those who want a general knowledge of the biological field; those who intend to do graduate or research work in any of the special branches of biology; those who desire to teach the biological sciences; and those who plan to enter professional fields such as medicine, nursing, pharmacy, forestry, horticulture, and others requiring a knowledge of biology.

General biology majors must take Biology 103, 124, 125, 224, 225, and 321, and electives from Upper Division courses. Chemistry 321, 322, Biological Chemistry, may be counted toward a biology major.

Pre-medical students and co-operative nursing students should consult the special curriculums at the end of the College of Arts and Sciences section.

Lower Division Courses

103. GENERAL BIOLOGY. A survey of biological principles, covering the morphology and physiology of chromosomes, cells, and tissues as manifested in animals, bacteria, and green plants. Three two-hour laboratory-discussion periods a week. Fee: $6.00. *3 h. c.*

116. WOODY PLANTS, WINTER. Classification of woody plants in winter condition. 54 contact hours. Latter half of fall semester or first half of spring semester. *1 h. c.*

117. SPRING FLORA. Classification of vernal flowering plants. 54 contact hours. Latter half of spring semester. *1 h. c.*

118. WOODY PLANTS, SUMMER. Classification of woody plants while in leaf. 54 contact hours. Latter half of spring semester, or summer school. *1 h. c.*

119. SUMMER FLORA. Identification of flowering plants exclusive of composites, umbels, and other difficult families. 54 contact hours. Summer school only. *1 h. c.*

124. BOTANY: LOWER FORMS. The thallophytes and bryophytes. Two two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 103. Fee: $6.00. *2 h. c.*

125. ZOOLOGY: INVERTEBRATES. Completion of comprehensive study of the invertebrates. Two two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 103. Fee: $6.00. *2 h. c.*

175. GENERAL ZOOLOGY. A survey of the invertebrates and a comprehensive study of the vertebrates. Three two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 103; open only to students in nursing, physical education, and medical technology. Fee: $6.00. *3 h. c.*

219. ADVANCED SUMMER FLORA. Identification of the more difficult flowering plants. 54 contact hours. Summer school or first half of fall semester. Prereq.: Biology 119, or consent of instructor. *1 h. c.*

224. BOTANY: VASCULAR PLANTS. A comprehensive study of the pteridophytes and spermatophytes. Three two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 124. Fee: $6.00. *3 h. c.*

225. ZOOLOGY: VERTEBRATES. A comprehensive study of the morphology and taxonomy of the chordates. Three two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 125. Fee: $6.00. *3 h. c.*

230. ANATOMY AND PHYSIOLOGY I. The dissection and interpretation of the cat, with correlations with the structures of the human body. Three two-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 175 or 225. Fee: $6.00. *3 h. c.*

250. ANATOMY AND PHYSIOLOGY II. Functions of the human body. Three one-hour lectures a week. Prereq.: C or better in Biology 230. *3 h. c.*

Upper Division Courses

301. BACTERIOLOGY. The fundamentals of bacteria, and methods of handling and growing micro-organisms. Two one-hour lectures and two three-hour laboratory periods a week. Prereq.: 12 semester hours of credit in biology, a knowledge of the principles of organic chemistry, and the consent of the instructor. Fee: $10.00. *5 h. c.*

304. PHYSICAL ANTHROPOLOGY. The origin and evolution of man as disclosed by fossil apes and early human types; prehistoric archaeology and the development of culture; the modern ethnic groupings of man. Three two-hour discussion-laboratory periods a week. Recommended to be taken concurrently with Sociology 204. Prereq.: permission of instructor. Listed also as Sociology 314. *3 h. c.*

308. VERTEBRATE EMBRYOLOGY. Germ cells, maturation, types of cleavage and gastrulation, and the development of the frog, chick, and mammal. Living material used in demonstration. Two one-hour lectures and two two-hour laboratory periods a week. Prereq.: C or better in Biology 225. Fee: $6.00. *4 h. c.*

309. VERTEBRATE ANATOMY I. A comparative study of the anatomical structures of a series of vertebrate animals exclusive of the mammals. Two one-hour lectures and one three-hour laboratory period a week. Prereq.: C or better in Biology 233. Fee: $10.00. *3 h. c.*

310. VERTEBRATE ANATOMY II. A study of the anatomy of mammals, based on the cat, with reference to Biology 309. Three two-hour laboratory-discussion periods a week. Prereq.: permission of the instructor. Fee: $8.50. *3 h. c.*

313. VERTEBRATE HISTOLOGY. The microscopic anatomy of mammalian tissue, including preparation of tissues for study. Two three-hour laboratory-discussion periods a week. Prereq.: C or better in Biology 308 (formerly 233). Fee: $8.50. *3 h. c.*

316. TAXONOMY OF MOSSES AND ALLIES. Identification in the field and in the laboratory. 54 contact hours. Offered in alternate years. Prereq.: Biology 124 and 219, or consent of instructor. *1 h. c.*

317. TAXONOMY OF FERNS AND ALLIES. Identification in the field and in the laboratory. 54 contact hours. Offered in alternate years. Prereq.: Biology 124 and 219, or consent of instructor. *1 h. c.*

318. TAXONOMY OF GRASSES. Identification of local grasses. 108 contact hours. Offered in alternate years. Prereq.: Biology 219 and 224, or consent of instructor. *2 h. c.*

321. GENETICS. Principles of inheritance, organic evolution, and eugenics. Three one-hour lectures a week. Prereq.: C or better in Biology 224 or 225. *3 h. c.*

321L. SPECIAL PROBLEMS IN GENETICS. An optional supplement to Biology 321; may be taken concurrently or later. Prereq.: C or better in Biology 224 or 225. Fee: $6.00. *2 h. c.*

331. PHYTOMORPHOLOGY. Comparative anatomy and histology of the vascular plants. Two one-hour lectures and two two-hour laboratory periods a week. Prereq.: C or better in Biology 224. Fee: $6.00. Offered in alternate years. *4 h. c*

332. PLANT PHYSIOLOGY. The chemistry, physics, and functions of green plants. Two one-hour lectures and two three-hour laboratory periods a week. Prereq.: C or better in Biology 224. Fee: $10.00. Offered in alternate years. *4 h. c.*

383. WARD MANAGEMENT AND TEACHING. The fundamental principles in the management of the head nurse unit and the duties of the head nurse as teacher: discussions of the various problems that arise in the head nurse unit. Not applicable toward a major in biology. Prereq.: standing as registered nurse. *3 h. c.*

405. GENERAL PHYSIOLOGY. An introduction to the basic processes common to all organisms. Five one-hour lecture demonstration periods weekly. Prereq.: two years of biology and one year of chemistry. *4 h. c.*

406. LIMNOLOGY. The study of microscopic fresh-water organisms and their physical environment. Two four-hour laboratory-discussion periods a week. Prereq.: junior standing and permission of the instructor. Fee: $6.00. Offered in alternate years. *4 h. c.*

408. BIOLOGICAL TECHNIQUES. The techniques of making microscopical preparations, plastic mounts, models, etc. Two three-hour laboratory periods a week. Prereq.: 20 semester hours of biology and permission of the instructor. Fee: $10.00. *2 h. c.*

412. PROBLEMS IN BIOLOGY. Special biological problems for which materials and equipment are available and for which the student is qualified. Available at all times. Prereq.: recommendation by staff. Fee: $9.00. *3 h. c.*

413. SEMINAR: HISTORICAL. Lectures, readings, and discussions relevant to the history of biology and to classics in the field. Six hours a week. Prereq.: permission of the staff. *2 h. c.*

414. SEMINAR: CURRENT. Examination of monographs, periodicals, pamphlets, etc. Written reports, with round-table discussions of them. One hour of class and five hours of assigned work a week. Prereq.: permission of the staff. *2 h. c.*

416. SYSTEMATIC BOTANY. The theory of plant taxonomy Prereq.: permission of instructor. *3 h. c.*

BOTANY

See Biology.

CHEMISTRY

A student for the degree of Bachelor of Science with a major in chemistry must take Chemistry 109 or 111, 110 or 112, 205, 206, 207, 208, 301, 302, 303, 304, 307, 311, 312, 319, 320, 401, 419, and 421, and from three to six hours each in two of the following fields: advanced inorganic chemistry, advanced organic chemistry, and biochemistry. Also required are two years of mathematics, including calculus; one year of physics; and a reading knowledge of scientific German. Further work in physics and a reading knowledge of French are recommended.

The student may take the degree of Bachelor of Arts with a major in chemistry, but the course leading to the degree of Bachelor of Science prepares him better for graduate work and for the more desirable industrial positions.

Curriculums are suggested below for the degree of Bachelor of Science with a major in chemistry and with a major in metallurgy. For chemical and metallurgical engineering, see the William Rayen School of Engineering section.

Where laboratory or other work is not specified in a course description, the class work is in the form of 50 minutes of lecture and recitation for each hour of credit.

Lower Division Courses

103. THE SLIDE RULE. Logarithms, significant numbers, and manipulation of the slide rule. Problems in chemistry are emphasized. *1 h. c.*

109-110. GENERAL CHEMISTRY. The fundamentals of chemistry, for those who have not studied chemistry in high school. Three lectures and recitations and four hours of laboratory a week, including a discussion period. Prerequisite: two years of high school mathematics. Fee: $7.00 each semester. *5 + 5 h. c.*

111-112. GENERAL CHEMISTRY. A more advanced course, for those who have had a satisfactory year of high school chemistry. Two lectures and recitations and four hours of laboratory a week, including one discussion period. Prerequisite: two years of high school mathematics. Fee: $7.00 each semester. *4 + 4 h. c.*

115-116. EVERYDAY CHEMISTRY. For students who wish to take chemistry for its cultural value. Emphasis is on the chemistry of the things with which we have daily contact in the home, the parks and fields, and business and industrial life. Only the simpler mathematical phases are involved. Not accepted for credit toward a major in chemistry or for engineering. A student who has taken this course may take additional courses in chemistry providing he first takes Chemistry 110. Three lectures and recitations and one three-hour laboratory period a week. Fee: $5.00 each semester. *4 + 4 h. c.*

119, 120. CHEMICAL MATHEMATICS. The mathematical aspects of first-year chemistry. Prerequisite or concurrent: first-year chemistry. *1 + 1 h. c.*

125. ELEMENTARY PHOTOGRAPHY. For the average camera enthusiast. A study of light, lenses, and the elementary chemistry of photography; demonstrations and practice in picture-taking, developing, printing, and enlarging, using various grades of film and paper. One hour of lecture and recitation and one two-hour laboratory period a week. Not applicable toward the science requirement for the Bachelor of Arts, Bachelor of Science, or Bachelor of Engineering degree. Fee: $5.00. *2 h. c.*

205. QUALITATIVE ANALYSIS. An extension of the study of atomic structure, valence, the periodic system, and chemical equilibrium and their applications to reactions, properties of elements and compounds, and analytical procedures. In the laboratory, cations, anions, and salts are systematically analyzed on a semi-micro basis. Spot testing is used only for confirmation. Two hours of lecture and recitation and two three-hour laboratory periods a week. Prereq.: Chemistry 109-110 or 111-112. A student expecting to take quantitative analysis should take Chemistry 206 concurrently with Chemistry 205. Fee: $7.00. *4 h. c.*

206. QUANTITATIVE ANALYSIS. An introduction to quantitative analysis, both volumetric and gravimetric, including use of the analytical balance; use of volumetric apparatus; calculations, errors, means of minimizing errors. One hour of lecture and one three-hour laboratory period a week. Prerequisite or concurrent: Chemistry 205. Fee: $7.00. *2 h. c.*

207. QUANTITATIVE ANALYSIS. Volumetric analysis. Acidimetry and alkalimetry; oxidation and reduction methods; water analysis (chemical) to determine very small concentrations of materials by colorimetric methods. One hour of lecture and two three-hour laboratory periods a week. Prereq.: Chemistry 206. Fee: $7.00. *3 h. c.*

208. QUANTITATIVE ANALYSIS. Gravimetric analysis. Principles and methods of gravimetric separations; analysis of ores, rocks, and minerals. One hour of lecture and two three-hour laboratory periods a week. Prereq.: Chemistry 206. Fee: $7.00. *3 h. c.*

225. ADVANCED PHOTOGRAPHY. The science underlying photography is emphasized: the chemistry and physics of emulsions, developing, fixing, toning, color, and color compounds. Application of the theoretical principles to such techniques as the use of filters, lighting, and enlarging. One hour of lecture and recitation and one two-hour laboratory period a week. Prereq.: Chemistry 125 or its equivalent. Fee: $5.00. *2 h. c.*

226. STUDIO PHOTOGRAPHY. The art of composition and the technical procedure of studio photography. The lighting and posing of a subject, with use of models. The techniques of developing, printing, negative retouching, darkroom procedure, finishing, toning, dry mounting, and coloring. Prereq.: Chemistry 125 or equivalent. Fee: $7.50. *2 h. c*

250. METALLURGICAL ANALYSIS. Qualitative and quantitative analysis of natural ores, commercial alloys, and fluxes. One hour of lecture and two three-hour laboratory periods a week. Prereq.: Chemistry 207. Fee: $5.00. *2 h. c.*

Upper Division Courses

301, 302. ORGANIC CHEMISTRY. The nomenclature, properties, and deportments of the aliphatic and aromatic carbon compounds; general organic reactions, their applications, and the theories underlying them. Prereq.: Chemistry 205. 301 is prerequisite to 302. *3 + 3 h. c.*

303, 304. ORGANIC CHEMISTRY LABORATORY. The preparation and study of typical aliphatic and aromatic compounds, and introductory work in the separation, purification, and identification of simple compounds. Two three-hour laboratory periods a week, including a discussion period. Prerequisite or concurrent: Chemistry 301. 303 is prerequisite to 304. Fee: $9.00 each semester. *2 + 2 h. c.*

307. CHEMICAL LITERATURE AND TECHNICAL WRITING. Examination of standard reference works, periodicals, pamphlets, etc., with written reports following various technical writing procedures; translation of a short German article. One hour of class work and five hours of reference and composition work a week. *2 h. c.*

311, 312. PHYSICAL CHEMISTRY. The principles of theoretical chemistry, including the structure of matter, equilibria, chemical kinetics, chemical thermodynamics, electro-chemistry, catalysis, and mechanism of reactions. Prereq.: Chemistry 208. Prerequisite or concurrent: Mathematics 209-210 and Physics 201 and 202. 311 is prerequisite to 312. *3 + 3 h. c.*

319, 320. PHYSICAL CHEMISTRY LABORATORY. Quantitative investigation of gas laws, surface tension, speed of reaction, solutions, phase diagrams, electro-motive force, hydrogen ion concentration, and absorption. Two three-hour laboratory periods a week, including a discussion period. Prerequisite or concurrent: Chemistry 311-312. 319 is prerequisite to 320. Fee: $9.00 each semester. *2 + 2 h.c.*

321, 322. BIOLOGICAL CHEMISTRY. The analytical and physical chemistry of living organisms; comparative study of their physical and chemical processes in relations to their environments; preparation of products obtained from natural materials; and study of procedures of special use in biological chemistry. Prereq.: Chemistry 205, 206, and 301, and a course in biology, preferably in college. Two lectures and three hours of laboratory a week. Fee: $7.00 each semester. *3 + 3 h. c.*

330. CHEMICAL MICROSCOPY. Analysis by means of procedures carried out on slides and observed under the microscope. Precipitation, filtration, decantation, sublimation, fusion, etc., permit the identification of the elements separately and from mixtures. Trace amounts of unknowns may be readily detected. One hour of lecture and six hours of laboratory a week. Prereq.: Chemistry 207, 208. *3 h. c.*

340-341. PRINCIPLES OF CHEMICAL ENGINEERING. Review of the principles of stoichiometry, with emphasis on the utility of the pound mol as a unit in calculation. Mathematical analysis of the phenomena accompanying the flow of heat and of liquids and the laws governing these operations. Detailed consideration of crushing and grinding processes, mechanical methods of separating materials, and forms of filtration. Processes dependent upon vaporization are treated in relation to vapor pressure equilibria. Humidification, dehumidification, water cooling, evaporation, and distillation. Prereq.: Chemistry 207 and 208. Listed also as Engineering 340-341. *3 + 3 h. c.*

343. GAS AND FUEL ANALYSIS. The analysis of natural and artificial gases, gas calorimetry, analysis and calorimetry of coal, and analysis and physical testing of oils. One lecture and two three-hour laboratory periods a week. Prereq.: Chemistry 208. Fee: $7.00. *3 h. c.*

345. THE RARER ELEMENTS. A study of the rarer elements, including preparation, properties, and qualitative separation. Prereq.: Chemistry 207 and 208. *2 h. c.*

347. INORGANIC SYNTHESIS. The preparation and purification of inorganic compounds, with a study of the principles involved. Six hours of laboratory a week, including discussion. Prereq.: Chemistry 207 and 208. Fee: $5.00. *2 h. c.*

401. ADVANCED QUANTITATIVE ANALYSIS. Colorimetric, turbidimetric, and electrometric titrations; the use of instruments is emphasized. Nine laboratory hours a week, including a discussion period. Prereq.: Chemistry 208 or its equivalent. Fee: $9.00. *3 h. c.*

404. ORGANIC ANALYSIS. Systematic methods of separating, purifying, and identifying organic compounds, and practice in the standard methods for quantitative analysis of such compounds. Twelve laboratory hours a week, including a discussion period. Prereq.: Chemistry 303. Fee: $9.00. *4 h. c.*

411. THERMODYNAMICS. The laws of thermodynamics and their application to entropy, free energy, and heat capacity. Prereq.: Chemistry 207 and 208, or junior standing with major in physics. Listed also as Physics 411. *2 h. c.*

412. THERMODYNAMICS. The application of thermodynamics to phase equilibria, fugacity, and activity; free energy and chemical reactions; solution activities. Debeye-Huckel theory, and electrical potential. Prereq.: Chemistry 411. Listed also as Physics 412. *2 h. c.*

415. ELECTRO-CHEMISTRY. The fundamental principles and applications of electro-chemistry; correlated laboratory experiments. Two lectures and two three-hour laboratory periods a week. Prereq.: Chemistry 207 and junior or senior standing. Fee: $5.00. *4 h. c.*

419. ADVANCED INORGANIC CHEMISTRY. Theories of inorganic chemistry. Prereq.: Chemistry 208. *2 h. c.*

421. ADVANCED ORGANIC CHEMISTRY. Theories of organic chemistry. Prereq.: Chemistry 302. *2 h. c.*

425. ORGANIC REACTIONS. A study of complex reactions emphasizing carbon-to-carbon bonds. Prereq.: Chemistry 302. *2 h. c.*

430. UNIT DESIGN. The development and study of apparatus to carry out laboratory-proved reactions. Prereq.: junior or senior standing, with major in chemistry, physics, or chemical engineering, and permission of department head. Fee: $5.00 for the first credit hour; $3.00 for each additional credit hour. *Hours and credit to be arranged.*

450. GROUP RESEARCH. Each student works on a different phase of a group problem; the work is co-ordinated and closely supervised by the instructor. Prereq.: senior standing, candidacy for the Bachelor of Science degree, and at least 30 semester hours of chemistry with a B average or better. Fee: $5.00 for the first credit hour; $3.00 for each additional credit hour. *Hours and credit to be arranged.*

Curriculums

NOTE. If either of these curriculums is to be completed in four years, some work must be taken in summer terms to avoid overloading. It is recommended that such work be non-science courses, such as Social Science 101 and 102 and the language courses. (A student may obtain by himself the required reading knowledge of chemical German; see page 95.)

In these curriculums, Mathematics 210 may count as an Upper Division course. English 101-102 and Speech and Dramatics 115, 116 (totaling 10 hours) may be substituted for Communication 105-106-107. The first-year mathematics may be either Mathematics 101, 102, College Algebra; 103, Trigonometry; and 114, Analytic Geometry (totaling 12 hours); or Mathematics 120-121, Freshman Mathematics (10 hours).

Chemistry

Suggested Curriculum Leading to the Degree of Bachelor of Science with a Major in Chemistry

First Year	Hrs.
Chem. 109-110 or 111-112 General Chemistry	10 or 8
Comm. 105-106 Basic Course	6
Mathematics	12 or 10
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	37 to 33

Second Year	Hrs.
Chem. 205 Qualitative Analysis	4
Chem. 206, 207, and 208 Quantitative Analysis	8
Comm. 107 Basic Course	3
German 101-102 Elementary German	6
Hist. 201 and 202 United States	6
Math. 209-210 Calculus I and II	10
Physical Education (activity)	1
	38

Third Year	Hrs.
Chem. 301, 302 Organic Chemistry	6
Chem. 303, 304 Org. Chem. Lab.	4
Chem. 401 Advanced Quantitative Analysis	3
German 215-216 Chemical German	6
Physics 201 and 202 General Physics	6
Physics 201L and 202L General Physics Laboratory	2
Biology or electives	3 to 7
	30 to 34

Fourth Year	Hrs.
Chem. 307 Chemical Literature and Technical Writing	2
Chem. 311, 312 Physical Chemistry	6
Chem. 319, 320 Phys. Chem. Lab.	4
Chem. 404 Organic Analysis	4
Chem. 419 Advanced Inorganic Chemistry	2
Chem. 421 Advanced Organic Chem.	2
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives (Upper Division, if needed), as necessary	4 to 12
	27 to 35

Metallurgy

Suggested Curriculum Leading to the Degree of Bachelor of Science with a Major in Metallurgy

First Year	Hrs.
Chem. 109-110 or 111-112 General Chemistry	10 or 8
Comm. 105-106 Basic Course	6
Engin. 101 and 103 Engineering Drawing	4
Mathematics	12 or 10
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Educ. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	41 to 37

Second Year	Hrs.
Chem. 205 Qualitative Analysis	4
Chem. 206 and 207 Quantitative Analysis	5
Comm. 107 Basic Course	3
Engin. 251, 252 General Metallurgy	6
Math. 209-210 Calculus I and II	10
Physics 201 and 202 General Physics	6
Physics 201L and 202L General Physics Laboratory	2
Physical Education (activity)	1
	37

Third Year	Hrs.
Chem. 250 Metallurgical Analysis	3
Chem. 311, 312 Physical Chemistry	6
Engin. 351, 352 Physical Metallurgy	6
Engin. 351L, 352L Phys. Met. Lab.	2
German 101-102 Elementary German	6
Hist. 201 and 202 The United States	6
Physics 220 Analytical Mechanics: Statics	3
	33

Fourth Year	Hrs.
Engin. 301-302 Report Writing	4
Engin. 317 Applied Thermodynamics	4
Engin. 326 Strength of Materials	3
Engin. 326L Str. of Mat. Lab.	1
Engin. 453, 454 Advanced Metallography	6
German 215-216 Chemical German	6
Philosophy and Religion elective, or Humanities 401 or 402	3
Physics 325 Analytical Mechanics: Dynamics	3
	30

CLASSICAL LANGUAGES AND LITERATURE

See Ancient Languages and Literature.

COMMUNICATION

Beginning in September 1952, Communication 105-106-107 replaces English 103-104 as the course ordinarily taken in order to meet the general requirement in communication. (English 104 will be given for the last time during the first semester of 1952-53, for those who have already had English 103.)

Communication 105-106-107 may be counted toward a major in English, on the approval of the head of the Department of English.

Non-credit Course

50. IMPROVEMENT OF ADULT READING ABILITY. The techniques involved in the improvement of reading skill for adults. Of interest to adults who wish to improve their own reading ability. Meets three hours a week. Total tuition and fee: $15.00. *No credit.*

Lower Division Courses

105-106-107. BASIC COURSE. This course attempts to improve the effectiveness of the student's speech and writing, with emphasis on logical organization and accurate expression, and to make him more aware of the nature, function, and significance of the various media of communication. A student who receives a grade of D in Communication 107 must take Communication 108. (For certification, graduation, and transfer purposes, this course may be interpreted as six hours of composition and three hours of speech. Replaces English 103-104 and its equivalent, Speech and Dramatics 103-104.) *3 + 3 + 3 h. c.*

108. REVIEW COURSE. A continuation and review of the material of Communication 105-106-107 for the student who receives a grade of D in Communication 107. A student taking this course must receive a grade of at least C in it in order to graduate. Prereq.: grade of D in Communication 107. *3 h. c.*

DRAMATICS

See Speech and Dramatics.

ECONOMICS

A major in economics consists of 24 semester hours in addition to Social Science 101 and 102 and History 201 and 202. Courses in other units and departments for which credit may be given toward the major in economics are History 301, Economic History of Europe; History 302, Economic History of the United States; Business Organization 221, Mathematics of

Finance; Merchandising 224, Marketing; and Engineering 361, Motion and Time Analysis. The major is designed to prepare students for research and statistical work in business and government service and to give a foundation for graduate study in the field.

Lower Division Course

202. PRINCIPLES OF ECONOMICS. Economic theory; supplements Social Science 101 and 102. For economics, accounting, and merchandising majors only. *3 h. c.*

Upper Division Courses

303. FINANCIAL ORGANIZATION. Intended to furnish a foundation for the more technical studies in the field of finance, and to describe the financial institutions with which most people come in contact, such as the commercial bank, the building and loan association, and the finance company. *3 h. c.*

304. PUBLIC FINANCE. The development and present status of public finance; federal, state, and local taxation; public credit; the budget; financial administration. *3 h. c.*

305. ECONOMIC AND SOCIAL STATISTICS. Measurements and interpretation of economic and social data. Tabular and graphic presentations, averages, ratios and coefficients, dispersion, correlation, measurement of trends, and collection of statistical material. Listed also as Sociology 305. *3 h. c.*

309. ENGINEERING ECONOMICS. The economic theory and problems of engineering, with emphasis on the financing and organization of engineering enterprises, valuation, depreciation, and replacement. *3 h. c.*

315. CORPORATION FINANCE. Promotion of new industries, capital structure of corporations, evolution of a business, working capital, surplus, dividends, voting trusts, investment trusts, public utilities, co-operative plans, and reorganizations. Prereq.: Business Organization 202. *3 h. c.*

319. ECONOMICS OF AMERICAN INDUSTRY. A study of American manufacturing: the evolution of major industries, and their technological and economic growth, maturity, current problems, and outlook for the future. *3 h. c.*

401. LABOR PROBLEMS. The history of the labor movement in England and in this country is outlined as a background for discussion of present issues. *3 h. c.*

402. COMPARATIVE ECONOMIC SYSTEMS. A comparative study of American capitalism, Russian communism, and British socialism, with a consideration of the theory of the corporate state. Listed also as Sociology 412. *3 h. c.*

404. PERSONNEL MANAGEMENT. The background of labor management; selection and training of employees; maintenance of business relationships, including wages and hours policy, safety and health, benefits, and labor relations. Prereq.: Social Science 101 and 102 and History 201 and 202. *3 h. c.*

405, 406. CURRENT POLITICAL ECONOMY. Discussion of basic economic, political, and social problems as reflected in news magazines and newspapers. Prereq.: senior standing. *1 + 1 h. c.*

407, 408. SEMINAR. Readings in the history of economic thought. Prereq.: standing as senior economics major. *3 + 3 h. c.*

EDUCATION

Courses are offered leading to the degree of Bachelor of Science in Education with the major in art education, business education, elementary education, kindergarten-primary education, music education, nursing education, physical education, or secondary education, and to the degree of Bachelor of Arts with the major in either secondary education or a teaching subject. The curriculums for these majors are printed below, following the last education course description; they include a dual curriculum leading to both high school and elementary school certificates.

Each curriculum leads to an Ohio State Provisional Certificate. Requirements for teachers' certificates are determined by the Ohio State Department of Education; if those requirements change, the new requirements become effective immediately as requirements of the Department of Education of Youngstown College. To qualify for the Bachelor of Science in Education degree, the student must complete one of the required curriculums, unless he already holds a provisional or higher certificate valid for teaching in Ohio.

Every student wishing to teach must file an application for admission to the Department of Education. Until the application has been approved, the student will not be admitted to education courses of 300 or 400 level. No student, whatever his major, can be registered in any education course except with the approval of the Department of Education.

Every candidate for the Bachelor of Science in Education degree must have his candidacy approved by the Department of Education.

A course in student teaching (Education 404 or 405) is required in each curriculum. Its admission requirements are high, and every student planning to complete the requirements for a certificate at Youngstown College is urged to read the description of Education 404.

A candidate for the Provisional High School Certificate must complete the requirements for at least three teaching fields. He should observe carefully the requirements in the various fields as stated in the *Guidance Form for the Provisional High School Certificate*. In view of prevailing conditions, he is urged to follow the dual curriculum leading to both the Provisional High School Certificate and the Provisional Elementary Certificate.

A student who expects to teach in high school or elementary school should consult with the head of the Department of Education to insure that his plans for professional preparation are satisfactory. He is urged to participate in extracurricular activities in college in order to be qualified to direct such activities in the public schools.

A major in education consists of 30 semester hours, and satisfies the major requirements of either the Bachelor of Arts or the Bachelor of Science in Education degree. Within the limits allowed by the certification requirements, credit toward an education major may be given for the following courses in other departments:

English 251, Modern American English
Music 315-316, Music in the First Six Grades
Music 321, Music Education for Elementary Teachers
Music 411-412, Teaching of Music in the Junior and Senior High Schools
Physical Education 321, Health Teaching in Elementary Grades
Physical Education 322, Games for Elementary Grades
Physical Education 415, Health Teaching in Secondary Schools
Psychology 201, General Psychology
Psychology 202, Psychology of Education
Psychology 305, Child Psychology
Psychology 306, Psychology of Adolescence
Psychology 308, Personality and Mental Hygiene
Psychology 310, Psychological Aspects of Personnel Relations
Psychology 405, Interviewing and Counseling
Psychology 406, Vocational Guidance
Psychology 425, Guidance of High School Students
Psychology 426, Study of an Individual Child

Education 101 is prerequisite to any other course in education.

Lower Division Courses

101. INTRODUCTION TO EDUCATION. Thorough orientation in state, institutional, and departmental policies pertaining to graduation and certification requirements, and presentation of a broad background for subsequent courses in education, with wide supplementary reading. *3 h. c.*

124. GRAPHIC ART FOR ELEMENTARY TEACHERS. Drawing and painting with different media such as crayons, chalk, water color, show-card paints, and oils, to insure a broad knowledge of materials and ease in handling them. Making of friezes, wall panels, stage scenery, and illustrations to fill specific needs. Analysis of children's work. The student collects a portfolio of fine works of art to enrich his background. Fee: $1.00. *2 h. c.*

214. CHILDREN'S LITERATURE. Familiarization with children's literature; methods of helping children use and enjoy books, with emphasis on recent books. Principles of selection, historical development, authors, illustrators; visits to book departments, libraries, and classrooms. *3 h. c.*

223. TEACHING OF GENERAL SCIENCE. Study of the subject matter of general science courses, emphasizing classroom techniques, curriculum problems, and methods of approach. May be counted toward the science requirement for the Bachelor of Science in Education degree; but if taken by a prospective high school teacher, he can earn no credit in Education 400, Special Methods in General Science. *3 h. c.*

224. DESIGN FOR ELEMENTARY TEACHERS. Structural and decorative design; making simple motifs and repeat patterns; color study; lettering as design. Application of design principles to textiles, pottery, metal, weaving, and the decoration of tin and glass objects. Children's design and craft work shown. Fee: $1.00. *2 h. c.*

Upper Division Courses

301. PRINCIPLES OF TEACHING. General methods of high school teaching: classroom procedure, methods utilized by superior teachers, attention to individual differences, measuring the results of teaching, planning the instruction. Observation of teaching in high schools. Prereq.: junior or senior standing. *3 h. c.*

304. CLASSROOM MANAGEMENT. Problems of classroom administration, control, and organization: attendance, curriculum, program, procedure, and extracurricular activities in the light of a modern philosophy of education. Observation of teaching in public schools. Prereq.: junior or senior standing. *3 h. c.*

305. APPRENTICESHIP. For elementary school teachers. *3 h. c.*

307. HISTORY OF EDUCATION. The historical development of educational organizations, objectives, curriculums, and methods, studied with a view to a better understanding of modern educational conditions and problems. The place of education in various civilizations, especially modern Western civilization. May be counted also toward a major or minor in history. *2 or 3 h. c.*

308. EDUCATIONAL SOCIOLOGY. The sociological foundations of education; the relation of the individual and the social group; the school as a social institution; the relations between education and the home, the community, the state, social control, social progress, democracy, efficiency, and culture. The social aspects of specific school problems: the selection of educational objectives, the educative process, the curriculum, educational guidance, school control, moral education, and the selection and improvement of teachers. Listed also as Sociology 308. *3 h. c.*

309. THE HIGH SCHOOL CURRICULUM. A definitive discussion of curriculum and the several concepts involved; the place of curricular revision in a world of change and the relationship between curriculum revision and social or community problems. Various approaches, objectives, and techniques. The student may be required to submit a curriculum plan in a chosen field of subject matter. *3 h. c.*

311. MENTAL AND EDUCATIONAL MEASUREMENT. Construction, administration, scoring, and interpreting of the new-type objective examination; selection, administration, scoring, and interpretation of results of standardized tests and scales, and their use in vocational and educational guidance. Identical with Psychology 311. Prereq.: junior or senior standing. Fee: $1.00. *3 h. c.*

312. THE TEACHING OF HANDWRITING. Methods of teaching penmanship; improving the student's own writing. *1 h. c.*

313. THE TEACHING OF SKILLS. Principles effective in the learning of skills, and their application to the teaching of spelling, arithmetic, writing, and language. *3 h. c.*

314. THE TEACHING OF CONTENT SUBJECTS. Principles effective in the learning of content subjects, and their application to the teaching of history, geography, and other content subjects. *3 h. c.*

317. EXTRACURRICULAR ACTIVITIES. Various points of view on extracurricular activities, development of satisfactory personal attitudes toward them, and discussion of the best practices in the organization, supervision, and administration of such activities as student council, dramatics, booster club, and bird club. *3 h. c.*

320. STATISTICAL METHODS IN EDUCATION. Frequency distributions, measures of central tendency, measures of variability, calculation and meaning of percentiles, the normal curve, reliability and validity of measures, and simple correlation. Identical with Psychology 320. Prereq.: Psychology 201. *3 h. c.*

321. CLASSROOM TECHNIQUES IN SPEECH CORRECTION. An introductory study of the nature, causes, and correction of functional speech disorders. *3 h. c.*

322, 323. CRAFTS. Experience in many kinds of material used in elementary and high schools, and in many methods of using paper, cloth, wood, clay, metal, and plastics to provide art experience. 322 is prerequisite to 323. Fee: $2.50 each semester. *3 + 3 h. c.*

324. TEACHING OF ART IN THE ELEMENTARY SCHOOL. Materials and methods. A study of the art needs of children at different age levels and the means of providing desirable art experiences. The contribution of art to the elementary course of study. Objectives and procedures evaluated from the standpoint of the child's growth. Classroom contact with children's work and working situations. *2 h. c.*

330. AUDIO-VISUAL EDUCATION. The aims and theory of audio-visual aids, and the use of various kinds of materials and projectors; the relation of teaching practices to such aids, and their correlation with other aspects of teaching. Reports, demonstrations, and practice as operators. Listed also as Library Service 330. *3 h. c.*

332. THE EXCEPTIONAL CHILD IN THE REGULAR CLASSROOM. The fundamentals of special education for the classroom teacher. Discovering the exceptional child; the causes, prevention, and treatment of physical and mental handicaps in children; handling mentally gifted children and those who are behavior problems. Prereq.: Psychology 201. *3 h. c.*

334. TEACHING OF ART IN THE SECONDARY SCHOOL. The values of art expression for secondary school boys and girls, and the courses best adapted to specific age levels. Art services for the school and community: stage sets, murals, posters, and many other forms. Familiarization with the best literature on the subject. *3 h. c.*

400. SPECIAL METHODS. A study of problems involved in the teaching of different high school subjects. Each student specializes on the subject of his main interest. Observation of teaching in public secondary schools; reports; term paper. Each student confers each week with the head of the department of his major teaching subject, and at least one-fourth of the instruction in the course is given by that department head or by some teacher appointed by him. Prereq.: Education 301 and senior standing. *2 h. c.*

401. PRINCIPLES OF EDUCATION. An analysis of current education, its aims, its sources, its strength and weaknesses. Current practices are traced to their contributors, from Pestalozzi and Froebel to the modern group, but the focus is on the means by which modern education promotes the growth of the whole child in a democratic society. *3 h. c.*

404. SUPERVISED STUDENT TEACHING AND APPRENTICESHIP: HIGH SCHOOL. Observation and teaching of high school classes, under supervision. Taken in the last semester in college.

Application. Application to take this course must be made on a special form, not later than the end of the fourth week of the previous semester.

Prerequisites. The applicant must have senior standing at the time of application; a point index of 2.0 in his teaching fields and 1.5 in all college work; a percentile rank of 34 or higher in the Ohio State University Psychological Test, and of 40 or higher in the American Council on Education Co-operative English Test; and the unqualified approval of the head of the department of each of his teaching fields and of the head of the Department of Education.

Quality and Nature of Work. Classroom teaching must be satisfactory at all times or it may be discontinued without warning. The apprenticeship part of the course is under the direction of the principal of the high school to which the student is assigned or under someone designated by the principal. Besides teaching, the apprentice teacher may be assigned to any duty that a regular teacher might have to perform.

Schedule. The applicant, if accepted, leaves a half-day free, every day, in his schedule for the semester in which he takes this course. One class meeting each week; individual conferences with the course instructor or with the regular classroom teacher, as needed. Fee: $10.00. *6 h. c.*

405. SUPERVISED STUDENT TEACHING: ELEMENTARY EDUCATION. The same as Education 404, but for the elementary grades. Fee: $10.00. *9 h. c.*

413. THE TEACHING OF READING. The principles and techniques of teaching reading, and the function of reading in the day's program. Oral, silent, and audience reading, and diagnostic and remedial measures. *3 h. c.*

420. PROBLEMS OF THE CLASSROOM TEACHER. Adjustment to teaching surroundings; seeking practical and acceptable solutions to problems through re-thinking of philosophy, instruction methods, and ethics; the professional, legal, and social status of the teacher, teacher-pupil relations, and other problems. *3 h. c.*

430. EDUCATIONAL PROGRAMS FOR CHILDREN IN ELEMENTARY SCHOOLS. Exploration of relationships with homes and other educational agencies; utilization of resources of the arts, subject matter fields, community and related areas. *3 h. c.*

431. CHILDHOOD EDUCATION I. Analysis of and provision for the physical, emotional, intellectual, and social needs of kindergarten-primary children. *3 h. c.*

432. CHILDHOOD EDUCATION II. The findings of Education 431 are applied to the practical and specific phases of the kindergarten-primary period, with attention to school and community environment, curriculum, equipment, daily program, and materials. *2 h. c.*

433. TEACHING SLOW LEARNERS IN THE REGULAR CLASSROOM. Problems, techniques, and helps, with opportunity to study individual problems and attention to curricular units, guidance, and planning. *3 h. c.*

441. PUPIL PROBLEMS. The problems of school routine, such as discipline, attendance, public school delinquency, child labor, and school-parent relationship; practical cases. Social agencies as auxiliaries to the school program. *3 h. c.*

Education Curriculums

(An asterisk or other reference mark in any of these curriculums refers to a note immediately following the curriculum in which the mark is used.)

Art Education

Required Curriculum Leading to the Degree of Bachelor of Science in Education with a Major in Art Education and to a Provisional Special Certificate in Art Education

First Year	Hrs.
Art 110, 111 Color and Design I	6
Art 113, 114 History and Appreciation of Art: General	6
Art 150 Mechanical Drawing	3
Comm. 105-106 Basic Course	6
Educ. 101 Introduction to Education	3
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	33

Second Year	Hrs.
Art 203, 204 Drawing and Painting	6
Art 211, 212 Color and Design II	6
Comm. 107 Basic Course	3
Hist. 201 and 202 The United States	6
Psych. 201 General Psychology	3
Psych. 202 Psychology of Education	3
Science	3
Physical Education (activity)	1
	31

Third Year	
Art 223 Advertising Art I	3
Art 303, 304 Figure Drawing and Painting	6
Educ. 301 Principles of Teaching	3
Educ. 304 Classroom Management	3
Educ. 322 Crafts	3
Educ. 324 Teaching of Art in the Elementary School	2
Educ. 334 Teaching of Art in the Secondary School	3
Engl. 200, 203, 204, 205, or 206	3
Science	6
	32

Fourth Year	
Art 305 History and Appreciation of Art: Italian Renaissance	3
Art 306 History and Appreciation of Art: Modern	3
Art 316 Interior Decorating	3
Art 319 Jewelry and Metal Work I	3
Art 325, 326 Pottery and Modeling	6
Educ. 404 Supervised Student Teaching and Apprenticeship: High School	6
Philosophy and Religion elective, or Humanities 401 or 402	3
Elective (Upper Division)	2
	29

Business Education

Required Curriculum Leading to the Degree of Bachelor of Science in Education with a Major in Business Education and to a Provisional Special Certificate in Business Education

First Year	Hrs.
Bus. Org. 101 Principles of Business	3
Bus. Org. 110 Economic Geography	3
Comm. 105-106 Basic Course	6
Educ. 101 Introduction to Education	3
Science	6
Secr. St. 100, 101 Typewriting	4
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	34

Second Year	Hrs.
Comm. 107 Basic Course	3
Engl. 200, 203, 204, 205, 206	3
Hist. 201 and 202 The United States	6
Psych. 201 General Psychology	3
Psych. 202 Psychology of Education	3
Science	3
Secr. St. 104-105 and 203 Bookkeeping, or Acctg. 201-202 Elem. Acctg.	6
Secr. St. 207 Business English and Correspondence	3
Physical Education (activity)	1
	31

Third Year	Hrs.
Acctg. 201-202 Elementary Acctg., or Acctg. 301-302 Intermediate Acctg. or Acctg. 303-304 Cost Accounting	6
Educ. 301 Principles of Teaching	3
Educ. 304 Classroom Management	3
*Mdsg. 224 Marketing	3
*Mdsg. 225 Salesmanship	3
Mdsg. 227-228 Advertising Principles and Practice	6
Secr. St. 200 Shorthand	4
Secr. St. 215 Office Machines	3
	31

Fourth Year	
Educ. 400 Special Methods (in Business Education)	2
Educ. 404 Supervised Student Teaching and Apprenticeship: High School	6
Mdsg. 311-312 Buying and Merchandising Methods	6
Philosophy and Religion (Upper Division) or Humanities 401 or 402	3
Secr. St. 208 Commercial Law	3
Secr. St. 300-301 Shorthand	4
Secr. St. 403 Office Practice	3
Elective	2
	29

*This course may be used for Upper Division credit in this curriculum.

Dual Curriculum

Required Curriculum Leading to the Degree of Bachelor of Science in Education with a Major in Education and to Both the Elementary and the High School Provisional Certificates

First Year	Hrs.
Comm. 105-106 Basic Course	6
Educ. 101 Introduction to Education	3
Educ. 124 Graphic Art for Elementary Teachers	2
Music 121 Introduction to Music for Elementary Teachers	2
Science	8
Soc. Sci 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
*Electives for teaching fields	9
	34

Second Year	Hrs.
Comm. 107 Basic Course	3
Engl. 205 or 206 American Literature or 251 Modern American English	3
Educ. 214 Children's Literature	3
Hist. 201 and 202 The United States	6
Psych. 201 General Psychology	3
Psych. 202 Psychology of Education	3
Science	6
Physical Education (activity)	1
*Electives for teaching fields	3
	31

Third Year	Hrs.
Educ. 301 Principles of Teaching	3
Educ. 304 Classroom Management	3
Educ. 313 Teaching of Skills	3
Educ. 314 Teaching of Content Subjects	3
Educ. 324 Teaching of Art in the Elementary School	2
Phys. Educ. 321 Health Teaching in Elementary Grades	3
Phys. Educ. 322 Games for Elementary Grades	3
*Electives for teaching fields	9
	31

Fourth Year	Hrs.
Educ. 322 Crafts	3
Educ. 400 Special Methods	2
Educ. 404 Student Teaching: High School	3
Educ. 405 Student Teaching: Elementary School	6
Educ. 413 Teaching of Reading	3
Educ. 430 Educational Programs in Elementary Schools	3
Philosophy and Religion elective, or Humanities 401 or 402	3
*Electives for teaching fields	6
	29

*The electives should be utilized to complete a strong high school teaching field in some other subject than English or social science. The requirements in the various high school teaching fields are shown on the *Guidance Form for the Provisional High School Certificate.*

Elementary Education

Required Curriculum Leading to the Degree of Bachelor of Science in Education with a Major in Elementary Education and to a Provisional Elementary Certificate

Every candidate following this curriculum must take a comprehensive examination covering the content and skills of the elementary school. A student found deficient in any elementary school subject must take a review course in it until he reaches a satisfactory standard.

First Year	Hrs.
Bus. Org. 110 Economic Geography	3
Comm. 105-106 Basic Course	6
Educ. 101 Introduction to Education	3
Educ. 124 Graphic Art for Elementary Teachers	2
Geogr. 102 Principles of Geography	3
Music 121 Introduction to Music for Elementary Teachers	2
Science	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	34

Second Year	Hrs.
Comm. 107 Basic Course	3
Educ. 214 Children's Literature	3
Educ. 224 Design for Elementary Teachers	2
Engl. 205, 206 American Literature	6
Hist. 201 and 202 The United States	6
Music 221 Music Literature and Appreciation for Elementary Teachers	2
Psych. 201 General Psychology	3
Psych. 202 Psychology of Education	3
Science	3
Physical Education (activity)	1
	32

Third Year	
Educ. 304 Classroom Management	3
Educ. 305 Apprenticeship	3
Educ. 312 Teaching of Handwriting	1
Educ. 313 Teaching of Skills	3
Educ. 314 Teaching of Content Subjects	3
Educ. 322 Crafts	3
Educ. 324 Teaching of Art in the Elementary School	2
Music 321 Music Education for Elementary Teachers	2
Phys. Ed. 321 Health Teaching in Elementary Grades	3
Phys. Ed. 322 Games for Elementary Grades	3
Psych. 305 Child Psychology	3
Philosophy and Religion elective, or Humanities 401 or 402	3
	32

Fourth Year	
Educ. 401 Principles of Education	3
Educ. 405 Supervised Student Teaching: Elementary School	9
Educ. 413 Teaching of Reading	3
Social Sciences elective (Upper Division)	3
Electives (Upper Division)	9
	27

Kindergarten-Primary Education

A Kindergarten-Primary Certificate may be earned by taking Education 431 and 432 in addition to the elementary education curriculum, and taking 3 semester hours of the student teaching credit in student teaching in the kindergarten and 3 in a primary grade, preferably the first grade.

Health and Physical Education

Suggested Curriculum Leading to the Degree of Bachelor of Science in Education and a Provisional High School Certificate, for Teachers of Health and Physical Education

The major is in physical education, with a minor in health education. In the curriculums below, the men's and the women's sections of certain physical education courses are not distinguished; see the course descriptions.

First Year

First Semester	Hrs.
Biol. 103 General Biology	3
Comm. 105 Basic Course	3
Home Ec. 101 Food and Nutrition	2
Soc. Sci. 101 Introduction to the Social Sciences	3
Elective	3
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	½
Orientation 100 Freshman Or.	Credit
	16½

Second Semester	Hrs.
Biol. 175 General Zoology	3
Comm. 106 Basic Course	3
Educ. 101 Introduction to Education	3
Psych. 201 General Psychology	3
Soc. Sci. 102 Introduction to the Social Sciences	3
Physical Education (activity)	½
	15½

Second Year

Biol. 230 Anatomy and Physiology I	3
Comm. 107 Basic Course	3
Hist. 201 The United States to 1865	3
Phys. Ed. 311 Teaching of Individual and Dual Sports	3
Psych. 202 Psychology of Education	3
Physical Education (activity)	½
	15½

Biol. 250 Anatomy and Physiology II	3
Engl. 200, 203, 204, 205, or 206	3
Hist. 202 The U. S. since 1865	3
Phys. Ed. 201 First Aid and Care of Athletic Injuries	2
Phys. Ed. 306 Advanced Hygiene	2
Phys. Ed. 312 Teaching of Individual and Dual Sports	3
Physical Education (activity)	½
	16½

Third Year (Men)

Educ. 301 Principles of Teaching	3
Phys. Ed. 203 History and Principles of Health and Physical Education	3
Phys. Ed. 309 Intramural Sports	3
Phys. Ed. 321 Health Teaching in Elementary Grades	3
Phys. Ed. 410 Coaching of Foothall and Basketball	3
Phys. Ed. 417 Kinesiology and Applied Anatomy	2
	17

Educ. 304 Classroom Management	3
Phys. Ed. 322 Games for Elementary Grades	3
Phys. Ed. 404 Playgrounds or 405 Recreational Activities	3
Phys. Ed. 409 Coaching of Baseball and Track and Field	3
Phys. Ed. 418 Remedial and Corrective Physical Education	3
	15

Third Year (Women)

Educ. 301 Principles of Teaching	3
Phys. Ed. 203 History and Principle of Health and Physical Education.	3
Phys. Ed. 321 Health Teaching in Elementary Grades	3
Phys. Ed. 407 Techniques of Officiating: Women's Team Sports	2
Phys. Ed. 411 Teaching of Women's Team Sports	3
Phys. Ed. 417 Kinesiology and Applied Anatomy	2
	16

Educ. 304 Classroom Management	3
Phys. Ed. 322 Games for Elementary Grades	3
Phys. Ed. 370 Theory of Camp Counseling	3
Phys. Ed. 408 Techniques of Officiating: Women's Team Sports	2
Phys. Ed. 412 Teaching of Women's Team Sports	3
Phys. Ed. 418 Remedial and Corrective Physical Education	3
	17

Fourth Year

Philosophy and Religion elective, or Humanities 401 or 402	3
Phys. Ed. 307 Community Health Agencies	2
Phys. Ed. 403 Health and Physical Education; Org. and Adm.	3
Phys. Ed. 419 Teaching of Rhythmic Activities	3
Psych. 305 Child Psychology (3 hrs.) or Psych. 306 Psychology of Adolescence (3 hrs.) or Phys. Ed. 428 Normal and Physical Diagnosis (2 hrs.)	2 or 3
Psych. 308 Personality and Mental Hygiene	3
	16 or 17

Educ. 404 Supervised Student Teaching	6
Phys. Ed. 415 Health Teaching in Secondary Schools	3
Phys. Ed. 420 Teaching of Rhythmic Activities	3
*Electives	0-1
	12-13

*Electives are optional for women; a man will need one hour if Physical Education 428 is taken.

Music Education

For music education curriculums, see the Dana School of Music section.

Public School Nursing

For the curriculum leading to the degree of Bachelor of Science in Education for public school nurses, the student may consult the head of the Department of Education.

Secondary Education

Required Curriculum Leading to the Degree of Bachelor of Arts* and a Provisional High School Certificate

The degree major may be in education or in a teaching field. Electives should be chosen carefully to provide three teaching fields, as required for the Provisional High School Certificate.

First Year	Hrs.
Comm. 105-106 Basic Course	6
Educ. 101 Introduction to Education	3
**Foreign language (or elective)	6
**Science	8
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Elective	3
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	35

Second Year	Hrs.
Comm. 107 Basic Course	3
Engl. 200, 203, 204, 205, or 206	3
**Foreign language (or elective)	6
Hist. 201 and 202 The United States	6
Psych. 291 General Psychology	3
Psych. 202 Psychology of Education	3
**Science	3
Physical Education (activity)	1
Electives	3
	31

Third Year	
Educ. 301 Principles of Teaching	3
Educ. 304 Classroom Management	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives	22
	31

Fourth Year	
Educ. 400 Special Methods	2
Educ. 404 Supervised Student Teaching and Apprenticeship	6
Electives (Upper Division)	20
	28

*The student seeking the Bachelor of Science in Education degree should follow this curriculum with the exceptions that a foreign language is not required and that 9 hours of any sciences may be substituted for the 11 hours of sciences specified for the Bachelor of Arts degree.

**The student should read carefully the information on these degree requirements on pages 92 and 94-95.

ENGLISH

English majors are expected to complete at least one course in American literature, 12 hours in English literature, and English 351-352. Students who plan to teach high school English must complete courses 205 or 206, 351-352, and two courses in English literature which include the study of poetry

and prose. English 101-102 or Communication 105-106-107 is prerequisite to all other English courses. English 200, 203, or 204 is prerequisite to other courses in English literature. Under special circumstances the head of the English department may accept other courses in lieu of these requirements. Communication 105-106-107, or English 101-102 and Speech and Dramatics 115, is required of all freshmen.

Besides the courses described below, credit in English will be given for Humanities 401, Greek Classics and the Old Testament; Humanities 402, Roman, Medieval, and Renaissance Classics and the New Testament; Humanities 403, Early Modern Classics; and Humanities 404, Later Modern Classics.

English 103-104 is being replaced by Communication 105-106-107, beginning in the fall of 1952. English 104 will be offered for the last time in the fall of 1952. Thereafter a student who has had only English 103 will take English 102 and Speech and Dramatics 116.

Lower Division Courses

101-102. ENGLISH COMPOSITION. A study of the elementary principles of composition, to teach the habits of clear and correct expression. Reading of models, writing of themes, class discussions, and personal conferences. *3 + 3 h. c.*

101R. ENGLISH COMPOSITION AND REMEDIAL READING. Same as English 101, with the addition of a remedial reading program and the use of corrective instruments and techniques. Meets 6 hours a week. Fee: $15.00. *3 h. c.*

103-104. WRITTEN AND ORAL COMPOSITION. This course is planned to help the student organize his ideas more logically and express them more effectively both orally and in writing. It duplicates the combination of English 101-102 and Speech and Dramatics 115, 116; for certification, graduation, and transfer purposes it is interpreted as 6 hours of composition and 3 hours of speech. Identical with Speech and Dramatics 103-104. Discontinued at end of Semester I, 1952-53. *4½ + 4½ h. c.*

200. INTRODUCTION TO LITERATURE. A non-technical, non-historical course in which important contemporary and older works of literature are read and discussed critically for the purpose of increased delight and understanding. Prereq.: English 101-102 or 103-104. *3 h. c.*

203, 204. SURVEY OF ENGLISH LITERATURE. First semester: from the beginnings through the eighteenth century. Second semester: from the nineteenth century to the present. *3 + 3 h. c.*

205, 206. SURVEY OF AMERICAN LITERATURE. First half: Colonial times to 1860. Second half: Civil War to the present. *3 + 3 h. c.*

251. MODERN AMERICAN ENGLISH. A brief survey of the earlier development of the English language, followed by a more thorough study of contemporary American pronunciation and usage. Not for English majors, who take English 351-352. *3 h. c.*

Upper Division Courses

351-352. HISTORY OF THE ENGLISH LANGUAGE. The development of the language from Old English to Modern English, with an intensive study of Modern English sounds, inflections, syntax, word meanings, and usage. *3 + 3 h. c.*

353, 354. ADVANCED COMPOSITION. A course in writing, for mature students, providing opportunity to develop creative ability. Conducted mainly through individual conferences. Registration only by permission of the instructor. Prereq.: preparation satisfactory to the instructor. *1 to 3 h. c.*

355. NEWS WRITING AND REPORTING. The organization and functions of a newspaper office, with special attention to reporting, writing the different types of news stories, and copy reading. Prereq.: junior or senior standing. *3 h. c.*

355L. NEWS WRITING AND REPORTING WORKSHOP. Application through student publications of the principles of English 355. Six hours of workshop activity a week. Prereq.: permission of instructor. Prerequisite or concurrent: English 355. May be repeated once. *1 h. c.*

357. EDITING AND MAKE-UP. The preparation of the printed page, with emphasis on the principles and mechanics of copyreading, editing, make-up, head writing, typography, the use of illustrations, and page layout. Prereq.: English 355. *3 h. c.*

357L. EDITING AND MAKE-UP WORKSHOP. Application through student publications of the principles of English 357. Six hours of workshop activity a week. Prereq.: permission of instructor. Prerequisite or concurrent: English 357. May be repeated once. *1 h. c.*

366. ROMANTIC PROSE. The works of Lamb, Hazlitt, Hunt, DeQuincey, Landor, Smith, Thompson, and Carlyle. *3 h. c.*

367. ROMANTIC POETRY. An intensive consideration of the works of Coleridge, Wordsworth, Scott, Byron, Shelley, and Keats and their relation to some early predecessors in the Romantic Movement. *3 h. c.*

368. VICTORIAN PROSE. The prose works of Macaulay, Newman, Mill, Darwin, Ruskin, Arnold, Huxley, Rossetti, Morris, Pater, and Stevenson. *3 h. c.*

369. VICTORIAN POETRY. The Victorian poets, including Tennyson, Browning, Arnold, Fitzgerald, Clough, Rossetti, Morris, Swinburne, Dobson, Henley, Stevenson, Wilde, Yeats, and Kipling. *3 h. c.*

381. THE ENGLISH NOVEL. The history and development of the novel in England during the eighteenth and nineteenth centuries. *3 h. c.*

382. THE AMERICAN NOVEL. The history and development of the novel in the United States during the nineteenth and twentieth centuries. *3 h. c.*

400. CHAUCER AND HIS PERIOD. Reading of Chaucer's principal works, with a brief survey of his predecessors, contemporaries, and successors. *3 h. c.*

405. ENGLISH DRAMA. English drama from the sixteenth century to the nineteenth, excluding Shakespeare. Emphasis is mainly on the works of Elizabethan and Restoration writers. *3 h. c.*

406. CONTEMPORARY DRAMA. English, Irish, and American drama from the Ibsen revival to the present. Continental plays that have been influential are included, in translation. *3 h. c.*

409, 410. SHAKESPEARE. A critical study of the work of Shakespeare. *3 + 3 h. c.*

450, 451. METHODS OF RESEARCH. A seminar for English majors who expect to do graduate work. Prereq.: senior standing with major in English. *1 + 1 h. c.*

461. SPENSER AND HIS PERIOD. The more important non-dramatic works in prose and verse from the early humanists to 1600, with particular attention to Spenser. *3 h. c.*

462. MILTON AND HIS PERIOD. Milton and the non-dramatic literature from 1600 to 1660. *3 h. c.*

463. RESTORATION AND NEO-CLASSIC LITERATURE. Particular attention is given to the works of Dryden, Defoe, Addison, Steele, Pope, and Swift. *3 h. c.*

464. THE AGE OF JOHNSON. Particular attention is given to the works of Johnson, Goldsmith, Boswell, Gibbon, Fanny Burney, and Burns. *3 h. c.*

FOREIGN LANGUAGES AND LITERATURE

See French, German, Greek, Hebrew, Italian, Latin, Russian, and Spanish; for Portuguese, see Spanish. For literature in translation, see Humanities.

FRENCH

A major in French consists of 30 semester hours of work above the elementary level. Of this total as many as twelve hours may be taken in related fields with the approval of the head of the department.

The prerequisite for any Upper Division course is French 202, or four years of high school French, or the consent of the instructor.

Lower Division Courses

101-102. ELEMENTARY FRENCH. Fundamental principles of grammar and the reading of simple prose. No credit is given for this course if the student has credit for two years of high school French. *3 + 3 h. c.*

201. INTERMEDIATE FRENCH. Modern prose works are read and discussed. Grammar is reviewed briefly. Prereq.: C or better in French 102 or in second-year high school French. *3 h. c.*

202. INTERMEDIATE FRENCH. A continuation of French 201, using texts of increasing difficulty. Prereq.: French 201 or three years of high school French. *3 h. c.*

Upper Division Courses

325. ADVANCED FRENCH GRAMMAR. A review of the essential rules of French grammar, with particular stress on generic differences between French and English, especially as regards the verb. *3 h. c.*

326. FRENCH CIVILIZATION. A summary study of the geography, history, and traditions of contemporary France with a view to facilitating the reading of modern books and periodicals. *3 h. c.*

327. COURS DE STYLE. Through translation of English literary selections into French and of French passages into literary English, the relative differences in expression between the two languages are studied. *3 h. c.*

328. FRENCH LITERARY TRADITION. A brief survey of the principal significant writers of France together with the reading of selections from the great masterpieces of French literature. *3 h. c.*

329. CONVERSATIONAL FRENCH. One hour a week of systematic drill in pronunciation, and two hours of conversation based on composition exercises. *3 h. c.*

330. CONTEMPORARY FRENCH LITERATURE. A study of modern France in the writings of such contemporaries as Duhamel, Gide, Giraudoux, Romains, Valéry, and others. *3 h. c.*

411, 412. COMPARATIVE GRAMMAR OF THE ROMANCE LANGUAGES. First part: the phonetics and morphology of the chief Romance dialects. Second part: syntax and semantic development. Given only in summer sessions. Listed also as Italian 411, 412 and Spanish 411, 412. *3 + 3 h. c.*

GENERAL SCIENCE

Credit for these courses is not applicable toward the degree of Bachelor of Science or Bachelor of Engineering; it is applicable toward the Bachelor of Arts degree only if the courses form all or part of a teaching minor in general science.

Lower Division Courses

101. FOOD MANUFACTURE. Photosynthesis and the syntheses of complex carbohydrates, proteins, and lipids, with detailed treatment of the biological, chemical, and physical principles. *3 h. c.*

102. FOOD DIGESTION. The biology, chemistry, and physics of digestion in various organisms, especially the human being. Prereq.: General Science 101. *3 h. c.*

121. PHYSICAL SCIENCE. Astronomy and geology; the newer concepts of matter and energy revealed by physics and chemistry. Simple demonstrations; application to problems of the home, transportation, and communication. *3 h. c.*

122. PLANT AND ANIMAL LIFE. Biological principles of plant and animal life. Physiology, types, distribution, and ecology; relationship to human life and activity. *3 h. c.*

201. FUNCTIONAL MORPHOLOGY. The morphology of the human being and the physiological activities related to each structure, clarified by analogies with other organisms. Prereq.: General Science 102. *3 h. c.*

202. REPRODUCTION, EMBRYOLOGY, AND HEREDITY. The early ontogeny of the human being and its relationship to heredity. The basic principles of genetics, with examples drawn from man wherever possible. Prereq.: General Science 201. *3 h. c.*

224. ADVANCED PHYSICAL SCIENCE. A study of scientific principles, with emphasis on sound, electricity, communication, and transportation. Prereq.: General Science 121. *3 h. c.*

GEOGRAPHY

Lower Division Courses

102. PRINCIPLES OF GEOGRAPHY. A study of causal relationships between life activities and their physical surroundings. *3 h. c.*

201. REGIONAL GEOGRAPHY OF ANGLO-AMERICA. The physical background of the English-speaking parts of North America and its relation to their economics and culture. The physiographic regions; the types of climate and their factors; natural vegetation; soils; the historical geography; the geographical regions. Prereq.: Geography 102. *3 h. c.*

202. REGIONAL GEOGRAPHY OF LATIN AMERICA. A regional approach to the economic and cultural backgrounds of the countries of South and Central America, stressing the application of geographic principles in Latin-American development and behavior. Prereq.: Geography 102. *3 h. c.*

203. OUR NATURAL RESOURCES AND THEIR CONSERVATION. The public domain of the United States: its nature, use, disposal, and conservation. The soil; erosion; lands; land reclamation; forests; water supply, waterways, flood control; mineral and other resources; wildlife and fisheries. Prereq.: Geography 102. *3 h. c.*

204. REGIONAL CLIMATOLOGY. The general principles of climatology. The nature and elements of climate; factors governing climatic types and their distribution; influences on soils, land forms, plants, and man; simplified classification of climates; detailed treatment of the major types of continents. Prereq.: Geography 102. *3 h. c.*

Upper Division Course

301. GEOGRAPHY OF WORLD WAR II. The distributions of raw materials; the need for markets; the German, Italian, and Japanese desire for empire; the British Commonwealth; America as world-wide producer and as a market; the battleground; and geographical problems at the peace table. *3 h. c.*

GEOLOGY

Lower Division Courses

101. FUNDAMENTALS OF GEOLOGY. Economic and physical geology: field trips; indoor study of rocks and minerals. Historical geology: fossil study and collection; industrial and other applications of geology. *3 h. c.*

205, 206. FIELD STUDY AND SPECIAL PROBLEMS. Geological study of the locality. Field trips in fall and spring; selected problems in winter. Prerequisite or concurrent: Geology 101. *1 + 1 h. c.*

GERMAN

A major in German consists of 30 semester hours of work above the 100 level. Of this total, six hours may be English 351-352.

The prerequisite for any Upper Division course is German 202, four years of high school German, or the consent of the instructor.

101-102. ELEMENTARY GERMAN. The fundamentals of grammar, drill in inflectional forms, elementary conversation, and reading of easy prose and poetry. No credit is given for this course if the student has credit for two years of high school German. *3 + 3 h. c.*

201. INTERMEDIATE GERMAN. Elementary composition based on grammar review. Reading material is chosen both to furnish a basis for further study of German literature and to provide a working knowledge of the modern language. Prereq.: C or better in German 102 or in second-year high school German. *3 h. c.*

202. INTERMEDIATE GERMAN. A continuation of German 201, using texts of increasing difficulty; conversation and composition. Prereq.: German 201. *3 h. c.*

215-216. CHEMICAL GERMAN. A basic course designed to develop expeditiously an ability to read chemical literature in German. Prereq.: German 101-102 and Chemistry 111-112 or equivalent. *3 + 3 h. c.*

Upper Division Courses

325. GERMAN LITERARY TRADITION. A brief survey of significant German writers, illustrated by selections from their writings. Prereq.: German 204 or equivalent. *3 h. c.*

326. GERMAN CIVILIZATION. A study of the geography, history, and traditions of contemporary Germany, to provide a background for reading modern German authors. Prereq.: German 204 or equivalent. *3 h. c.*

327. GERMAN LITERARY STYLE. Through exercises in translation, modes of literary expression in German and English are compared. Prereq.: German 204 or equivalent. *3 h. c.*

328. GOETHE AND SCHILLER. Representative works of these two great German classical writers are read and discussed. Prereq.: German 204 or equivalent. *3 h. c.*

329. ADVANCED GERMAN GRAMMAR. A study of the most characteristic features of German word and sentence structure, with reference to analogies in English. Prereq.: German 204 or equivalent. *3 h. c.*

330. CONTEMPORARY GERMAN LITERATURE. Twentieth century writers and tendencies. Prereq.: German 204 or equivalent. *3 h. c.*

GREEK

A major in Greek is not offered, but credit in Greek may be counted toward a major in Latin and toward a combined major in classical studies or in humanities.

Lower Division Courses

101-102. ELEMENTARY GREEK. Grammar, syntax, and simple composition; reading selections from various Greek writers and the New Testament. Introduction to Greek literature, history, and civilization; attention to the Greek element in the English language. *3 + 3 h. c.*

201, 202. GREEK PROSE AND POETRY. Selections from prose writers, including Plato, and from poets, including a play of Euripides. Prereq.: Greek 101-102 or equivalent. *3 + 3 h. c.*

Upper Division Courses

301, 302. READINGS IN CLASSICAL GREEK AUTHORS. Readings from the principal Greek writers, selected with consideration for the students' tastes and interests. The course can be given on request, by arrangement with the director of the Division of Language and Literature. Prereq.: Greek 202 or equivalent, and consent of the instructor. *3 + 3 h. c.*

HEBREW

Lower Division Courses

101-102. ELEMENTARY HEBREW. Fundamental principles of grammar and the reading of simple prose, in preparation for reading narrative portions of the first five books of the Old Testament. Introduction to elementary conversational Hebrew. *3 + 3 h. c.*

201, 202. INTERMEDIATE HEBREW. Reading of selections from the Book of Genesis. Acquisition of a sufficient vocabulary for simple Hebrew conversation. Prereq.: Hebrew 101-102 or equivalent. *3 + 3 h. c.*

HISTORY

A major in history consists of History 105, 106 and 24 semester hours in courses above the 100 level.

Courses in other departments for which credit may be given toward a history major are: Political Science 304, 305, International Relations; Political Science 307, American Political Parties; Education 307, History of Education; a maximum of six semester hours in the history of art, and of four semester hours in humanities. One-third credit is allowed toward a major in history for any courses listed under Humanities.

Lower Division Courses

105, 106. EUROPE SINCE THE FALL OF ROME. European civilization from 476 to the present. *3 + 3 h. c.*

201. THE UNITED STATES TO 1865. The general, political, social, and economic development of the United States from the beginning of our history to the end of the Civil War. Listed also as Social Science 201. *3 h. c.*

202. THE UNITED STATES SINCE 1865. A continuation of History 201, emphasizing the period following the Civil War. Listed also as Social Science 202. *3 h. c.*

215, 216. CONSTITUTIONAL HISTORY OF ENGLAND. The unfolding of Anglo-Saxon governmental and legal institutions from early Germanic times to the present day. Development of the court system, common law, representative government, the cabinet system, and imperial federation. Especially recommended to pre-law and political science students. 215 is prerequisite to 216. *3 + 3 h. c.*

Upper Division Courses

301. ECONOMIC HISTORY OF EUROPE. A brief account of economic history from primitive times to the sixth century A. D., followed by a detailed study of succeeding systems; the more advanced nations of each period are chosen for study. *3 h. c.*

302. ECONOMIC HISTORY OF THE UNITED STATES. The influence of economic forces on the evolution of our national life and their effect upon our religious and social developments. *3 h. c.*

308. THE FAR EAST. A brief survey of the early history and civilization of China, Japan, and their dependencies, followed by a more detailed study stressing East-West relationships. Prereq.: History 105, 106. *3 h. c.*

309, 310. CONSTITUTIONAL HISTORY OF THE UNITED STATES. The formation, amendment, and interpretation of the Constitution of the United States. Of special interest to pre-law students. Prereq.: Social Science 101 and 102; prerequisite or concurrent: History 201 and 202. 309 is prerequisite to 310. *3 + 3 h. c.*

311. HISTORY OF GREECE. The political and cultural growth of Greece. *3 h. c.*

312. HISTORY OF ROME. The first republic, the growth of the city of Rome and the Mediterranean states, the early imperial system, the rule of the Caesars, and the decline of the empire. *3 h. c.*

313, 314. ENGLISH HISTORY. From the earliest times to the present, with emphasis on social, industrial, and commercial development, the growth of parliament, the contest for religious freedom, and the literary and intellectual development of the British people. *3 + 3 h. c.*

315. LATIN AMERICA. The political, economic, and social institutions and problems of the Latin-American nations from their beginning to the present, with special attention to inter-American relationships. *3 h. c.*

317. THE CIVIL WAR AND RECONSTRUCTION. The period from 1848, when the Wilmot Proviso stirred the North and the South to question the value of the Union, to the Cleveland era, when the South begins to emerge from the darkness of Reconstruction days. Intensive study of the outstanding figures of the Civil War and the Reconstruction. Prereq.: History 201 and 202. *3 h. c.*

318. THE UNITED STATES SINCE 1918. The period from the Peace of Versailles to the present time, with special attention to economic problems and the New Deal. Prereq.: History 201 and 202. *3 h. c.*

319. THE REVOLUTION AND THE CONSTITUTION. A brief survey of the colonial background, the causes and events of the Revolution, the conditions leading to the Convention of 1787, and the formation of the Constitution. Prereq.: History 201 and 202. *3 h. c.*

320. RUSSIA AND EASTERN EUROPE. The history of the Slavic peoples from their invasion of Europe to the present day, with emphasis on the period since Peter the Great. Prereq.: History 201 and 202. *3 h. c.*

321. NINETEENTH CENTURY EUROPE. Europe from the Congress of Vienna to the first World War, with emphasis on the rise of the unified state-nation and modern nationalism, the development of social and historical thought, and the expansion and solidification of imperialism. Prereq.: History 105, 106. *3 h. c.*

333. HISTORY OF THE UNITED STATES AND PENNSYLVANIA. The history of the State of Pennsylvania with emphasis on its position in general American history. Satisfies a requirement for a teacher's certificate in Pennsylvania. Prereq.: History 201 and 202. *3 h. c.*

350. THE FRENCH REVOLUTION. After a review of the causes, the course of the revolution is followed to the close of the Napoleonic era. Some comparisons with other revolutions are noticed. *3 h. c.*

400. THE TWENTIETH CENTURY WORLD. A factual, historical approach to the problems of imperialism, conflicting ideologies, causes of world war, and recent tendencies toward international co-operation and world government. Prereq.: History 201 and 202. *3 h. c.*

401. HISTORICAL METHOD. A laboratory course, including lectures on historiography and the techniques of using original sources. The student completes a project involving original research in historical materials. For students majoring in history or related subjects who expect to continue in graduate study. Prereq.: History 201 and 202. *3 h c.*

HOME ECONOMICS

Lower Division Courses

101. FOOD AND NUTRITION. The principles of nutrition, composition of foods, and food selection with a view to good health. Meal planning and preparation for individual needs. The scientific processes involved in the preparation and preservation of foods. *2 h. c.*

101L. FOOD AND NUTRITION LABORATORY. Two one-hour laboratory periods a week. May be taken concurrently with Home Economics 101. Fee: $5.00. *1 h. c.*

102. FOOD PREPARATION AND SERVICE. Application of the principles of nutrition to family meal service. Food for special occasions; marketing; care of food in the home. Laboratory techniques are emphasized. One two-hour lecture and one two-hour laboratory period a week. Fee: $5.00. *3 h c.*

203. CLOTHING APPRECIATION AND CONSTRUCTION. How to plan, purchase, and care for a satisfactory wardrobe for a college girl. Good taste in dress; selection of clothes from the standpoint of color, material, and design; construction of plain garments. One two-hour lecture and one two-hour laboratory period a week. Fee: $2.50. *3 h. c.*

204. CLOTHING SELECTION AND CONSTRUCTION. Factors in the wise choice of clothing for the family. Line, design, and color; practical work in garment construction using commercial patterns; fitting and altering ready-made garments; the clothing budget, accessories, and wardrobe care and upkeep. One two-hour lecture and one two-hour laboratory period a week. Fee: $2.50. *3 h. c.*

Upper Division Courses

301. TEXTILES AND CLOTHING. Consumer problems in textiles, such as identification of fibres, quality in relation to price, labels, color design, and finishes. Development of technique in using wool, silk, and synthetic materials. One two-hour lecture and one two-hour laboratory period a week. Prereq.: Home Economics 203 and 204. Fee: $2.50. *3 h. c.*

302. ADVANCED DRESSMAKING. Application of the principles of costume design to pattern alteration and designing. Development of specialized techniques in tailoring through the construction of a coat or suit;

use of sewing machine attachments; economics of clothing. One two-hour lecture and one two-hour laboratory period a week. Prereq.: Home Economics 203 and 204. Fee: $2.50. *3 h. c.*

305. CHILD PSYCHOLOGY. Identical with Psychology 305.

306. PSYCHOLOGY OF ADOLESCENCE. Identical with Psychology 306.

307. PSYCHOLOGY OF MARRIAGE AND FAMILY RELATIONS. Identical with Psychology 307.

308. PERSONALITY AND MENTAL HYGIENE. Identical with Psychology 308.

401. ADVANCED MEAL PLANNING. Selection and use of equipment for family food preparation. Financial and managerial problems in home food service: work simplification. Food flavors and herbs: advanced nutrition. Term paper. One two-hour lecture and one two-hour laboratory period a week. Prereq.: Home Economics 101 and 102. Fee: $5.00. *3 h. c.*

HUMANITIES

The material of the four courses in Humanities is drawn from the great writings of Western culture. The primary purpose of the readings is to arouse the students morally, intellectually, and aesthetically through the stimulus of these writings. An important secondary purpose is to acquaint them with a body of writing which has been extremely influential in the development of Western culture and to relate that material to the society in which it was produced and to our present society.

Credit in these courses is acceptable toward a major in any of the following subjects, to the extent indicated: English, full credit; history, 1/3 credit; philosophy, 1/3 credit; political science, 1/6 credit; sociology, 1/6 credit. Should a student be doing major work in both English and one of the other departments mentioned, he may (a) apply credit in humanities courses entirely toward his English major, or (b) apply part of it toward his other major and the balance toward his English major. Humanities 401 and 402 give full credit toward the college requirement in religion.

The only prerequisite for any of the courses is junior or senior standing. None of the courses is prerequisite to another.

Upper Division Courses

401. GREEK CLASSICS AND THE OLD TESTAMENT. The Old Testament, Homer, Greek drama, Herodotus, Thucydides, Plato, Aristotle, Plutarch. Prereq.: junior or senior standing. *3 h. c.*

402. ROMAN, MEDIEVAL, AND RENAISSANCE CLASSICS AND THE NEW TESTAMENT. The New Testament, Cicero, Catullus, Lucretius, Virgil, Horace, Ovid, Augustine, Dante, Boccaccio, Chaucer, Machiavelli, Erasmus, More, Rabelais, Montaigne, Cervantes. Prereq.: junior or senior standing. *3 h. c.*

403. EARLY MODERN CLASSICS. Shakespeare, Descartes, Milton, Molière, Spinoza, Locke, Racine, Voltaire, Fielding, Rousseau, Adam Smith, Gibbon. Prereq.: junior or senior standing. *3 h. c.*

404. LATER MODERN CLASSICS. Goethe, Balzac, Mill, Thackeray, Dostoevsky, Huxley, Ibsen, Tolstoy, Henry Adams, Hardy, William James, Shaw. Prereq.: junior or senior standing. *3 h. c.*

Combined Major in Humanities

A combined major in humanities consists of Humanities 401, 402, 403, and 404, and 33 hours chosen from the following courses:

English 200, 203, 204, 205, 206, 366, 367, 368, 369, 381, 382, 400, 405, 406, 409, 410, 462, 463, 464.

French 328, 330.

German 325, 328, 330.

Greek 201, 202, 301, 302.

Italian 328, 330.

Latin *201, *202, 301, 302, 303, 304, 305.

Philosophy and Religion 230, 303, 330.

Russian 305, 306.

Spanish 328, 330, 401.

Courses (totaling not more than 9 hours) in certain related fields, such as history, with the approval of the adviser.

Of these, 15 hours must be in one of the following concentration groups:

a. English.
b. French, German, Italian, Russian, Spanish.
c. Greek, Latin, Philosophy and Religion.

HYGIENE

See Physical Education.

ITALIAN

A major in Italian consists of 30 semester hours of work above the elementary level. Of this total, as many as twelve hours may be taken in related fields with the approval of the head of the department.

The prerequisite for any Upper Division course is either Italian 202 (or its equivalent) or the consent of the instructor.

*At the discretion of the adviser.

Lower Division Courses

101-102. ELEMENTARY ITALIAN. The fundamentals of grammar, with attention to correct pronunciation and diction; reading of simple modern texts. No credit is given for this course if the student has credit for two years of high school Italian. *3 + 3 h. c.*

201. INTERMEDIATE ITALIAN. Grammar review; elementary composition. Modern texts are read and used as a basis for conversation in Italian. Prereq.: C or better in Italian 102 or second-year high school Italian. *3 h. c.*

202. INTERMEDIATE ITALIAN. A continuation of Italian 201, with stories and plays studied both as literature and as language. *3 h. c.*

Upper Division Courses

325. ADVANCED ITALIAN GRAMMAR. A review of the essentials through grammatical analysis of a modern text. *3 h. c.*

326. ITALIAN CIVILIZATION. A study of the geography, history, and traditions of modern Italy with a view to understanding its influence on our own civilization. *3 h. c.*

327. CORSO DI STILE. Through translation of English masterpieces into Italian and models of Italian style into English, the means of expression in both languages are compared and contrasted. *3 h. c.*

328. ITALIAN LITERARY TRADITION. A brief survey of the principal writers of Italy, with special attention to Dante. *3 h. c.*

329. CONVERSATIONAL ITALIAN. Thorough drill in pronunciation, and conversation based on a composition text. *3 h. c.*

330. CONTEMPORARY ITALIAN LITERATURE. A study of modern Italian literary tendencies as expressed in the principal writers of the twentieth century, using the anthology *Poeti d'Oggi*. *3 h. c.*

411, 412. COMPARATIVE GRAMMAR OF THE ROMANCE LANGUAGES. Identical with French 411, 412; listed also as Spanish 411, 412.

JOURNALISM

See English. Besides a major in English, the student of journalism should secure a broad education in the liberal arts with emphasis on the social sciences and the humanities.

LATIN

A major in Latin consists of 30 semester hours in Latin and Greek courses in a combination acceptable to the head of the Department of Ancient Languages. For a combined major in classical studies, see page 95; for one in humanities, see page 129.

The prerequisite for any Upper Division course is Latin 202, or four years of high school Latin, or the consent of the instructor.

Lower Division Courses

101-102. ELEMENTARY LATIN. Essentials of Latin grammar and some reading of connected prose. Designed for pre-law students and majors in English and modern languages as well as for students planning to continue work in Latin. No credit is given for this course if the student has credit for two years of high school Latin. *3 + 3 h. c.*

201. CICERO: PROSE COMPOSITION. Selections from Cicero's letters and orations. Prereq.: Latin 101-102 or two years of high school Latin. *3 h. c.*

202. VIRGIL; PROSE COMPOSITION. Selections from the *Aeneid*, books I-VI. Prereq.: Latin 201 or three years of high school Latin. *3 h. c.*

Upper Division Courses

301. OVID'S *METAMORPHOSES*; PROSE COMPOSITION. *3 h. c.*

302. CICERO'S *DE AMICITIA*; HISTORY OF ROMAN LITERATURE. *3 h. c.*

303. LIVY; PROSE COMPOSITION. *3 h. c.*

304. LATIN LYRIC POETRY: HORACE AND CATULLUS. *3 h. c.*

305. PLINY'S *LETTERS*; PROSE COMPOSITION. *3 h. c.*

LAW

A pre-law curriculum is suggested in the School of Law section, where the student may also benefit from reading the admission requirements. See also page 93.

LIBRARY SERVICE

Library service courses are designed for those desiring to become children's librarians, librarians in public libraries, or school librarians. Curriculums for public library and children's library work are given below; for school library work, the department head may be consulted.

Since this work was first offered in 1951-52, courses will at first be organized only as they are needed by students who have undertaken one of the curriculums.

Lower Division Course

101. USE OF BOOKS AND LIBRARIES. A survey of library resources and services; what the library is and how to use it; arrangement of books in the library; the card catalog; general reference sources and aids in special fields. Designed to aid the college student in his study and research. *1 h. c.*

Upper Division Courses

301. HISTORY OF BOOKS, PRINTING, AND LIBRARIES. The development of man's earliest records; the alphabet; ancient writing; manuscript books; printing and its effect on bookmaking; modern book production; the growth of libraries from ancient times to the present; the modern library movement. *2 h. c.*

302. CATALOGING AND CLASSIFICATION. The organization of library materials for availability, through cataloging, classification, and subject analysis; emphasis is on flexibility in applying standard practices to different needs. *3 h. c.*

303. REFERENCE AND BIBLIOGRAPHY. Selection and use of the principal reference and bibliographical tools, methods of effective reference service, and the function of the reference department. *3 h. c.*

304. REFERENCE AND BIBLIOGRAPHY. Study of reference and bibliographical materials in special fields, and practice in reference and research methods. Prereq.: Library Service 303. *3 h. c.*

305. BOOK SELECTION. The principles of book selection for library purchase. Study of the field of popular literature, especially fiction, travel, biography, humor, current affairs, bibliographic aids, and book reviewing and evaluation. *3 h. c.*

306. BOOK SELECTION. Evaluation of standard works in the various fields of learning, with attention to the outstanding foreign books available in English translations. Prereq.: Library Service 305. *3 h. c.*

307. COMMUNICATION AND THE LIBRARY IN SOCIETY. The library as an educational and cultural institution in society past and present; the various media of mass communication in print—books, newspapers, periodicals—together with radio and motion pictures, are considered with their implications as library materials. *2 h. c.*

308. INTERPRETATION OF BOOKS. Methods of introducing books to people: the personal approach to the individual reader, displays, book lists, radio and newspaper publicity, contacts through groups, book reviewing. *2 h. c.*

309. FIELD WORK. Practical work in a library, generally of the type in which the student's interests indicate that he will probably spend his professional career. The purpose is to enable the student to learn by doing, to observe library operations at first hand, and to relate what he has learned in the classroom to actual situations, needs, and problems. The student's work is supervised, and he reports on his experiences. Prereq.: permission of the department head. *4 h. c.*

330. AUDIO-VISUAL EDUCATION. Identical with Education 330.

401. BOOKS FOR CHILDREN. An introduction to children's books and reading: the history of children's literature in relation to present reading interests; standards for evaluating new publications; and a study of popular classics. *3 h. c.*

402. BOOKS FOR CHILDREN. Evaluation of standard titles in the various subject fields of children's literature as a guide to the selection of a juvenile collection. Prereq.: Library Service 401. *3 h. c.*

403. BOOKS FOR YOUNG PEOPLE. Critical evaluation of current and classic literature in terms of the interests and reading ability of high school readers; special requirements of book reviewing for their age groups. *2 h. c.*

404. STORY-TELLING. The technique of telling stories to children: study of traditional and modern folk literature; and practice in telling stories and presenting book talks before children's groups. *2 h. c.*

405. ADMINISTRATION OF THE CHILDREN'S ROOM. Problems of administering the children's room in a public library: reading guidance, promotion of the use of books, book buying, care of books, the planning, equipment, and conduct of the children's room, and relationships with parents and teachers. *2 h. c.*

406. SCHOOL LIBRARY SERVICE. The organization and administration of school libraries. Consideration of such problems as: planning and equipping the library; personnel; selection of educational materials; budgets; library instruction; the library's relation to the school program and to the community; and other problems involved in giving proper school library service. *3 h. c.*

407. PUBLIC LIBRARY SERVICE. Administration of public libraries; the library as a governmental unit, its requirements for support, its proper activities, the organization of its functions, supervision of its staff; the design and operation of its buildings. *3 h. c.*

Curriculums

Public Library Service

Required Curriculum Leading to the Degree of Bachelor of Arts with a Major in Library Service (Concentration in Public Library Service)

First Year	Hrs.
Art 113, 114 History and Appreciation of Art	6
Comm. 105-106 Basic Sourse	6
*Foreign language (or elective)	6
Hist. 105, 106 Europe from the Fall of Rome	6
Lib. Serv. 101 Use of Books and Libraries	1
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	34

Second Year	Hrs.
Comm. 107 Basic Course	3
Engl. 203, 204 Survey of English Literature	6
Engl. 205, 206 Survey of American Literature	6
*Foreign language (or elective)	6
Hist. 201 and 202 The United States	6
Psych. 201 General Psychology	3
Physical Education (activity)	1
	31

Third Year	Hrs.
English elective	3
Lib. Serv. 301 History of Books, Printing, and Libraries	2
Lib. Serv. 302 Cataloging and Classification	3
Lib. Serv. 303 and 304 Reference and Bibliography	6
Lib. Serv. 305 and 306 Book Selection	6
Lib. Serv. 309 Field Work	4
Science	8
	32

Fourth Year	Hrs.
Hum. 401 and 402 (Greece-1600)	6
Hum. 403 and 404 (1600-present)	6
Lib. Serv. 307 Communication and the Library in Society	2
Lib. Serv. 308 Interpretation of Books	2
Lib. Serv. 407 Public Library Service	3
Library Service electives	5
Science	3
Electives	1
	28

*See page 94.

Children's Library Service

Required Curriculum Leading to the Degree of Bachelor of Arts with a Major in Library Service (Concentration in Children's Library Service)

First Year	Hrs.
Comm. 105-106 Basic Course	6
*Foreign language (or elective)	6
Hist. 105, 106 Europe from the Fall of Rome	6
Science	8
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	33

Second Year	Hrs.
Comm. 107 Basic Course	3
Engl. 203, 204 Survey of English Literature	6
*Foreign language (or elective)	6
Hist. 201 and 202 The United States	6
Lib. Serv. 101 Use of Books and Libraries	1
Science	3
Psych. 201 General Psychology	3
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
	31

Third Year	Hrs.
Engl. 205, 206 Survey of American Literature	6
English elective	3
Lib. Serv. 301 History of Books, Printing, and Libraries	2
Lib. Serv. 302 Cataloging and Classification	3
Lib. Serv. 303 Reference and Bibliography	3
Lib. Serv. 305 Book Selection	3
Lib. Serv. 307 Communication and the Library in Society	2
Lib. Serv. 308 Interpretation of Books	2
Lib. Serv. 309 Field Work	4
Psych. 305 Child Psychology	3
	31

Fourth Year	Hrs.
Hum. 401 and 402 (Greece-1600)	6
Hum. 403 and 404 (1600-present)	6
Lib. Serv. 401 and 402 Books for Children	6
Lib. Serv. 403 Books for Young People	2
Lib. Serv. 404 Story-telling	2
Lib. Serv. 405 Administration of the Children's Room	2
Library Service elective	2
Electives	4
	30

*See page 94.

MATHEMATICS

A student may complete a major in mathematics for the degree of Bachelor of Arts, Bachelor of Science, or Bachelor of Science in Education. The curriculums required for the first two degrees appear below, after the mathematics course descriptions; for the Bachelor of Science in Education degree, see the secondary education curriculum on page 118, with its accompanying notes.

Non-credit Courses

The following courses, offered for the purposes indicated, provide no credit toward graduation from college. Mathematics 10, 11, 12, and 13 are for students with entrance deficiencies in mathematics. Mathematics 51 fulfills no entrance requirement.

10. HIGH SCHOOL ALGEBRA, FIRST YEAR. Three hours a week, at night, first semester. Evaluated as 1 high school credit.

11. PLANE AND SOLID GEOMETRY. Three hours a week, at night, first semester. Evaluated as 1½ high school credits.

12. HIGH SCHOOL ALGEBRA, SECOND YEAR. Three hours a week, at night, second semester. Evaluated as 1 high school credit.

13. SOLID GEOMETRY. The equivalent of two semester hours a week, summer session only. Prereq.: plane geometry. Evaluated as ½ high school credit.

51. ARITHMETIC. A general review of arithmetic, covering fundamental processes, short methods, and their application. Three hours a week. Not applicable toward meeting an entrance deficiency. *No credit.*

Lower Division Courses

101, 102. COLLEGE ALGEBRA. A rapid review of the fundamentals, followed by work in logarithms, progressions, binomial theorem and mathematical induction, permutations and combinations, complex numbers, determinants, and other topics. Prerequisite: high school algebra. *3 + 3 h. c.*

103. TRIGONOMETRY. Trigonometric functions, use of tables, study of oblique triangles, radian measure and applications, graphs and special properties of trignometric functions, trigonometric equations and identities, solutions of oblique triangles, and inverse trigonometric functions. Should be taken concurrently with Mathematics 101. Prerequisite: high school geometry. *3 h. c.*

114. ANALYTIC GEOMETRY. Equations and their graphs, the straight line, the locus of an equation by means of a complete discussion, locus problems, transformation of co-ordinates, polar equations, the circle, and detailed work in conic sections. Prerequisite: Mathematics 103. Concurrent: Mathematics 102. *3 h. c.*

120-121. FRESHMAN MATHEMATICS. A combination of algebra, trigonometry, and plane and solid analytic geometry, with the aim of strengthening the student's ability to analyze physical situations by mathematical means. Prerequisite: two units of high school algebra and one and one-half units of high school geometry. (For transfer purposes, this course is evaluated as five semester hours of college algebra, three of trigonometry, and two of analytic geometry.) *5 + 5 h. c.*

209-210. CALCULUS I AND II: DIFFERENTIAL AND INTEGRAL. A thorough course in the essentials of each phase of calculus, including limits, maxima and minima, rates, curve-tracing, parametric and polar equations, the Theorem of Mean Value and its applications, the definite integral, areas, volumes, and centroids, with applications to physical and mechanical problems; a general study of series, and the expansion of functions by Maclaurin's and Taylor's series. Prereq.: Mathematics 102, 103, and 114, or Mathematics 120-121. *5 + 5 h. c.*

231. STATISTICS. Elementary theory of mathematical statistics, with application to problems in student's major field. Averages, frequency distributions and curves, measurement of dispersion and skewness, correlation and curve-fitting. Prereq.: Mathematics 101, 102 or 120-121. *3 h. c.*

Upper Division Courses

311. THEORY OF EQUATIONS. Solution of cubic and quartic equations. Newton's method, symmetric functions, determinants, resultants, and discriminants. Prereq.: Mathematics 209-210. *3 h. c.*

315. DIFFERENTIAL EQUATIONS. Methods of solving ordinary differential equations, with application to problems in various fields. Prereq.: Mathematics 209-210. *3 h. c.*

330. COLLEGE GEOMETRY. The study of geometric constructions by various methods, including the use of loci, indirect elements, and similar and homothetic figures; properties of the triangle, the nine-point circle, orthocentric quadrilateral; recent geometry of the triangle. Prereq.: junior standing. *3 h. c.*

401-402. THESIS. The student investigates a subject, selected by either the student or the head of the Department of Mathematics, and submits a written report, of at least 2,500 words, in three bound copies according to specifications available to him on request. The thesis must be accepted by the head of the Department of Mathematics. Prereq.: senior standing. Estimated thesis expense: $25-$30. *2 + 2 h. c.*

416. PARTIAL DIFFERENTIAL EQUATIONS. Partial differential equations, including higher-order equations and systems of equations. Prereq.: Mathematics 315. *3 h. c.*

420. VECTOR ANALYSIS. The elementary operations of vector analysis: scalar and vector products of two vectors and of three vectors; differentiation of vectors. Applications to electrical theory and to mechanics. Prereq.: Mathematics 315 and consent of instructor. *3 h. c.*

432. HISTORY OF MATHEMATICS. The development of the fundamental ideas of mathematics through calculus, from antiquity to the present. Prereq.: Mathematics 209-210. *3 h. c.*

Required Curriculum for the Degree of Bachelor of Arts with Major in Mathematics

General Requirements for the Degree

Course or Subject	Hours
Communication 105-106-107	9
Physical Education	4
Orientation 100	Credit
English 200	3
Humanities 401	3
History 201 and 202	6
Psychology 201	3
Social Science 101 and 102	6
Biology 103	3
Chemistry 109-110	10
A foreign language (see pages 91 and 94)	12

Requirements for the Major

Mathematics 120-121	10
Mathematics 209-210	10
Mathematics 315, 416, 420, 432	12

Requirements for the Minor

15 hours of work in one department (other than that of the major), of which 9 hours must be in courses numbered 300 or higher.

Additional Requirements

Economics 305, 402, 405	7
English 381 and 382	6
Humanities 403 and 404	6

Required Curriculum for the Degree of Bachelor of Science with Major in Mathematics

General Requirements for the Degree

Course or Subject	Hours
Communication 105-106-107	9
Physical Education	4
Orientation 100	Credit
English 200	3
Humanities 401	3
History 201 and 202	6
Social Science 101 and 102	6
A foreign language (see pages 92 and 94)	12

Requirements for the Major

Mathematics 120-121	10
Mathematics 209-210	10
Mathematics 315, 416, 420, 432	12

Requirements for the Minor

15 hours of work in one department (other than that of the major), of which 9 hours must be in courses numbered 300 or higher.

Additional Requirements

Biology 103	3
Chemistry 109-110	10
Economics 305, 402, 405	7
English 381 and 382	6
Humanities 403 and 404	6
Physics 201, 201L, 202, 202L	8
Physics 220	3
Psychology 201	3

A semester-by-semester version of each of these curriculums is available at the office of the Department of Mathematics, in Rayen Building.

METALLURGY

See Chemistry; also the William Rayen School of Engineering section.

MILITARY SCIENCE AND TACTICS

A unit of the Reserve Officers' Training Corps was established at Youngstown College in 1950 and is administered as the Department of Military Science and Tactics.

A student enrolled in the R. O. T. C. is not a member of the Army. He is instructed, however, from the latest Army textbooks by Army officers. Instruction is based on the latest methods and theories evolved during and after World War II, and includes practical exercises in many fields, utilizing the most modern army equipment as well as facilities of the college.

Every graduate of the R. O. T. C. program, after successfully completing four years of academic work at college level, is tendered a commission as a second lieutenant in the United States Army Reserve. A graduate may, at his request, be initially commissioned in any of the services for which his education or experience qualifies him.

A cadet who distinguishes himself in academic and military subjects, and who demonstrates outstanding qualities of character and leadership, may, at the end of his junior year, be designated a distinguished military student and may then apply for a Regular Army commission. This opportunity is generally available to the upper third of each class.

The military science program consists of two courses: the basic course, comprising the first two years; and the advanced course, comprising the last two years. Each two-year course may be elected separately, but only in its entirety. Only under unusual circumstances may a student drop a two-year course in military science, once he has elected it. In such cases no credit is granted for previously completed semesters of the same two-year course. No two semesters of the basic course may be taken simultaneously.

Work in military science and tactics done in other institutions is accepted as follows:

a. A student who has done one year's work receives credit for it upon completing the basic course.

b. A student with two years' work receives credit for the basic course.

c. A student with three years' work receives credit for the basic course on entering and credit for the third year upon completing the advanced course.

The basic course is available to any male student of Youngstown College who

(1) is a citizen of the United States not less than 14 years of age.

(2) is physically qualified,

(3) has not reached his 23rd birthday at the time of initial enrollment, and

(4) has at least two academic years remaining in his course at this institution.

The advanced course is available to any male student of the college who

(1) is a citizen of the United States,

(2) is physically qualified,

(3) has not reached his 27th birthday,

(4) has successfully completed the two years of the basic course or has received credit in lieu thereof for 12 months or more of active military service in the Army, Navy, Marine Corps, or Coast Guard during World War II,

(5) has been selected for the course by the president of the college and the professor of military science,

(6) executes a written agreement with the government that, in consideration of commutation of subsistence to be furnished in accordance with law, he will complete the advanced course at this institution or at any other institution where such a course is given and pursue the course of camp training during the period prescribed,

(7) has at least two academic years to complete for graduation, and

(8) agrees to accept appointment in the United States Army Reserve if tendered.

No compensation is paid the student by the government during the basic course. An advanced-course student receives an allowance from the government in lieu of subsistence, which presently amounts to 90 cents a day for not more than 570 days during the two academic years.

By agreement between the United States government and the college, the Army furnishes instructors, equipment, textbooks, student uniforms, etc., while the college furnishes all other facilities for the four-year program. A deposit of $10.00 is required of each student in military science, but $9.50 is returned to him when he turns in all government property at the end of each year or upon withdrawal from school.

Each advanced military science student must attend one summer camp of about six weeks' duration. He is paid $75 a month while there and allowed travel expense at 5 cents a mile to and from camp.

Students enrolled or considering enrollment in R. O. T. C. should read the pertinent information on pages 65 and 72-73.

As stated above, the opportunity to gain a Regular Army commission through R. O. T. C. work is open to any qualified individual regardless of the degree he is working for. However, for the student who wishes to prepare himself more extensively for such a career, a curriculum leading to the degree of Bachelor of Science with a major in military science is offered below.

Lower Division

101, 102. BASIC COURSE, FIRST YEAR. Introduction to military science; leadership, drill, exercise of command. *2 + 2 h. c.*

201, 202. BASIC COURSE, SECOND YEAR. Leadership, drill, exercise of command continued; characteristics, capabilities, limitations, and service of anti-aircraft weapons. Prereq.: Military Science 101 and 102, or credit granted therefor by the department head on the basis of active military service. *2 + 2 h. c.*

Upper Division

301, 302. ADVANCED COURSE, FIRST YEAR. Anti-aircraft artillery; basic gunnery; anti-aircraft guns; automatic weapons; communications; individual weapons and marksmanship; motor and transportation organization; troop movements. Prereq.: Military Science 101, 102, 201, and 202, or credit therefor granted by the department head on the basis of not less than 12 months of active military service; written application; and selection for the course. *3 + 3 h. c.*

401, 402. ADVANCED COURSE, SECOND YEAR. Anti-aircraft artillery; materiel; tactics; command and staff; combat intelligence; gunnery. Prereq.: Military Science 301 and 302. *3 + 3 h. c.*

Required Curriculum for the Degree of Bachelor of Science with a Major in Military Science

The major is a combined major in military science, sciences, and engineering. The minor is in a non-science field and is arranged in consultation with the department head. Depending on the subject, the minor may require semester hours additional to the 136 shown below.

Basic

Course or Subject	*Hours*
Communication 105-106-107, Basic Course	9
A foreign language (any modern language) or electives; see page 94	12
*Physical Education 121, 122, 221, 222 (activity)	2
Physical Education 107 and 108, Hygiene	2
Orientation 100, Freshman Orientation	Credit

General (except science)

History 201, The United States to 1865	3
History 202, The United States since 1865	3
Political Science 304, 305, International Relations	6
Social Science 101, Introduction to the Social Sciences (economics)	3

*Must not be calisthenics, dancing, eurhythmics, or recreational games. The student must be able to swim 50 yards before graduating.

Religion (a course in the Department of Philosophy and Religion, or Humanities 401 or 402)	3
Elective	2 or 0

Science

Chemistry 109-110, or 111-112, General Chemistry	8 or 10
Geography 102, Principles of Geography	3
Mathematics 120-121, Freshman Mathematics	10
Mathematics 209-210, Calculus I and II: Differential and Integral	10
Mathematics 231, Statistics	3
Mathematics 315, Differential Equations	3
Physics 201, General Physics: Mechanics, Heat ,and Sound	3
Physics 201L, General Physics Laboratory	1
Physics 202, General Physics: Light and Electricity	3
Physics 202L, General Physics Laboratory	1
Physics 426-427, Elements of Nuclear Physics	6

Professional

Chemistry 103, The Slide Rule	1
Engineering 101, Elementary Engineering Drawing	2
Engineering 313, Fundamentals of Electrical Engineering	4
Engineering 314, Elements of Electrical Machines	3
Engineering 314L, Elements of Electrical Machines Laboratory	1
English 355, News Writing and Reporting	3
Military Science 101, 102, 201, 202, Basic Course	8
Military Science 301, 302, 401, 402, Advanced Course	12
Psychology 309, Psychology of Personnel Selection and Placement	3
Summer Camp (requirement stated on page 138)	0

MODERN LANGUAGES AND LITERATURE

See English, French, German, Italian, Russian, and Spanish; Portuguese is under Spanish. For literature in translation, see Humanities.

MUSIC

A major in the history and literature of music is acceptable for the degree of Bachelor of Arts. For the music courses for such a major, see the section on Dana School of Music.

Various courses at Dana School of Music may be taken as electives by students in other units.

NURSING

Information on courses for graduate nurses who wish to complete the work for a bachelor's degree, as well as on courses for those interested in nursing training or public school nursing, will be found near the end of the College of Arts and Sciences section. See also Biology 383.

Orientation 100 is required of every day freshmen and is taken in conjuction with Communication 105. No semester hours of credit are granted for it, but a student who does not take it or whose attendance in it is unsatisfactory must earn an extra semester hour of credit for graduation. Satisfactory completion is recorded by the notation "Credit".

100. FRESHMAN ORIENTATION. A lecture course designed to help the freshman adjust himself to college. Discussion of such matters as the relation of college to society, organization of Youngstown College, entrance and graduation requirements, employment opportunities for college graduates, studying in college, etc. One hour a week. *Credit: see above.*

PHILOSOPHY AND RELIGION

Philosophy is the traditional major of pre-ministerial students. While admission to accredited theological schools may be granted upon completion of practically any college major, it is generally conceded that a thorough familiarity with the major problems which have occupied human thought, together with the solutions which have historically been offered to such problems, is a highly desirable foundation for theological studies. In many seminaries such knowledge is assumed and the ministerial student is at a disadvantage without it.

The major in philosophy has been planned in recognition of these needs, as well as those of the student who plans to make philosophy his life work. It consists of thirty hours in the department, including Philosophy 203, 220, 301, 302, and 305. A suggested curriculum for philosophy majors appears at the end of the departmental course listings.

A major in religion, for the student desiring to prepare himself for social work, church school work, or related professional activity, may be planned in consultation with the head of the department and the director of the Division of Social Sciences.

The student is assumed to understand that the approach made to the subject matter in any course, or section of a course, will be that of the teacher in charge.

One-third credit toward either the philosophy or the religion major will be allowed for any courses listed under Humanities.

The three-hour college requirement in religion may be met by taking any course in the Department of Philosophy and Religion. Humanities 401 and 402 also meet this requirement.

Lower Division Courses

203. INTRODUCTION TO PHILOSOPHY. The methods, problems, and fundamental conceptions of philosophy, and the significance of the higher values of life—moral, aesthetic, and religious. *3 h. c.*

207. THE CHRISTIAN ETHIC. A study of the records of the New Testament, with the object of discovering Jesus' conception of life, and the ethical principles revealed in both His life and teachings; the relation of these principles, in terms of agreement, difference, and transcendence, to other major systems of ethical theory, and their relevance for present conduct. *3 h. c.*

208. THE BEGINNING OF CHRISTIANITY. The Palestinian environment, the Jewish tradition, the Greco-Roman culture of the age, the career and teaching of Jesus, the organization of the Church, and its expansion in the Roman Empire. *3 h. c.*

220. LOGIC. The laws that lie behind all our thought processes. The nature of concept and the divisions of its expression, the term. Judgment and the valid forms of immediate inference. Reasoning and its laws; formal and material fallacies; inductive reasoning. *3 h. c.*

221. PHILOSOPHY OF LOWER ANIMATE NATURE. The comparison of living and non-living things to discover the meaning of life, its definition, and its cause. Mechanism; the vital principle of plant and animal sensation; sensation and what it implies; the cerebro-spinal system; animal intelligence. A philosophical discussion of evolution. *3 h. c.*

230. INTRODUCTION TO BIBLICAL LITERATURE. A survey of the literature of the Old and New Testaments, with attention to the authorship and purpose of the various books, the history of their compilation into the present canon, their structure and style, and the applicability of their teachings to the problems of today. *3 h. c.*

Upper Division Courses

301. HISTORY OF PHILOSOPHY. The development of philosophic thought from early Greek times through the Middle Ages. *3 h. c.*

302. HISTORY OF PHILOSOPHY. Continuation of Philosophy and Religion 301 from the end of the Middle Ages to the present. *3 h. c.*

303. OLD TESTAMENT. Reading of the Old Testament, with attention to the nature of the Bible; the authorship, origin, and meaning of the various books; the development of religious and ethical ideas throughout the Old Testament period; the significance of the law and of the prophets in Hebrew life; and the contribution of the Hebrews to the life of mankind. *3 h. c.*

304. PHILOSOPHY OF RELIGION. The meaning of religion, and its relation to other aspects of culture. The function and evaluation of religious experience. The existence and nature of God; the problem of evil; the soul, with the problems of freedom and immortality. Prayer. Current trends toward skepticism and faith. *3 h. c.*

305. ETHICS. A study of human nature, biological and psychological bases of behavior, duty, conscience, habit, freedom, the nature of right and wrong, and the principal ethical theories. *3 h. c.*

306. PSYCHOLOGY OF RELIGION. Identical with Psychology 303.

307. TYPES OF PHILOSOPHY. The principal approaches to the problems of philosophy, and their differences; an outline of the historical answers to the questions indicated in Philosophy and Religion 203. Prereq.: Philosophy and Religion 203. *3 h. c.*

308. PROPHETIC RELIGION. A social and psychological analysis of the prophetic mentality; the differences between the prophetic approach to religion and that of the priest; an analysis of great prophetic books with a view to the sociological and psychological factors involved; an attempt to delineate the essential elements in prophecy. *3 h. c.*

309. AESTHETICS. Classical and modern philosophies of beauty, especially as they apply in criticism of the fine arts. The problem of the relative and the absolute in judgments of taste. Reading in aesthetics from such writers as Plato, Aristotle, Longinus, Kant, and Croce. *3 h. c.*

310. MAKING OF THE MODERN MIND. The philosophic, religious, scientific, political, and social developments out of which our present patterns of thought have arisen. *3 h. c.*

315. HISTORY OF RELIGION. An introductory course. The mechanisms of religious origins; primitive religion and its concepts; comparison of ethnic and prophetic religions; the classic religions of the ancient world, and their contributions to Judaism and Christianity; an introductory historical review of living religious systems. *3 h. c.*

322. PHILOSOPHY OF MAN. A discussion of the sentient, emotional, and rational life of man. Abnormal manifestations, and attempted psychological explanations. Rational thought and its principles; the modern psychologist's explanation. Freedom of the human will vs. behaviorism. The human soul, and its origin and destiny. Prereq.: Philosophy and Religion 220 or 221. *3 h. c.*

323. THEORIES OF KNOWLEDGE. The epistemological problem and its attempted solution. The position of the skeptic, the pragmatist, the sensist, the idealist; the moderate realist's solution. Truth and certitude: their nature, sources, and ultimate criterion. Prereq.: Philosophy and Religion 220 or 221. *3 h. c.*

324. PHILOSOPHY OF BEING. The metaphysical concept of abstract being. Essence and existence; act and potency; substance and accident; the possibles. Cause and causality; the meaning and nature of relations. Prereq.: Philosophy and Religion 220 or 221. *3 h. c.*

325. METAPHYSICS OF MATTER. A philosophical consideration of the nature and constitution of matter. Hylomorphism; the origin of the physical universe; physical laws; miracles; space-time concepts. Prereq.: Philosophy and Religion 220 or 221. *3 h. c.*

326. PHILOSOPHY OF GOD. Proofs for the existence of God; the nature of God and his attributes; God's knowledge and its media; the *scientia media;* providence and the problem of evil; miracles. Prereq.: Philosophy and Religion 220 or 221. *3 h. c.*

330. PHILOSOPHICAL CLASSICS. Reading and discussion of some of the great documents of philosophy: Plato's *Republic,* Aristotle's *Nicomachean Ethics,* Descartes' *Meditations,* Kant's *Critique of Pure Reason,* and James' *Essays,* or alternative selections of comparable significance. *3 h. c.*

409. HISTORY OF SOCIAL PHILOSOPHIES. Identical with Sociology 409.

427. MORAL CONDUCT: BASIC PRINCIPLES. The definition of moral good and moral evil established by positive proof. The nature and true norm of morality; false norms. The "Eternal and Natural Laws"; obligation and sanction of the "Natural Law"; conscience; the nature of rights and duties; the existence of natural rights. *3 h. c.*

428. MORAL CONDUCT: SPECIFIC APPLICATIONS. The application of the "Natural Law" to human activities. Man's duties to God; the natural right to property; rights and duties of conjugal society; marriage and divorce. Industrial ethics; the solution of the communist; wages, strikes, labor unions. The nature of civil society. Prereq.: Philosophy and Relgion 427. *3 h. c.*

431. THE PSYCHO-SOCIAL DYNAMICS OF RELIGION. An objective examination of religious institutions and practices in relation to the human problems to which they correspond. A comparative appraisal of their effectiveness in meeting the psychic and environmental needs of their adherents. Reasons for their success or failure, in terms of depth psychology, sociology, and anthropology. Several of the classic religions are studied. Prereq.: Philosophy and Religion 315 or 306 and the consent of the instructor. *3 h. c.*

432. THE PSYCHO-SOCIAL DYNAMICS OF RELIGION. The same considerations as in Philosophy and Religion 431, applied to present-day religious cults. Prereq.: Philosophy and Religion 315 or 306, and the consent of the instructor. Listed also as Psychology 432 and Sociology 432. *3 h. c.*

PHYSICAL EDUCATION

Youngstown College is approved by the Ohio State Department of Education for the training of physical education teachers for public schools. Although the approval is only for the state teaching minor, a college major is offered, for which a curriculum is suggested on pages 116-117.

Required Courses

Every student in Youngstown College working for a degree must earn four semester hours of credit in physical education, two of them in hygiene (Physical Education 107 and 108) and the other two, normally, in physical activity (four one-semester courses, each providing one half-hour of credit). The form of activity is chosen by the student and may differ each semester, except for music students, who normally must take eurhythmics all four semesters. Previous experience in the sport chosen is not necessary. A woman student purchases the required uniform through the instructor; men provide suitable clothing themselves, but they should first consult the instructor.

If a student is excused from the regular activity courses for any reason, the Co-ordinator of Health and Physical Education

may substitute suitable courses. Night students are ordinarily permitted such substitution if they prefer it. Handicapped students and those needing remedial work are given special attention.

Men and women students are scheduled in separate sections for Physical Education 107 and 108, and for 121 and 122 unless the activity is eurhythmics. Physical Education 221 and 222 may be taken either separately or coeducationally, depending on the activity.

Activities for women include:

archery
badminton
basketball
bowling
calisthenics and body-building games
dancing (modern, tap, social, folk, square)
eurhythmics (primarily for music students)
fencing
field hockey
golf
soccer
softball
swimming (beginning, intermediate, advanced, life-saving)
tennis
tumbling and apparatus
volleyball

For men, some of the activities listed above are being made available as facilities and schedules permit. Otherwise, men (except music students) take a combination of calisthenics and one or more of the following: basketball, soccer, softball, squash, swimming, touch football, volleyball. (The physical activity course fee makes all Y.M.C.A. activities and facilities available to men students who pay it, but course credit is given only for the activities just named.)

Members of the college baseball, basketball, football, golf, and tennis squads receive physical education credit through those activities.

The equipment (except clothing) for required physical activities is available for use without charge. A student wishing to use his own racket, golf clubs, bow, etc., may do so, but is advised to consult his instructor before buying new equipment.

Courses Required of All Students in the Lower Division

The following required courses are recorded as, e.g., 107M or 107W, according as the student is in a men's or a women's section. A coeducational section of 221 or 222 is registered as 221C or 222C.

107. HYGIENE. Personal health and good community living, including study of such common disorders as heart disease, cancer, tuberculosis, and upper respiratory diseases, and of other communicable diseases and their control. *1 h. c.*

108. HYGIENE. Home nursing, including care of the sick and the sickroom, bedfast patients, and infants and children. *1 h. c.*

121. (Physical Activity). The first of the four required one-semester courses in physical activity. The student (unless a music student) chooses one of the activities open to him as explained above; the music student takes eurhythmics. Men students provide suitable clothing themselves; women purchase the required uniform through the instructor. Two hours a week. Fees: men, $7.50 (gymnasium); women, $6.00 (gymnasium) and $1.50 (locker and equipment). The course is registered for and recorded as, e.g, "Physical Education 121, Tennis." *½ h. c.*

122. (Physical Activity). The second of the four required courses. Like Physical Education 121 in all respects, including fees. *½ h. c.*

221. (Physical Activity). The third of the four required courses. Like Physical Education 121 in all respects, including fees. *½ h. c.*

222. (Physical Activity). The fourth of the four required courses. Like Physical Education 121 in all respects, including fees. *½ h. c.*

Other Courses

The following courses are grouped and numbered according as they are for men only, for women only, or coeducational.

FOR MEN

Lower Division Course

250M. LIFE-SAVING METHODS. Techniques of life saving, with American Red Cross methods as the basis of instruction. Upon satisfactory completion, Red Cross certification is granted. Three class hours a week. Prereq.: permission of instructor. *1 h. c.*

Upper Division Courses

309M. INTRAMURAL SPORTS: ORGANIZATION AND ADMINISTRATION. The principles and problems of conducting an intramural sports program, including pupil participation, awards, tournaments, types of officiating, publicity, sportsmanship, and other details. *3 h. c.*

350M. WATER SAFETY METHODS FOR INSTRUCTORS. Techniques of organizing and teaching swimming, diving, and life-saving activities. Red Cross instructor's certificate is awarded upon satisfactory completion. Prereq.: current certification as Red Cross Senior Life Saver. *2 h. c.*

370M. THEORY OF CAMP COUNSELING. Camp administration, program planning, objectives, and camp craft as related to camp leadership. Trips to nearby camps and camp sites afford practical experience. Prereq.: permission of instructor. Fee: $5.00. *3 h. c.*

403M. HEALTH AND PHYSICAL EDUCATION: ORGANIZATION AND ADMINISTRATION. Study and practice of techniques involved in the organization and administration of the school health and physical education program. *2 h. c.*

409M. COACHING OF BASEBALL AND TRACK AND FIELD. Prereq.: Physical Education 311 or 312. *3 h. c.*

410M. COACHING OF FOOTBALL AND BASKETBALL. Prereq.: Physical Education 311 or 312. *3 h. c.*

418M. REMEDIAL AND CORRECTIVE PHYSICAL EDUCATION. The organization of physical education programs adapted to the

individual needs of handicapped persons. Consideration of abnormal conditions such as posture defects, cardiac defects, foot defects, post-operative cases, and certain orthopedic conditions. Evaluation of therapeutic exercises and activities. Prereq.: Physical Education 417. *3 h. c.*

FOR MEN AND WOMEN

Lower Division Courses

201. FIRST AID AND CARE OF ATHLETIC INJURIES. The best safety and first aid procedures, especially for injuries a physical education teacher should be prepared to treat. Principles and methods of taping are demonstrated and practiced. The Red Cross Manual is followed and Red Cross First Aid Certificates are awarded. *2 h. c.*

203. HISTORY AND PRINCIPLES OF HEALTH AND PHYSICAL EDUCATION. The historical development and biological, sociological, psychological, and educational principles related to the field of health and physical education. Prereq.: Biology 103 and Psychology 201. *3 h. c.*

213. SPORTS APPRECIATION. The rules, mechanics, skills, social benefits, contemporary status, and other aspects of baseball, football, golf, tennis, skiing, sailing, fishing, and many other sports. Fee: $2.00. *2 h. c.*

Upper Division Courses

301. FIRST AID METHODS FOR INSTRUCTORS. Materials for and techniques of teaching first aid to children and adults. Red Cross instructor's certification is awarded upon satisfactory completion. Prereq.: Physical Education 201. *2 h. c.*

306. ADVANCED HYGIENE. Personal health, community health, mental and social hygiene, nutrition, food handling, sanitation, disease control, and health counseling. The course includes facts and details necessary for teachers of hygiene and health courses. *2 h. c.*

307. COMMUNITY HEALTH AGENCIES. The administrative interrelationships of special agencies dealing with community health. Prereq.: Physical Education 306. *2 h. c.*

311, 312. TEACHING OF INDIVIDUAL AND DUAL SPORTS. Methods of playing and teaching various individual and dual sports, including tennis, badminton, fencing, gymnastic exercises, stunts, tumbling, apparatus work, and archery. Fee: $1.50 each semester. *3 + 3 h. c.*

321. HEALTH TEACHING IN ELEMENTARY GRADES. Health habits and their motivation and inculcation, including their projection into the home. Use of the Snellen chart and auditory acuity tests; proper seating, lighting, and air space; recognition of common disorders and malnutrition in children. *3 h. c.*

322. GAMES FOR ELEMENTARY GRADES. Study of an extensive program of low-organization games, rhythms, plays, and stunts, their purposes, and methods of teaching them to children. The teacher-in-training learns the games and participates in them. Fee: $1.50. *3 h. c.*

404. PLAYGROUNDS: ORGANIZATION AND ADMINISTRATION. Study and practice of techniques involved in the organization and administration of playgrounds. *3 h. c.*

405. RECREATIONAL ACTIVITIES: ORGANIZATION AND ADMINISTRATION. The relation of physical education to recreation. The principles and aims of recreation; finding material for recreational group activities, and organizing and administering them. *3 h. c.*

415. HEALTH TEACHING IN SECONDARY SCHOOLS. Techniques for discovering the health needs and prevalent defects of students, ascertaining the environmental and other factors, and organizing functional health teaching accordingly. Prereq.: Physical Education 306. *3 h. c.*

417. KINESIOLOGY AND APPLIED ANATOMY. Muscular structure and function in relation to physical movement; analysis of fundamental movements. Prereq.: Biology 230. *2 h. c.*

419, 420. TEACHING OF RHYTHMIC ACTIVITIES. Methods of performing and teaching folk, tap, modern, and ballroom dancing. Prereq.: Physical Education 311 or 312. Fee: $1.50 each semester. *3 + 3 h. c.*

425. SEMINAR IN PHYSICAL EDUCATION. Study of special problems pertinent to physical education. Prereq.: senior standing. *2 h .c.*

426. SEMINAR IN HEALTH EDUCATION. Study of special problems pertinent to health education. Prereq.: senior standing. *2 h. c.*

427. SEMINAR IN ATHLETICS. Study of special problems pertaining to athletics. Prereq.: senior standing. *2 h. c.*

428. NORMAL AND PHYSICAL DIAGNOSIS. A study of common physical deficiencies and defects that influence physical, mental, and social development. Techniques of conducting health examinations, clinical services, and other procedures. Prereq.: Physical Education 418M or 418W. *2 h. c.*

FOR WOMEN

Lower Division Course

250W. LIFE-SAVING METHODS. Techniques of life saving, with American Red Cross methods as the basis of instruction. Upon satisfactory completion, Red Cross certification is granted. Three class hours a week. Prereq.: permission of instructor. Fee: $1.50. *1 h. c.*

Upper Division Courses

350W. WATER SAFETY METHODS FOR INSTRUCTORS. Techniques of organizing and teaching swimming, diving, and life-saving activities. Red Cross instructor's certificate is awarded upon satisfactory completion. Prereq:. current certification as Red Cross Senior Life Saver. Fee: $1.50. *2 h. c.*

370W. THEORY OF CAMP COUNSELING. Camp administration, objectives, activities, program planning, and camp craft as related to camp leadership. Trips to nearby camps and camp sites afford practical experience. Prereq.: permission of instructor. Fee: $11.00. *3 h. c.*

371W. PRACTICE OF CAMP COUNSELING. Application of camp leadership skills is emphasized. Supervised counseling is afforded the student through co-operation with nearby camps. Prereq.: Physical Education 370W and permission of instructor. *2 to 6 h. c.*

403W. HEALTH AND PHYSICAL EDUCATION: ORGANIZATION AND ADMINISTRATION. Study and practice of techniques involved in the organization and administrtion of the school health and physical education program. Fee: $4.00. *3 h. c.*

407W, 408W. TECHNIQUES OF OFFICIATING. The theory and practice of officiating in field hockey, soccer, basketball, volleyball, softball, tennis, and badminton. Fee: $1.50 each semester. *2 + 2 h. c.*

411W, 412W. TEACHING OF TEAM SPORTS. The heory and practice of teaching field hockey, soccer, basketball, volleyball, softball, and track and field. Prereq.: Physical Education 311 or 312. Fee: $1.50 each semester. *3 + 3 h. c.*

418W. REMEDIAL AND CORRECTIVE PHYSICAL EDUCATION. The organization of physical education programs adapted to the individual needs of handicapped persons. Consideration of abnormal conditions such as posture defects, cardiac defects, foot defects, dysmenorrhea, post-operative cases, and certain orthopedic conditions. Evaluation of therapeutic exercises and activities. Prereq.: Physical Education 417. *3 h. c.*

PHYSICS

Physics courses are organized with the following aims: (1) to acquaint the non-specializing student with scientific methods and with the place of physics in the modern world; (2) to provide basic training for engineering and pre-medical students; (3) to provide well-rounded training in physics for those needing it for secondary school teaching, commercial work, or graduate study.

Following the course descriptions below are the curriculums required for the degrees of Bachelor of Arts and Bachelor of Science with the major in physics. A student desiring to teach physics in the public schools should consult the head of the Department of Education.

Non-credit Course

The following course is offered for students with entrance deficiencies in physics. It provides no credit toward graduation from college.

20. HIGH SCHOOL PHYSICS. Three hours a week, second semester, at night. Evaluated as 1 high school credit.

Lower Division Courses

101-102. FUNDAMENTALS OF PHYSICS. The elementary laws of physics, illustrated through elementary mechanics, sound, light, heat, and electricity. Not open to mathematics or physics majors or to engineering students. *3 + 3 h. c*

101L-102L. FUNDAMENTALS OF PHYSICS LABORATORY. Two hours a week; taken concurrently with Physics 101-102. Fee: $7.50 each semester. *1 + 1 h. c.*

201. GENERAL PHYSICS: MECHANICS, HEAT, AND SOUND. Composition and resolution of forces; Newton's laws of force and motion; accelerated motion, circular and simple harmonic motion; molecular forces in liquids and solids; surface phenomena; fluids at rest and in motion; expansion and thermometry; heat energy and calorimetry; the kinetic theory of matter; elementary thermodynamics; transfer of heat and radiation; wave motion and vibration; sound and hearing; combination of sound waves. Prerequisite or concurrent: Mathematics 209. *3 h. c.*

201L. GENERAL PHYSICS LABORATORY. Three hours a week; taken concurrently with Physics 201. Fee: $8.00. *1 h. c.*

202. GENERAL PHYSICS: LIGHT AND ELECTRICITY. Propagation of light by wave motion; mirrors and lenses; reflection, refraction, absorption, and dispersion of light; diffraction and interference; optical instruments; fundamental phenomena of charge at rest; introduction to current electricity; electric current and its production; magnetic phenomena; Ohm's and Kirchhoff's laws; measurements in simple circuits, electrical energy, and power; elementary electrical oscillations. Prereq.: Physics 201. *3 h. c.*

202L. GENERAL PHYSICS LABORATORY. Three hours a week; taken concurrently with Physics 202. Fee: $8.00. *1 h. c.*

220. ANALYTICAL MECHANICS: STATICS. The fundamental principles of mechanics and their practical application. Forces, components, vectors, moments, couples, cables, and friction. Moments of inertia are introduced in preparation for study of the strength of materials. Prereq.: Physics 201 and 201L and Mathematics 209; prerequisite or concurrent: Physics 202 and 202L and Mathematics 210. Identical with Engineering 220. *3 h. c.*

225. GENERAL METEOROLOGY. An introductory course dealing with cloud types, pressure, temperature, humidity, precipitations, atmospheric composition and circulation, types of stability, air mass analysis, and analysis of surface maps. Prereq.: sophomore standing. *3 h. c.*

Upper Division Courses

303. ELECTRICITY AND MAGNETISM. The fundamental laws of electrostatics and electromagnetism. Prereq.: Mathematics 209-210 and Physics 201 and 202. *3 h. c.*

303L. ELECTRICITY AND MAGNETISM LABORATORY. Experiments in measuring the electrical quantities: resistance, current, voltage, capacitance, inductance, and impedance, in both direct and alternating current circuits; comparison of the unknown quantity with a laboratory standard, using the bridge, or "null", method. Two hours a week; taken concurrently with Physics 303. Fee: $5.00. *1 h. c.*

322. PHYSICAL OPTICS AND ADVANCED LIGHT. Elementary theory of thick and thin lenses, interference, diffraction, and polarization phenomena; wave surfaces, resolving power of optical instruments. Prereq.: Physics 201 and 202 and Mathematics 209-210. *3 h. c.*

322L. PHYSICAL OPTICS AND ADVANCED LIGHT LABORATORY. Experiments relating to the principles studied in Physics 322, with the emphasis on physical optics: wave propagation, interference, diffraction, refraction, dispersion, polarization, radiation, and spectroscopic analysis of line band spectra. Two hours a week; taken concurrently with Physics 322. Fee: $10.00. *1 h. c.*

325. ANALYTICAL MECHANICS: DYNAMICS. All motions of a particle, dynamics of moving bodies, Newton's Laws, simple harmonic motion, mechanical vibrations, impulse and momentum, balancing, the gyroscope, governors, and work and energy. Prereq.: Physics 220. Identical with Engineering 325. *3 h. c.*

401-402. THESIS. The student investigates a subject, selected by either the student or the head of the Department of Physics, and submits a written report, of at least 2,500 words, in three bound copies according to specifications available to him on request. For credit, the thesis must be accepted by the head of the Department of Physics. Prereq.: senior standing. Estimated thesis expense: $50-$60. *2 + 2 h. c.*

411, 412. THERMODYNAMICS. Identical with Chemistry 411 and 412.

424. HISTORY OF PHYSICS. The history of physics from early times, the lives of the great physicists, and the development of the physical laboratory. Prereq.: Mathematics 209-210. *3 h. c.*

425. THEORY OF HEAT TRANSMISSION. The theory of heat transmission for radiation, convection, and conduction. Development of dimensional analysis and heat transfer. Prerequisite or concurrent: Mathematics 416 or 420, and Physics 411-412. *3 h. c.*

426-427. ELEMENTS OF NUCLEAR PHYSICS. A study of the sub-atomic particles of matter essential for the understanding of modern concepts of atomic structure, covering the electron, the electric discharge, cathode rays, isotopes, natural radiation activities, atomic nuclei, and artificial disintegration. Prereq.: consent of instructor. *3 + 3 h. c.*

Required Curriculum for the Degree of Bachelor of Arts with Major in Physics

General Requirements for the Degree

Course or Subject	Hours
Communication 105-106-107	9
Physical Education	4
Orientation 100	Credit
English 200	3
Humanities 401	3
History 201 and 202	6
Psychology 201	3
Social Science 101 and 102	6
Chemistry 109-110	10
Physics 325	3
A foreign language (see pages 91 and 94)	12

Requirements for the Major

Physics 201, 201L, 202, 202L	8
Physics 220	3
Physics 303	3
Physics 322, 322L	4
Physics 411, 412	4
Physics 424	3
Physics 426, 427	6

Requirements for the Minor

Mathematics 120-121	10
Mathematics 209-210	10

Additional Requirements

Economics 305	3
English 381 and 382	6
Humanities 403 and 404	6

Required Curriculum for the Degree of Bachelor of Science with Major in Physics

General Requirements for the Degree

Course or Subject	Hours
Communication 105-106-107	9
Physical Education	4
Orientation 100	Credit
English 200	3
Humanities 401	3
History 201 and 202	6
Social Science 101 and 102	6
A foreign language (see pages 92 and 94)	12

Requirements for the Major

Physics 201, 201L, 202, 202L	8
Physics 220	3
Physics 303	3
Physics 322, 322L	4
Physics 411, 412	4
Physics 424	3
Physics 426, 427	6

Requirements for the Minor

Mathematics 120-121	10
Mathematics 209-210	10

Additional Requirements

Biology 103 and 125	5
Chemistry 109-110	10
Economics 305	3
English 381 and 382	6
Humanities 403 and 404	6
Mathematics 315 and 416	6
Physics 325	3
Psychology 201	3

A semester-by-semester version of each of these curriculums is available at the office of the Department of Physics in Rayen Building.

NOTE. If the curriculum for the Bachelor of Science degree is to be completed in four years, some work must be taken in summer terms to

avoid overloading. It is recommended that such work be non-science courses, such as Social Science 101 and 102 and the language courses. A student may obtain by himself the required reading knowledge of French or German; see pages 94-95.)

POLITICAL SCIENCE

A major in political science consists of 24 semester hours in addition to Social Science 101 and 102 and History 201 and 202. The major is designed to prepare students for graduate study in political science or law, and to provide a background for the student interested in a career in government or politics.

Courses in other departments for which credit may be given toward the political science major are: Economics 304, Public Finance; Economics 402, Comparative Economic Systems; History 308, The Far East; History 215, 216, Constitutional History of England; and History 309, 310, Constitutional History of the United States. One-sixth credit will be allowed toward a major in political science for any courses listed under Humanities.

Lower Division Courses

201. AMERICAN NATIONAL GOVERNMENT AND POLITICS. The historical background, form, structure, administrative organization, and expanding activities of the Federal Government. *3 h. c.*

202. AMERICAN STATE AND LOCAL GOVERNMENT. The form, structure, administrative organization, and functioning of state, county, and municipal government in the United States. Prereq.: Political Science 201. *3 h. c.*

Upper Division Courses

301. COMPARATIVE STATE GOVERNMENT. A comparison of the Ohio constitution with other state constitutions, to acquaint the student with the need for revising the Ohio constitution. Prereq.: Political Science 202 or consent of the instructor. *3 h. c.*

304, 305. INTERNATIONAL RELATIONS. The main motives in modern international politics, imperialism, the economic background, the first World War, the League of Nations, the United States and Europe, the United States and the Far East, the second World War, postwar problems, the United Nations organization. *3 + 3 h. c.*

307. AMERICAN POLITICAL PARTIES. The origin, functions, and development of the political party, with emphasis on its relation to practical politics, propaganda, and pressure groups. Prereq.: Social Science 101 and 102; prerequisite or concurrent: History 201 and 202. *3 h. c.*

308. PUBLIC ADMINISTRATION. The organization and practice of national, state, and local administration, including problems of governmental reorganization, civil service, budget procedures, and administrative law. Prereq.: Political Science 201 and 202. Listed also as Sociology 318. *3 h. c.*

311. DEVELOPMENT OF AMERICAN FOREIGN POLICY. The diplomatic problems that have confronted the United States from the American Revolution to the present. Prereq.: History 201 and 202. *3 h. c.*

312. MUNICIPAL GOVERNMENT AND ADMINISTRATION. The principles and forms of city government in the United States. Problems of the modern city: home rule, public utilities, administrative organization, finance, city planning, public health and recreation, school systems. Prereq.: Social Science 101 and 102. *3 h. c.*

403. COMPARATIVE GOVERNMENT. The structure and functioning of the principal types of national governments, with emphasis on the governments of the western European nations and of Soviet Russia. Prereq.: one of the following: Political Science 201, History 201, 202, 309, 310, Economics 402. *3 h. c.*

405, 406. DEVELOPMENT OF POLITICAL THOUGHT. Political theories from antiquity to modern times, with emphasis on their practical applications and the resulting relationship of individual and state. Prereq.: two of the following: Political Science 201, 202, 403, History 215, 216, 311, 312. *3 + 3 h. c.*

PORTUGUESE

See Spanish.

PRE-LAW WORK

A suggested curriculum for the pre-law student is provided in the School of Law section. See also pages 93-94.

PRE-MEDICAL WORK

Suggested pre-medical curriculums are at the end of the College of Arts and Sciences section. See also page 94.

PSYCHOLOGY

A major in psychology consists of 30 semester hours including Psychology 201, 301, 302, and 320. Biology 321, Philosophy and Religion 432, and Sociology 405 may be counted toward the major.

Psychology 201 is prerequisite to all other psychology courses.

Lower Division Courses

201. GENERAL PSYCHOLOGY. The fundamental principles of human behavior. The relationship of physiological structure to behavior; the nature and development of perception, emotion, behavior, and other factors in the integration of personality. Prereq.: Social Science 101 and 102. Fee (for educational film): $1.00. Not open to freshmen. *3 h. c.*

202. PSYCHOLOGY OF EDUCATION. The psychological principles in learning, teaching, and the growth of a successful personality. Prereq.: Psychology 201. *3 h. c.*

211. GENERAL EXPERIMENTAL PSYCHOLOGY. An introduction to the experimental study of behavior: methods and apparatus, design of experiments, and treatment of data; laboratory problems in such areas as sensory functions, discriminative processes and capacities, learning, emotion, and social interaction. Prereq.: Psychology 201. Fee: $5.00. *4 h. c.*

Upper Division Courses

300. SOCIAL PSYCHOLOGY. The underlying psychological principles that give rise to the self, personality, and social-cultural reality; aspects of human conflict such as prejudice, revolution, and war; mass behavior: the crowd, fashion, public opinion, and propaganda; the psychology of social control and power. Prereq.: Psychology 201. Listed also as Sociology 300. *3 h. c.*

301. APPLIED PSYCHOLOGY. The psychological factors in the human relationships of business and professional life. Prereq.: Psychology 201. *3 h. c.*

302. PSYCHOLOGY OF THE ABNORMAL. The causes, nature, and trend of mental maladjustments and injured personality, especially the major illnesses; the place of mental hygiene. Prereq.: Psychology 201. *3 h. c.*

303. PSYCHOLOGY OF RELIGION. The psychological principles affecting religious experiences, sense of sin, conversion, character changes, faith, worship, development of personality, and mental adjustments as a hygiene for dynamic, useful, and happy living. Prereq.: Psychology 201. Listed also as Philosophy 306. *3 h. c*

305. CHILD PSYCHOLOGY. A genetic study of child development from the prenatal period to puberty, stressing the characteristic behavior and suitable training methods for each period of development. Prereq.: Psychology 201. Listed also as Home Economics 305. *3 h. c.*

306. PSYCHOLOGY OF ADOLESCENCE. Characteristics and behavior problems of teen-age children. Prereq.: Psychology 201. Listed also as Home Economics 306. *3 h. c.*

307. PSYCHOLOGY OF MARRIAGE AND FAMILY RELATIONS. The social and psychological factors contributing to marital success and happiness, including sex relations, eugenics, mental hygiene, child training, home financing, and community usefulness. Talks by a staff of visiting lecturers. Prereq.: Psychology 201 and junior standing. Fee: $5.00. Listed also as Home Economics 307 and Sociology 307. *3 h. c.*

308. PERSONALITY AND MENTAL HYGIENE. The principles and habits that insure a well-balanced personality and a sound mind. Prereq.: Psychology 201. Fee: $1.00. Listed also as Home Economics 308. *3 h. c.*

309. PSYCHOLOGY OF PERSONNEL SELECTION AND PLACEMENT. The application of the principles and techniques of psychology to business, industry, and management, particularly to selecting and training personnel and to working conditions. Prereq.: Psychology 201. Fee: $2.00. *2 h. c.*

310. PSYCHOLOGICAL ASPECTS OF PERSONNEL RELATIONS. How people get along with each other, and why they don't. Underlying personality needs; essential elements in interviews and group discussions; aids to understanding human behavior. Prereq.: Psychology 201. *2 h. c.*

311. MENTAL AND EDUCATIONAL MEASUREMENT. The construction, administering, scoring, and interpreting of the new-type objective examination; the selection, administering, scoring, and interpretation of results of standardized tests and scales, and their use in vocational and educational guidance. Identical with Education 311. Prereq.: junior or senior standing. Fee: $1.00. *3 h. c.*

312. INDUSTRIAL PSYCHOLOGY. An attempt to bring into a meaningful whole the major aspects of individual differences, improvement of work methods, training, fatigue, accident prevention, motivation, attitudes, morale, personnel counseling, labor relations, and supervision. Prereq.: Psychology 301. *3 h. c.*

320. STATISTICAL METHODS IN PSYCHOLOGY. An introductory course in frequency distributions, measures of central tendency, measures of variability, calculation and meaning of percentiles, the normal curves, reliability and validity of measures, and simple correlation. Identical wtih Education 320. Prereq.: Psychology 201. *3 h. c.*

332. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. The discovery, psychology, and treatment of children having inferior or superior intellectual ability, defects of vision, hearing, or speech, or neurological or orthopedic handicaps; delinquent children. Their emotional needs, and programs of educational treatment and training. Prereq.: Psychology 305. *3 h. c.*

401. BUSINESS PSYCHOLOGY. The psychological factors in employment, selling, and advertising. Prereq.: Psychology 301. *3 h. c.*

405. INTERVIEWING AND COUNSELING. The basic principles, purposes, and psychological problems of interviewing; special-purpose interviews and counseling; recording and evaluation of facts. Reporting and discussion of actual interviews; discussion of problems of class-members. Prereq.: Psychology 201. *3 h. c.*

406. VOCATIONAL GUIDANCE. Techniques of vocational guidance and their application to high school students, college students, vocational rehabilitation subjects, and adults in general. Prereq.: Psychology 301. *3 h. c.*

407. CLINICAL TRAINING. Clinical experience for a limited number of qualified students of mental and physical illness and delinquency. Hospital and institutional work is supplemented by seminar sessions. Prereq.: Psychology 302 and consent of instructor. *3 h. c.*

425. GUIDANCE OF HIGH SCHOOL STUDENTS. Principles and procedures in vocational, educational, personal, and social counseling at high school level. The discovery of students' problems and needs; methods of interviewing and testing; classroom procedures and organization of guidance programs. Prereq.: Psychology 202. *2 h. c.*

426. STUDY OF AN INDIVIDUAL CHILD. Special problems. The purpose is to assist teachers, social workers, parents, and prospective parents in studying and working with individual children who present special problems. Interviews, records, test interpretation, corrective procedures, and adjustments of problems, with some attention to remedial work in school subjects. Prereq.: Psychology 305. *2 h. c.*

428. PHYSIOLOGICAL PSYCHOLOGY. The structuro-functional relationships of the various divisions and sub-divisions of the neural system, their relationships to the organism as a whole, and their contributions to human behavior. Prereq.: Psychology 301 and 302 and Biology 103. *3 h. c.*

429. INTRODUCTION TO PSYCHIATRY. The fundamental psychoses and psychoneuroses, with special attention to schizophrenia, manic-depressive psychosis, alcoholism, and psychopathic personalities. Electro-shock, insulin, and others forms of psychotherapy. Prereq.: Psychology 300, 302, and 308. *3 h. c.*

430. CONTEMPORARY SCHOOLS OF PSYCHOLOGY. A survey of psychological theories: their evolution, salient principles, and current status of acceptance. Prereq.: Psychology 301 and 302. *3 h. c.*

432. THE PSYCHO-SOCIAL DYNAMICS OF RELIGION. Identical with Philosophy 432; listed also as Sociology 432.

RELIGION

See Philosophy and Religion.

ROMANCE LANGUAGES AND LITERATURE

See French, Italian, Portuguese, and Spanish separately. For literature in translation, see Humanities.

R. O. T. C.

See Military Science and Tactics.

RUSSIAN

Lower Division Courses

101-102. ELEMENTARY RUSSIAN. The fundamental differences between Russian and English are explained graphically so as to afford a simplified approach to easy scientific texts and minimize the time needed for acquiring the essential vocabulary of conversation. No credit will be given for this course if the student has credit for two years of high school Russian. *3 + 3 h. c.*

201. INTERMEDIATE RUSSIAN. Elementary composition based on grammar review. Reading material is chosen with the double purpose of furnishing a basis for the further study of Russian literature and providing practice in technical reading for those who wish it. Prereq.: C or better in Russian 102 or in second-year high school Russian. *3 h. c.*

202. INTERMEDIATE RUSSIAN. A continuation of Russian 201, using texts of increasing difficulty; conversation and composition. Prereq.: Russian 201 or three years of high school Russian. *3 h. c.*

Upper Division Courses

305, 306. RUSSIAN LITERARY TRADITION. A survey of the important writers of Russia up to the Revolution, with special attention to Pushkin, Turgenev, Tolstoy, Dostoyevsky, and Chekhov. Prereq.: Russian 202 or equivalent. *3 + 3 h. c.*

307. CONTEMPORARY RUSSIAN LITERATURE. Readings in the works of Russian writers, both in the Soviet Union and abroad, since the Revolution. Prereq.: Russian 202 or equivalent. *3 h. c.*

308. INFORMATIVE READINGS IN RUSSIAN. Reading of books and articles that serve the interests and requirements of the individual student. Prereq.: Russian 202 or equivalent. *3 h. c.*

SOCIAL SCIENCE

Every student in Youngstown College working for a degree takes Social Science 101, 102, 201, and 202, with the following exceptions:

a. An engineering student takes only 101 and 102.

b. A transfer student with less than 60 but not less than 30 hours of credit acquired elsewhere takes only 201 and 202.

c. A transfer student with at least 60 semester hours of credit acquired elsewhere takes none of these courses.

Lower Division Courses

101. INTRODUCTION TO THE SOCIAL SCIENCES. A study of the principles of economics against a sociological background. *3 h. c.*

102. INTRODUCTION TO THE SOCIAL SCIENCES. An introduction to the factors influencing social life, with emphasis on American institutions. *3 h. c.*

201. THE UNITED STATES TO 1865. Identical with History 201. *3 h. c.*

202. THE UNITED STATES SINCE 1865. Identical with History 202. *3 h. c.*

Combined Major in Social Sciences

A combined major in the social sciences consists of 45 semester hours in courses in the Division of Social Sciences, which comprises the departments of economics, history, philosophy and religion, political science, psychology, and sociology. Courses should be selected in consultation with the head of one of these departments. A student taking the arts-law course may apply toward such a major the 32 hours of credit obtainable in his first two years of law school.

There is no combined minor. A minor in one of the social sciences consists of 15 hours.

SOCIOLOGY

A major in sociology consists of 24 semester hours in addition to Social Science 101 and 102 and History 201 and 202. The major is designed to furnish useful background for students contemplating professional training in social work, law, the teaching of sociology, and allied fields.

One-sixth credit will be allowed toward a major in sociology for any courses listed under Humanities.

Lower Division Courses

203. PRINCIPLES OF SOCIOLOGY. Underlying principles of the science of society, with reference to types of societies, groups, and classes; development of culture; laws of population; structure and organization of social institutions; dynamics of social change. Prerequisite: Social Science 101 and 102. *3 h. c.*

204. CULTURAL ANTHROPOLOGY. An approach to a science of culture. The origin, diffusion, and continuity of primitive social institutions, and their relation to contemporary social phenomena. Prerequisite: Social Science 101 and 102. *3 h. c.*

Upper Division Courses

300. SOCIAL PSYCHOLOGY. Identical with Psychology 300.

301. CRIME AND PENAL INSTITUTIONS. The nature and causes of crime and criminals, our present methods of apprehending the criminal, and the problems connected with our penal institutions. Prerequisite: Social Science 101 and 102. *3 h. c.*

302. SOCIAL PATHOLOGY. The causes and present status of a selected number of social maladjustments, and possible remedies for them. Defective social structure and control in their relation to youth, war, poverty, vice, suicide. Prerequisite: Sociology 203. *3 h. c.*

305. ECONOMIC AND SOCIAL STATISTICS. Identical with Economics 305.

307. MARRIAGE AND FAMILY RELATIONS. Identical with Psychology 307.

308. EDUCATIONAL SOCIOLOGY. Identical with Education 308.

311. JUVENILE DELINQUENCY. Social and psychological factors underlying delinquency; the juvenile court and probation; treatment in the community and in institutions; preventive measures. Prereq.: Social Science 101 and 102. *3 h. c.*

312, 313. HISTORICAL INTRODUCTION TO SOCIAL WELFARE. An examination of the political, social, economic, and cultural forces which have led to the evolution of modern social welfare institutions; the historical background of social work as it functions in the United States. A survey of social and public welfare services, with analysis of programs of local agencies and their interrelationships with national welfare services and with other local organizations. Visits to local social agencies. Prerequisite: Sociology 203. *3 + 3 h. c.*

314. PHYSICAL ANTHROPOLOGY. Identical with Biology 304.

318. PUBLIC ADMINISTRATION. Identical with Political Science 308.

324. CULTURAL ANTHROPOLOGY: NEW WORLD ETHNOGRAPHY. An analysis of the origins, culture, and achievements of the Inca, Mayan, and Aztec civilizations and selected Central and North American Indian groups, with special emphasis on their art, symbolism, and social institutions. Prereq.: Social Science 101 and 102. *3 h. c.*

404. MODERN SOCIAL MOVEMENTS. A study of 19th and 20th century social movements, with emphasis on the United States; consideration of the communistic communities, co-operatives, and the labor movement. Prerequisite: Social Science 101 and 102, History 201 and 202, and Sociology 203. *3 h. c.*

405. SOCIAL CONTROL. Means of control in primitive and advanced societies. The role of the family, school, church, clubs, leagues, corporations, labor unions, trade and professional associations, the press, radio, and movies. The modification of individual and group behavior by group valuations, praise, ridicule, rewards, punishments, symbols, slogans, and propaganda. Prerequisite: Sociology 203 and Psychology 201. *3 h. c.*

406. SOCIAL RESEARCH. Seminar in methods of obtaining, interpreting, and presenting sociological data through the use of case studies, social surveys, etc. Each student makes an intensive study of an existing situation. Prerequisite: Sociology 305, senior standing with major in sociology or social science, and consent of instructor. *3 h. c.*

407-408. INTRODUCTION TO SOCIAL WORK METHODS. Outline of the development of social work as a profession; analysis of the major processes employed in case work, group work, community organization, and social action: relation of social work methods to areas other than social work. Prerequisite: Sociology 312 and 313, or senior standing with major in sociology. *3 + 3 h. c.*

409. HISTORY OF SOCIAL PHILOSOPHIES. The evolution of social theory, with emphasis upon various present-day schools of thought. Prerequisite: Sociology 203 and 9 semester hours of Upper Division sociology courses. Listed also as Philosophy 409. *3 h. c.*

410. AMERICAN MINORITY GROUPS. A survey of the origin, characteristics, status, and adjustment of national and racial minority groups in the United States, with emphasis on the significance of membership in such a group to the in-group, the out-group, and community solidarity. Prereq.: Sociology 203 or consent of the instructor. *3 h. c.*

412. COMPARATIVE ECONOMIC SYSTEMS. Identical with Economics 402.

432. THE PSYCHO-SOCIAL DYNAMICS OF RELIGION. Identical with Philosophy 432; listed also as Psychology 432.

SPANISH

A major in Spanish consists of 30 semester hours of work above the elementary level. Of this total as many as 12 hours may be taken in related fields with the approval of the head of the department.

The prerequisite for any Upper Division course is Spanish 202, or four years of high school Spanish, or the consent of the instructor.

Lower Division Courses

101-102. ELEMENTARY SPANISH. The essentials of Spanish grammar, taught through written and oral exercises and the reading of simple texts. No credit is given for this course if the student has credit for two years of high school Spanish. *3 + 3 h. c.*

201. INTERMEDIATE SPANISH. Review of grammar, with imitative exercises in composition. Reading of selected classics of Spanish and Spanish-American prose narration. Prereq.: C or better in Spanish 102 or in second-year high school Spanish. *3 h. c.*

202. INTERMEDIATE SPANISH. A continuation of Spanish 201, using modern stories and plays and conversational exercises based on the text. *3 h. c.*

201L, 202L. SPANISH CONVERSATION. A laboratory course in oral Spanish, with the instructor using the direct conversational approach to help the student speak Spanish in practical, everyday situations. Prerequisite or concurrent: Spanish 201, 202. *1 + 1 h. c.*

205. ORAL PRACTICE IN LATIN-AMERICAN COUNTRIES. Two weeks in one or more Spanish-speaking countries, accompanied by an instructor. One and a half hours of instruction daily for twelve days. Prereq.: Spanish 101-102, or consent of the instructor, with whom arrangements should be made. The student pays his own expenses. (Summer 1952: Guatemala.) *1 h. c.*

Upper Division Courses

325. CONVERSATIONAL SPANISH. One hour a week of exercises designed to facilitate the acquisition of a correct pronunciation; two hours of conversation based on composition assignments. *3 h. c.*

326. SPANISH CIVILIZATION. A study of the traditions, history, and geography of Spain and Spanish-speaking countries—material fundamental to the understanding of Spanish books and periodicals. *3 h. c.*

327. CURSO DE ESTILO. Through translations from English to Spanish and from Spanish to English an insight is given into the fundamental differences in expression between the two languages. *3 h. c.*

328. SPANISH LITERARY TRADITION. A brief survey of the principal writers of Spain together with the study of selections from some of their principal works. *3 h. c.*

329. JOURNALISTIC AND COMMERCIAL SPANISH. A study of selected periodicals from Mexico and other Spanish-American countries, with special attention to the vocabulary of advertising. One hour a week is devoted to practice in commercial correspondence. *3 h. c.*

330. CONTEMPORARY LITERATURE IN SPANISH. The principal writers of the twentieth century: Baroja, Unamuno, Valle-Inclán, Azuela, Goy de Silva, and others. *3 h. c.*

331. PORTUGUESE. The basic elements, with practice in easy conversation and exercises in the written language. Reference is made constantly to variations from Spanish idiom and resemblances to old Castilian. *3 h. c.*

332. PORTUGUESE AND BRAZILIAN READINGS. Selections from the modern literature of Portugal and Brazil. *3 h. c.*

400. COMMERCIAL SPANISH. Continuation of Spanish 329, with practice in the translation of business letters. *3 h. c.*

401. CLASSICAL SPANISH LITERATURE. The literature of the Golden Age, with special emphasis on Cervantes, Lope de Vega, and Calderon. *3 h. c.*

411, 412. COMPARATIVE GRAMMAR OF THE ROMANCE LANGUAGES. Identical with French 411, 412; listed also as Italian 411, 412.

SPEECH AND DRAMATICS

Majors are expected to complete the basic requirements for the English major as stated on page 118. Courses in speech and dramatics may be counted toward a major in English, on the approval of the head of the Department of English.

Communication 105-106-107 or Speech and Dramatics 115, 116 is prerequisite to all other courses in speech.

Lower Division Courses

103-104. WRITTEN AND ORAL COMPOSITION. This course is planned to help the student organize his ideas more logically and express them more effectively both orally and in writing. It duplicates a combination of English 101-102 and Speech and Dramatics 115, 116; for certification, graduation, and transfer purposes it is interpreted as 6 hours of composition and 3 hours of speech. Identical with English 103-104. Discontinued at end of Semester I, 1952-53. *4½ + 4½ h. c.*

115, 116. FUNDAMENTALS OF SPEECH. This course aims to develop self-expression through mind, body, and voice, by means of a study of proper speech habits and practice in the delivery of numerous extemporaneous and prepared speeches. 115 is prerequisite to 116. (The combination of this course with English 101-102 is duplicated by English 103-104.) *2 + 2 h. c.*

213. PUBLIC SPEAKING. The effective construction and delivery of speeches. Frequent presentation of short talks before the class. Adaptable to the needs of professional and business men. *2 h. c.*

215, 216. PUBLIC SPEAKING AND ORAL INTERPRETATION. A continuation of Speech and Dramatics 115, 116 on a more advanced level. Those who wish may concentrate on oral interpretation. *2 + 2 h. c.*

217. RADIO PUBLIC SPEAKING. A review of the essential principles of effective public speaking, and their application to radio, with attention to pertinent factors in transmission and reception, studio facilities and equipment, the preparation of continuity, microphone technique, radio dramatics, and actual broadcasting. *2 h. c.*

219, 220. PLAY PRODUCTION I. This course has three purposes: to develop interest in and appreciation of legitimate drama, particularly as found in the little theaters of today; to instruct in the production of such drama; and to provide practical experience through producing plays in class and for the public. Two hours of lecture and two hours of laboratory. *3 + 3 h. c.*

221. THEATER SPEECH. Development of voice and diction for the theater and related fields. *2 h. c.*

223, 224. REHEARSAL AND PERFORMANCE. Detailed study of a play or opera through preparing it for public performance. Class is formed after casting and continues through final production date. May be repeated. *½ to 2 + ½ to 2 h. c.*

Upper Division Courses

315. DEBATING AND PUBLIC DISCUSSION. The principles of argumentative and deliberative speaking, with practical training in analyzing questions, finding and selecting evidence, debating, and public discussion. *2 h.c.*

317. ACTING I. Rehearsal and classroom performance of scenes and pantomimes. Students of Speech and Dramatics 421 and 422 assist in directing, under faculty supervision. *2 h. c.*

319, 320. PLAY PRODUCTION II. Theory and practice of staging, scene design, lighting, and costuming of period productions. Construction of stages in miniature from drawings, after research into method. Prereq.: Speech and Dramatics 219, 220. *2 or 3 h. c.*

323. APPLIED PUBLIC SPEAKING. Preparation of speeches and their delivery before various groups. Conducted mainly through individual conferences. Prereq.: consent of instructor. *2 or 3 h. c.*

421. THEATER DIRECTING I. The director's interpretation of the play: its setting, movement, and dialogue. Class-members assist in the work of Speech and Dramatics 317. Prereq.: Speech and Dramatics 219, 220 and 319, 320; or consent of instructor. *2 h. c.*

422. THEATER DIRECTING II. An advanced approach to the work of Speech and Dramatics 421. Each student directs a play. Prereq.: Speech and Dramatics 421. *2 h. c.*

TEACHER TRAINING

See Education.

ZOOLOGY

See Biology.

PRE-MEDICAL STUDY AND ALLIED FIELDS

Following are curriculums recommended for students planning to enter schools of medicine, nursing, and allied fields. The student following one of these curriculums should consult with his adviser, who will be a member of the department indicated below for each field.

Suggested Pre-Medical and Pre-Veterinary Curriculum for the Degree of Bachelor of Arts

The major is a combined major of at least 45 hours in biology, chemistry, and physics, varying with the requirements of the medical school to which entrance is sought. Advisement is provided by the biology department.

The college will accept a maximum of 25 credit hours of work in an approved medical school toward the completion of such a pre-medical curriculum; see page 94.

First Year	Hrs.
Biol. 103 General Biology	3
Biol. 125 Zoology: Invertebrates	2
Comm. 105-106 Basic Course	6
Math. 101, 102 College Algebra	6
Math. 103 Trigonometry	3
Math. 114 Analytical Geometry	3
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100 Freshman Or.	Credit
	32

Second Year	Hrs.
Biol. 225 Zoology: Vertebrates	3
Biol. 308 Vertebrate Embryology	4
Chem. 109-110 General Chemistry	10
Comm. 107 Basic Course	3
Hist. 201 The U. S. to 1865	3
Physics 101-102 Fundamentals of Physics	6
Physics 101L-102L Fund. of Phys. Lab.	2
Physical Education (activity)	1
	32

Third Year	Hrs.
Technological training, credited as 30 semester hours, of which 15 are evaluated as 200-level and 15 as 300-level.	30

Fourth Year	Hrs.
Hist. 202 The U. S. since 1865	3
Philosophy and Religion elective (300 or above) or Humanities 401 or 402	3
Physics 101-102 Fundamentals of Physics	6
Physics 101L-102L Fund. of Phys. Lab.	2
Selection 1 or 2 below	27
	*41

Selection 1: Chemistry 301, 302; 16 hours of electives of 300 level or above; and 5 hours of electives at any level.

Selection 2: Biology 308; 20 hours of electives of 300 level or above; and 3 hours of electives at any level.

*Since this is an overload, some work must be taken in a summer session. It is recommended that such work be non-science courses, such as social science, history, English, and psychology. The adviser should be consulted.

**This total results in an overload for one or both semesters, unless the student's grade index is 2.0 or better.

The School of Business Administration

ORGANIZATION AND DEGREES

The School of Business Administration is divided into five departments: Accounting, Advertising, Business Organization, Merchandising, and Secretarial Studies.

Majors are offered in accounting, advertising, business art, general business, merchandising, and secretarial studies. Minors are offered in those subjects and in business organization, insurance, and transportation.

The degrees to which work in these fields may lead are that of Bachelor of Science in Business Administration, the requirements for which are listed below, and that of Bachelor of Science in Education with a major in business education, for which see pages 93 and 114. A two-year curriculum leading to the title of Associate in Business Administration is offered in the Secretarial School, a sub-unit of the School of Business Administration.

Following are the requirements for the degree for which the work is done primarily in this unit, and for the title. It is the student's responsibility to see that he satisfies all graduation requirements. The general requirements for all degrees are stated on pages 72 ff. Students enrolled or planning to enroll in the R. O. T. C. should note the relevant information on pages 73-74.

The Degree of Bachelor of Science in Business Adminstration

To receive the degree of Bachelor of Science in Business Administration, a student must have met the general requirements for all degrees, have 125 semester hours of credit, have a major in accounting, advertising, business art, general business, merchandising, or secretarial studies, have a minor in a related field, and have met the following requirements:

Communication—Satisfactory proficiency (8 or 9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to the student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education ..... 4 hours

Physical Education 107 and 108 (hygiene), totaling 2 hours; and four physical activity courses, totaling 2 hours. Night students may take other physical education courses in place of the activity courses.

Orientation 100 ..... Credit

Not required of night students.

Social Science 101 and 102 ..... 6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion ..... 3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Science ..... 8 or 9 hours

For the major in secretarial studies: either 8 hours of biology, of chemistry, or of physics, or 9 hours in other science courses. For any other major: Business Organization 121 (Mathematics of Business, 3 hours) and 6 hours in science courses.

History 201 and 202 ..... 6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

English ..... 3 hours

Three hours of literature, or English 251.

Psychology ..... 6 hours

Business Organization 201 and 202 ..... 6 hours

Accounting ..... 6 hours

The Title of Associate in Business Administration

The title of Associate in Business Administration will be granted to a student having a total of 60 semester hours of acceptable academic work with a point average of not less than 1.0, including English 101-102 or its equivalent; Social Science 101; Business Organization 201 and 202; and either a major in accounting, advertising, or merchandising, or a combined major in business art or general business.

The title of Associate in Business Administration will also be granted to a student who completes the first two years of the four-year curriculum in secretarial training (see page 182).

The grade in English 101-102 or its equivalent must be C or better in order to be certified in English proficiency by the director of the Division of Language and Literature.

Requirements for Awards Offered by the National Institute of Credit

Youngstown College co-operates with the Youngstown Association of Credit and the National Institute of Credit in preparing members for the awards of Associate and Fellow of the National Institute of Credit. A student who completes the program and fulfills all requirements qualifies for a diploma awarded by the Institute. The Institute requires that the student be registered as a member of the National Institute of Credit in order to qualify for either of the certificates. Transfer of credits may be arranged.

Associate Award Program. A basic program in credit and financial fundamentals. The following required courses are all given at Youngstown College: general or business economics (two semesters), introductory accounting (two semesters), credits and collections principles (one semester), and advanced credits (one semester).

After completing the courses, the candidate for the Associate Award is required to pass an examination given by the National Institute of Credit and must present evidence of three years' working experience in credit, sales, accounting, financial, or general office functions.

Fellow Award Program. An advanced program preparing for supervisory and managerial responsibilities. The Associate Award is a prerequisite to the Fellow Award, but the courses for them may be taken concurrently. The required courses and many of the elective courses are given at Youngstown College.

Required Courses for All Students. One semester each in law of contracts and agency, law of business transactions, public speaking, salesmanship, credit management problems, financial statement analysis, applied psychology, and technique of supervision.

Elective Courses. The student must choose at least two additional semester courses from the following: money and credit, business correspondence, marketing methods, business or corporation finance, financial management, office management, business conditions, purchasing, intermediate accounting, advanced accounting, cost accounting, international trade.

After completing the required courses and two elective courses, the candidate must pass a comprehensive examination given by the National Institute of Credit and must present evidence of six years' working experience in credit, sales, accounting, financial, or general office functions, of which three years may have been offered in fulfillment of the Associate Award.

Award for Scholarship

The Sigma Kappa Phi Fraternity Scholastic Award. The Sigma Kappa Phi Fraternity awards annually a certificate and an emblem to the member of the graduating class with the highest point index in all business administration subjects who has majored in accounting and fulfilled the requirements for a degree or title in business administration. The recipient must have completed at least 60 semester hours of work at Youngstown College.

COURSES OF INSTRUCTION

and Curriculums

It is important that the student familiarize himself with the course-numbering system and its significance, as well as the abbreviations used to indicate the amount of credit. These are explained on page 84.

Following the course descriptions for each department is the curriculum required for a student whose major work is in that department. Curriculums for business art and general business majors are under Business Organization.

ACCOUNTING

Accounting courses provide a study of bookkeeping methods, and the presentation, analysis, and interpretation of financial data. They also cover cost analysis, consolidated statements, auditing, taxes, systems of accounting, and other advanced work. They are designed for students who wish to become private accountants in business and industrial firms; to prepare for certification through experience in the employ of certified public accountants; to become cost analysts or general business executives; or to teach bookkeeping or accounting.

A major in accounting consists of 34 semester hours of work above the 100 level, including Accounting 201-202, 301-

302, 303-304, 401, 403, 404, 407, 410, and 415. A student majoring in accounting must have a minor of 15 hours in a related field.

A grade of C in Accounting 202 is prerequisite to all more advanced courses in accounting. A point index of at least 2.0 in accounting is necessary to carry two accounting courses the following year.

Lower Division Courses

201-202. ELEMENTARY ACCOUNTING. The theory and use of balance sheets, operating accounts, and working papers, with special attention to books of original entry and special ledger accounts. Setting up accounts and adjusting and closing books at the end of the fiscal period are developed through practice sets and problems. Day students in this course must take Accounting 201L-202L concurrently. *3 + 3 h. c.*

201L-202L. ELEMENTARY ACCOUNTING LABORATORY. For day students in Accounting 201-202. The class meets two hours a week, for work equivalent to that for one hour of credit. *No credit.*

205. ELEMENTARY INDUSTRIAL ACCOUNTING. A concentrated course in accounting, designed for engineering and merchandising majors. Basic instruction in the theory of journals, ledgers, and financial statements, to develop an appreciation and understanding of the processes and executive uses of accounting. Day students in this course must take Accounting 205L concurrently. *3 h. c.*

205L. ELEMENTARY INDUSTRIAL ACCOUNTING LABORATORY. For day students in Accounting 205. Meets two hours a week, for work equivalent to that for one hour of credit. *No credit.*

Upper Division Courses

301-302. INTERMEDIATE ACCOUNTING. Financial statements, classification of real and nominal accounts, and special features pertaining to partnerships and corporations. The theoretical background of accounting principles and procedures, with emphasis on profits, surplus, dividends, depreciation, funds, and reserves. Prerequisite: a grade of C or better in Accounting 202. *3 + 3 h. c.*

303-304. COST ACCOUNTING. The principles of cost-finding for manufacturing accounts, including the three-fold division of costing: material accounting, payroll records, and the recording and applying of manufacturing expense. Job order, process, standard, estimating, distribution, and comparative costs are covered. Appropriate problems and practice sets are used. Prereq.: C or better in Accounting 201-202. *3 + 3 h. c.*

305. INDUSTRIAL COST ACCOUNTING. A concentrated course in cost-finding principles, designed for engineering and merchandising majors, using appropriate problems and a practice set. The various cost systems are treated, with explanation of material accounting, payroll records, and the distribution of overhead expenses. Special emphasis is placed on using cost data as a business control in administering the business enterprise. Prerequisite: a grade of C or better in Accounting 205. *3 h. c.*

401. ADVANCED ACCOUNTING. Partnerships and liquidations in installments; joint ventures; installment sales; insurance; receivership; estates and trusts; branch accounting; consolidations and mergers. Prereq.: C or better in Accounting 302. *3 h. c.*

403. FEDERAL TAXES. The principles underlying our income tax law as it pertains to the individual. The student files specimen returns based on actual case studies. Prerequisite: a grade of B or better in Accounting 201-202, or senior standing. *3 h. c.*

404. FEDERAL TAXES. The federal income tax for partnerships and corporations; the gift tax, the estate tax, and social security taxes. The student files specimen returns based on actual case studies. Prerequisite: Accounting 403. *3 h. c.*

405. STATE AND LOCAL TAXES. A condensed study of all Ohio taxes, including sales, tangible and intangible, personal property, franchise, stamp, and other related taxes. The student fills out forms required of business by various governmental agencies. Prerequisite: a major in accounting and senior standing. *3 h. c.*

407. AUDITING (formerly Accounting 409). Methods of auditing, with emphasis on the verification of balance sheets and operating statements and the analysis and use of prepared statements. Prerequisite: grades of C or better in Accounting 302, 304, and 401. *2 h. c.*

408. AUDITING PRACTICE AND REPORT WRITING. A practical case in auditing is worked through with emphasis on the special recommendations for procedures used in actual practice. Prereq.: Accounting 407. *2 h. c.*

410. STATEMENT ANALYSIS. The flow of funds as reflected in financial statements. The use of ratios and other indices in interpreting a concern's financial position, trends, and other variations. Each student prepares an analysis of some prominent corporation and makes comparisons with its principal competitors. Prereq.: Accounting 401 and 403. *2 h. c.*

411, 412. C.P.A. PROBLEMS. All types of accounting and auditing problems are solved and discussed from the standpoints of both theory and practice, with special emphasis on accuracy and clarity in such problems as are encountered in C.P.A. examinations. Prerequisite: grades of C or better in Accounting 401 and 407. Offered on demand. *3 + 3 h. c.*

415. SYSTEMS. Principles underlying the design and installation of accounting systems to meet the needs of all types of business concerns. Machine accounting methods and manuals of procedure are also studied. Prereq.: Accounting 303-304. *3 h. c.*

417. CONTROLLERSHIP. The duties and responsibilities of the chief accounting officer in a private business concern. The use of accounting and statistical data in the planning, co-ordination, control, and protection of business. Prerequisite: Accounting 303-304 and 401. *3 h. c.*

451. SEMINAR. Individual research in accounting problems. The student chooses his topics and prepares papers and talks for the benefit of the group. Prerequisite: Accounting 301-302, 303-304, and 401, and senior standing. *1 to 3 h. c.*

Required Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in Accounting

First Year	Hrs.
Acctg. 201-202 Elementary Accounting	6
Bus. Org. 100 Sources of Business Information	1
Bus. Org. 121 Mathematics of Business	3
*Comm. 105-106 Basic Course	6
Science	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Educ. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Acctg. 301-302 Intermediate Accounting	6
Bus. Org. 201 and 202 Business Law	6
Bus. Org. 210 Public Relations, or Mdsg. 225 Salesmanship	3
Bus. Org. 212 Business Letters and Reports	2
*Comm. 107 Basic Course	3
Econ. 202 Principles of Economics	3
Hist. 201 and 202 United States	6
Mdsg. 224 Marketing	3
Physical Education (activity)	1
	33

Third Year	Hrs.
Acctg. 303-304 Cost Accounting	6
Acctg. 401 Advanced Accounting	3
Bus. Org. 322 Credits and Collections	3
Econ. 303 Financial Organization	3
Econ. 305 Statistics	3
Econ. 315 Corporation Finance	3
Engl. 200, 203, 204, 205, 206, or 251	3
Psych. 201 General Psychology	3
Electives	3
	30

Fourth Year	Hrs.
Acctg. 403, 404 Taxes	6
Acctg. 407 Auditing	2
Acctg. 410 Statement Analysis	2
Acctg. 415 Systems	3
Econ. 401 Labor Problems, or Econ. 404 Personnel Management	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Psych. 401 Business Psychology or 301 Applied Psychology	3
Electives	9
	31

*English 101-102 and Speech and Dramatics 115, 116 may be substituted for Communication 105-106-107.

ADVERTISING

Advertising courses provide a study of the forms, methods, costs, and uses of advertising. They are designed both for students who plan to enter the advertising field and for those who wish a knowledge of advertising for other purposes.

A major in advertising consists of 30 semester hours; it includes Advertising 227-228, 329, 330, 401, 411, 415 and Art 223, and 6 hours in courses chosen from the following: Advertising 405, 414, and 451 and Art 224, 327, and 328.

(Advertising 227-228, 329, 330, 401, 411, 414, and 415 were listed as Business Organization 227-228, 329, 330, 401, 411, 414, and 415 until 1951-52.)

Lower Division Course

227-228. PRINCIPLES AND PRACTICE OF ADVERTISING. A survey of advertising as an instrument of modern business, including its economics, media, methods, and psychology, with discussion of copy-writing, layout, and the graphic arts. In the second semester are treated such problems as the study of the product, selection of media, determination of appeals to be made, and various types of campaigns. Prerequisite: sophomore standing or higher. *3 + 3 h. c.*

Upper Division Courses

329. ADVERTISING COPY. Practical applications of advertising principles. Newspaper magazine, direct-mail, and radio copy are written in class. Prerequisite: Advertising 227-228. *3 h. c.*

330. ADVERTISING LAYOUT. Graphic presentation of an advertising idea. Study of composition, design, balance, and the arrangement of such elements as illustration, headline, sub-headline, body copy, and signature according to their importance. Prereq.: Art 223 and Advertising 329. *3 h. c.*

401. ADVERTISING PROBLEMS. Application of fundamental theories and practices to various advertising and merchandising problems, including the development of budgets and the planning and proper use of advertising campaigns for retail, consumer, and industrial advertising. Prereq.: Advertising 330 and senior standing. *3 h. c.*

405. ADVERTISING MEDIA. Methods, procedures, and objectives in effective and economical placement of advertising. Media considered include magazines, newspapers, radio, television, and outdoor advertising. Prereq.: Advertising 330. *2 h. c.*

411. DIRECT ADVERTISING. The planning and preparation of the major forms of direct-mail advertising, including discussion and writing of sales letters, folders, leaflets, booklets, house magazines, etc. and a study of multigraphing, mimeographing, printing, and engraving. Prerequisite: Advertising 329 and 330. *3 h. c.*

414. ADVERTISING CASE STUDIES. A study of case histories taken from leading business firms. Analyses of these cases and their backgrounds provide an understanding of the application of advertising to specific business situations. The student is in the position of the business executive who must make decisions on advertising problems. Prerequisite: Advertising 401. *3 h. c.*

415. RADIO AND TELEVISION ADVERTISING. Its history, organization, and practice from the viewpoints both of the advertiser and of the stations and networks. Consideration of such problems as choosing the station, the time and method of broadcast, types of programs, the writing and production of commercials, and selling the campaign. Prerequisite: Advertising 329. *3 h. c.*

451. SEMINAR. Each student undertakes original research in some phase of advertising or the advertising business and presents his findings to the class, who study and discuss them. Prereq.: senior standing with major in advertising. *1 to 3 h. c.*

Required Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in Advertising

First Year	Hrs.
Art 110 Color and Design I	3
Bus. Org. 100 Sources of Business Information	1
Bus. Org. 101 Principles of Business	3
Bus. Org. 121 Mathematics of Business	3
*Comm. 105-106 Basic Course	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Science	6
Phys. Educ. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Acctg. 201-202 Elementary Accounting	6
Adv. 227-228 Advertising Principles and Practice	6
Art 223 Advertising Art I	3
Bus. Org. 210 Public Relations	3
*Comm. 107 Basic Course	3
Hist. 201 and 202 United States	6
Mdsg. 224 Marketing	3
Mdsg. 225 Salesmanship	3
Physical Education (activity)	1
	34

Third Year	Hrs.
Adv. 329 Advertising Copy	3
Adv. 330 Advertising Layout	3
Bus. Org. 201 and 202 Business Law.	6
Econ. 305 Statistics	3
Engl. 200, 203, 204, 205, 206, or 251.	3
Bus. Org. 322 Credits and Collections	3
Mdsg. 311-312 Buying and Merchandising Methods	6
Psych. 201 General Psychology	3
Electives	3
	33

Fourth Year	Hrs.
Adv. 401 Advertising Problems	3
Adv. 411 Direct Advertising	3
Adv. 415 Radio and Television	3
Mdsg. 420 Sales Promotion	3
Psych. 401 Business Psychology	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives (Upper Division)	9
	27

*English 101-102 and Speech and Dramatics 115, 116 may be substituted for Communication 105-106-107.

BUSINESS ORGANIZATION

The Department of Business Organization offers courses in various business subjects which (a) complement the work of the other departments of the School of Business Adminstration, (b) provide part of the work for combined majors in general business and business art and for the major in business education, and (c) provide for minors in business organization, insurance, and transportation.

The combined major in *general business* consists of a total of 45 semester hours of work in accounting, business organization, and economics. The combined major in *business art* consists of a total of 45 semester hours of work in art and business organization. The curriculums required for these majors are on pages 177-178. The major in *business education* is done under the direction of the Department of Education of the College of Arts and Sciences; the curriculum is on pages 114-115.

Courses formerly listed as Business Organization 227-228, 329, 330, 401, 411, 414, and 415 are now in the Department of Advertising with the same course-numbers. Courses formerly listed as Business Organization 224, 225, 311-312, 326, 331, 332, 333, 409, 410, 425, 431, 432, and 451 are now in the Department of Merchandising, with the same course-numbers.

Lower Division Courses

100. SOURCES OF BUSINESS INFORMATION. The location of information on any business subject through library catalogs and files, business indexes, directories, and other trade and business publications. *1 h. c.*

101. PRINCIPLES OF BUSINESS. An introductory course covering the development of forms of business enterprises, management, employer-employee relationship, credit, banking, and elementary accounting. *3 h. c.*

103. TYPEWRITING. Primarily for students with no previous instruction in typewriting. A speed of 20 words a minute must be attained. Two hours a week; credit applicable only toward the Bachelor of Science in Business Administration degree. Fee: $5.00. *1 h. c.*

104. TYPEWRITING. For improving efficiency: a speed of 30 words a minute must be attained. Two hours a week; credit applicable only toward the Bachelor of Science in Business Administration degree. Fee: $5.00. *1 h. c.*

105. OFFICE MACHINES. Designed to impart a working knowledge of the adding and the calculating machines. Two hours a week; credit applicable only toward the Bachelor of Science in Business Administration degree. Fee: $5.00. *1 h. c.*

110. ECONOMIC GEOGRAPHY. An elementary survey of the raw materials of the earth, methods of livelihood, land utilization, and population problems. *3 h. c.*

121. MATHEMATICS OF BUSINESS. Designed to acquaint the student with the mathematics necessary for the various business fields, including commercial and bank discount, partial payments, business insurance, payroll procedures, and averages. *3 h. c.*

201. BUSINESS LAW. A study of legally binding agreements between persons and of their enforcement, including the making of a contract, the effect of fraud, duress, etc.; designed to provide a practical knowledge of contracts, agency, negotiable instruments, bailments, carriers, and sales. Prerequisite: English 101-102 or 103-104, and Social Science 101. *3 h. c.*

202. BUSINESS LAW (formerly Business Organization 303). A study of the law of partnerships, corporations, property, bankruptcy, and insurance. The course covers wills, estates, and the relationships of debtor and creditor. Prereq.: Business Organization 201. *3 h. c.*

210. PUBLIC RELATIONS. An introduction to public relations and the media thereof, emphasizing management-labor-community relationships. Prerequisite: English 101-102 or 103-104. *3 h. c.*

212. BUSINESS LETTERS AND REPORTS. A study of sound business letters and reports, stressing content, effective sentences, intelligent punctuation, psychology of tone, and the internal structure of the sales letter. Prerequisite: English 101-102 or 103-104. *2 h. c.*

215. PRINCIPLES OF TRANSPORTATION. The historical and economic background of the growth and development of the five modes of transportation, with attention to the increasing importance of carrier coordination and to such controversial subjects as promotional policy, subsidies, and railroad control of competing modes of transportation. *3 h. c.*

216. TRANSPORTATION SERVICES AND CLASSIFICATION. The various special transportation services, claim papers, forms, routings, tracings, and freight classification. *3 h. c.*

220. INVESTMENTS. Considerations essential in the purchase of stocks and bonds by individuals; operational procedure of stock exchanges and stock brokers; use of various types of trusts; sources of investment data and their interpretation; collateral loans and margin operation. Prerequisite: Business Organization 121 and 201. *2 h. c.*

221. MATHEMATICS OF FINANCE. Designed for students majoring in accounting and for advanced general business students. Graphs and index numbers, progression, foreign exchange, compound interest, annuities, bonds and bond interest valuation, asset valuation accounts, building and loan associations, permutations and combinations, probability and mortality, life annuities, net premiums, and valuation of life insurance policies. Prereq.: Business Organization 121. *3 h. c.*

222. INSURANCE. Considerations essential in the purchase of insurance by the individual and by business enterprises; kinds of risk to be covered; types of coverage offered; evaluation of types of insurance companies; self-insurance; and methods used by insurance companies to establish rates. *3 h. c.*

Upper Division Courses

301. AIR TRANSPORTATION. An introductory course in air transportation, with emphasis on its historical background, federal regulation, and problems of monopoly, expansion, and government subsidies. *3 h. c.*

305. NEGOTIABLE INSTRUMENTS. Detailed study of commercial paper, stressing negotiable instruments, letters of credit, non-negotiable documents, and quasi-negotiable documents. Designed for students interested in banking, financial houses, and similar enterprises. Prerequisite: Business Organization 201 and 202. *3 h. c.*

306. RAILROAD TARIFFS. This course covers the construction and interpretation of railroad tariffs, and the application of and reason for rates and routes by rail, water, and express. Prerequisite: Business Organization 216. *3 h. c.*

307. COMMERCIAL MOTOR TRANSPORTATION. Passenger and freight operations of road vehicles, financing and leasing of vehicles for delivery, rate-making constructions and economics of motor carrier services, insurance and proper protection for carriage, and liability for cargo and passenger; terminal methods and procedure, and federal, state and municipal regulations and restrictions as to weight, length, and public liability. Prereq.: Business Organization 215. *3 h. c.*

310. INDUSTRIAL ORGANIZATION. The growth and present status of development of modern industrial organization, and indication of its trends, with particular attention to the principles determining location of plants, type of management, control of production, and type of equipment. Wage payments, cost-finding methods, and policies regarding inspection standards and human relations. *2 h. c.*

317. REAL ESTATE PRINCIPLES. Principles of real property ownership and real estate practices; types of deeds, leases, restriction; real estate brokerage, selling, advertising; property management; subdividing and developing; zoning and its effects. Prereq.: junior standing. *3 h. c.*

318. REAL ESTATE FINANCE AND PROBLEMS. Methods of financing the ownership or occupancy of real property. Real estate and real estate paper as a field of investment. Problems involved in appraisal, and practical methods of appraisal. Individual research. Prerequisite: Business Organization 317. *2 h. c.*

320. ADVANCED PUBLIC RELATIONS. Practical application of the principles of public relations, with attention to organization of ideas, writing for all types of media, psychology and timeliness of presentation, and extemporaneous speaking. Prerequisite: Business Organization 210. *3 h. c.*

322. CREDITS AND COLLECTIONS. Credit instruments and classes of credits; credit agencies, collection agencies, collections, collection methods, and the place of the credit man in business. *3 h. c.*

340. OFFICE MANAGEMENT AND METHODS. Office organization, personnel, plan, and layout; office operation and control; time and duty analysis in office operations, including work flow and incentive methods; executive techniques required of an office manager. *3 h. c.*

341-342. LIFE INSURANCE FUNDAMENTALS (C. L. U., A) (formerly Economics 321-322). A survey of the economic functions of life insurance, company practices, government regulations, and actuarial principles. Primarily for candidates for the Chartered Life Underwriters examinations. *1½ + 1½ h. c.*

343-344. BACKGROUND EDUCATION FOR INSURANCE (C. L. U., B) (formerly Economics 323-324). A review of economics, government, and sociology, with emphasis on phases useful in supplying insurance men with fundamental principles in these fields. Primarily for candidates for the Chartered Life Underwriters examinations. *1½ + 1½ h. c.*

345-346. LAW, TRUSTS, AND TAXES (C. L. U., C) (formerly Economics 325-326). A study of the law of contracts, wills, and taxes as applied to life insurance. Primarily for candidates for the Chartered Life Underwriters examinations. *1½ + 1½ h. c.*

347-348. FINANCE (C. L. U., D) (formerly Economics 327-328). A review of finance, in three parts: corporation finance; money, credit, and banking; and investments, including consideration of corporate securities, the principles underlying money, the essential features of the American banking and credit system, and life insurance as an investment. Primarily for candidates of the Chartered Life Underwriters examinations. *1½ + 1½ h. c.*

406. INTERSTATE COMMERCE LAW AND PROCEDURE. Outline and analysis of procedure under the Interstate Commerce Act, with emphasis on complaints and claims. Prerequisite: Business Organization 216 and 306. *3 h. c.*

419. PRODUCTION MANAGEMENT. A brief review of the principles, policies, and definitions of management, followed by an examination of the functions of typical production planning and control departments. Specific work on the techniques of scientific management, such as co-ordination of manufacturing plans with sales budgets, analyzing manufacturing capacities for job scheduling, and keeping records. Discussion and analysis of specific types of management controls. Prereq.: Accounting 303-304. *3 h. c.*

422. ADVANCED CREDITS AND COLLECTIONS. Credit policy determination in business and industry; planning an effective credit investigation program; analysis of financial statements for credit purposes, and control of accounts receivable in relation to sales, inventory, and working capital; collection of delinquent accounts; legal aids for credit departments. Prerequisite: Business Organization 322. *2 h. c.*

Required Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in General Business

First Year	Hrs.
Bus. Org. 100 Sources of Business Information	1
Bus. Org. 101 Principles of Business	3
Bus. Org. 103 and 104 Typewriting	2
Bus. Org. 105 Office Machines	1
Bus. Org. 110 Economic Geography	3
Bus. Org. 121 Mathematics of Business	3
*Comm. 105-106 Basic Course	6
Science	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	34

Second Year	Hrs.
Acctg. 201-202 Elementary Accounting	6
Bus. Org. 212 Business Letters and Reports	2
Bus. Org. 215 Principles of Transportation or 216 Transportation Services	3
Bus. Org. 222 Principles of Insurance	3
*Comm. 107 Basic Course	3
Engl. 200, 203, 204, 205, 206, or 251	3
Hist. 201 and 202 United States	6
Mdsg. 224 Marketing	3
Mdsg. 225 Salesmanship	3
Physical Education (activity)	1
	33

Third Year	Hrs.
Acctg. 305 Industrial Cost Accounting	3
Adv. 227-228 Advertising Principles and Practice	6
Bus. Org. 201 and 202 Business Law	6
Econ. 303 Financial Organization	3
Econ. 315 Corporation Finance	3
Psych. 201 General Psychology	3
Electives (Upper Division)	6
	30

Fourth Year	Hrs.
Bus. Org. 322 Credits and Collections	3
Econ. 305 Statistics	3
Econ. 401 Labor Problems, or Econ. 404 Personnel Management	3
Mdsg. 311-312 Buying and Merchandising Methods	6
Philosophy and Religion elective, or Humanities 401 or 402	3
Psych. 401 Business Psychology	3
Electives (Upper Division)	7
	28

*English 101-102 and Speech and Dramatics 115, 116 may be substituted for Communication 105-106-107.

Required Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in Business Art

First Year	Hrs.
Art 110 Color and Design I	3
Bus. Org. 100 Sources of Business Information	1
Bus. Org. 101 Principles of Business	3
Bus. Org. 121 Mathematics of Business	3
*Comm. 105-106 Basic Course	6
Science	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Phys. Educ. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Adv. 227-228 Advertising Principles and Practice	6
Art 223, 224 Advertising Art	6
Bus. Org. 201 and 202 Business Law	6
Bus. Org. 210 Public Relations	3
*Comm. 107 Basic Course	3
Hist. 201 and 202 United States	6
Mdsg. 224 Marketing	3
Physical Education (activity)	1
	34

Third Year	Hrs.
Acctg. 205 Elementary Industrial Accounting	3
Adv. 329 Advertising Copy	3
Adv. 330 Advertising Layout	3
Art 327, 328 Advertising Art	6
Bus. Org. 322 Credits and Collections	3
Engl. 200, 203, 204, 205, 206, or 251	3
Mdsg. 225 Salesmanship	3
Mdsg. 326 Applied Salesmanship, or Mdsg. 425 Sales Management	3
Psych. 201 General Psychology	3
Elective	3
	33

Fourth Year	Hrs.
Adv. 401 Advertising Problems	3
Economics elective (Upper Division)	3
Mdsg. 420 Sales Promotion	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Psych. 401 Business Psychology	3
Electives (Upper Division)	12
	27

*English 101-102 and Speech and Dramatics 115, 116 may be substituted for Communication 105-106-107.

MERCHANDISING

Merchandising courses comprise a study of materials and their sources, buying and selling methods, quality analyses, fashions, and methods of promotion. They are designed for the student who wishes to become a store owner, department manager, buyer, stylist, or sales executive.

A major in merchandising consists of 30 semester hours: it includes Merchandising 224, 225, 311-312, 326, 332, 420, 432, and either 409 or 410, plus 4 hours in courses chosen from the following: Merchandising 331, 333, 425, 431, and 451.

(Merchandising 224, 225, 311-312, 326, 331, 332, 333, 409, 410, 425, 431, 432, and 451 were listed as Business Organization 224, 225, 311-312, 326, 331, 332, 333, 409, 410, 425, 431, 432, and 451 until 1951-52.)

Lower Division Courses

224. MARKETING. A general survey, with attention to marketing functions and policies and marketing institutions. *3 h. c.*

225. SALESMANSHIP. Knowledge of goods; study of customers and their wants, buying motives, and attitudes; planning a sale, meeting objections, closing the sale; cultivation of personality; problems in sales management, organization, planning, and research. May be counted as an Upper Division course in the business education curriculum. *3 h. c.*

Upper Division Courses

311-312. BUYING AND MERCHANDISING METHODS. The methods used by retail organizations in buying from sources of supply; sales planning; salesmanship; sales promotion; merchandising arithmetic; inventory control methods; research and statistics; dollar and unit control, involving six-month merchandising plans, purchase planning, model stocks, and calculation of customer demand and reorder quantities. Prerequisite: Accounting 201-202, Business Organization 121, and Merchandising 224 and 225. *3 + 3 h. c.*

326. APPLIED SALESMANSHIP. Practical application of the principles of salesmanship. Students prepare sales talks and demonstrations for class work, emphasizing house-to-house canvassing, over-the-counter selling, mail-order selling, direct-mail selling, and variations in selling techniques in different types of industries. Prerequisite: Merchandising 225. *3 h. c.*

331. NON-TEXTILES: APPAREL ACCESSORIES. This course is designed to meet the needs of buyers, copywriters, training departments, comparison shoppers, and instructors in the consumer or distributive education fields. Sources of raw materials, manufacturing processes, care, uses, and selling points of the following types of merchandise are studied: leather, shoes, handbags, luggage, furs, jewelry, metals, precious and semi-precious stones, cosmetics, soaps, and perfume. *3 h. c.*

332. TEXTILE FABRICS. Textile fibers: cotton, silk, linen, nylon, wool, rayon, and other new materials; methods of dyeing and printing; weaves: twill, plain, satin, jacquard; tests to distinguish the fibers. Government rulings are studied; uses and wearability of materials are investigated. Swatches of materials are used as illustrations. Fee (for materials used): $3.50. *3 h. c.*

333. NON-TEXTILES: HOME FURNISHINGS. A detailed study of ceramics, glass, silverware, woodenware, plastics, and metals used in the household, from raw materials to finished product, considering quality, selling points, government rulings, and the care of wood and furniture. Designed for buyers, teachers, and salespeople. *3 h. c.*

407. CHAIN STORE OPERATION. General merchandising for all types of chain stores: public relations, legal aspects of store operation, organization, personnel work in customer-employee relations, personnel training, buying, managers' most common problems, past, present, and future trends, and other phases. Prereq.: Merchandising 311-312. *3 h. c.*

409. RETAIL MARKETING. The entire marketing system considered from the consumer's viewpoint, with the retailer as his purchasing agent. Consumer attitude toward marketing institutions and their policies; sales promotion, publicity, and public relations as they affect consumer choice; government control as protection to the consumer. Prerequisite: Merchandising 311-312. *2 h. c.*

410. INDUSTRIAL MARKETING. Characteristics of manufacturers' goods; channels of distribution; function of middlemen; distribution costs; marketing research; government control and legal limitations. Product policies; service policies; packaging policies; price policies. Industrial advertising organization, planning, and budgeting; use of advertising agencies and national advertising media; sales manuals; dealer helps. Prereq.: Merchandising 311-312. *3 h. c.*

420. SALES PROMOTION. A critical analysis of the range and activities of sales promotion; determining what and where to promote, and selecting merchandise for promotion; budgeting, planning, and executing promotional activities; external and internal methods of promotion; and coordination of all sales promotion activities. Prerequisite: Merchandising 311-312. *3 h. c.*

425. SALES MANAGEMENT. This course deals with the functions of the sales manager. Principal topics considered are: sales organizations; identification of merchandise, including testing, branding, packaging, labeling, warranties, and service; free deals and allowances; planning quotas and territories; selecting, training, and compensating salesmen; promotional campaigns and supervision; and the use of cost data as a guide to the formulation of sales and price policies. Prerequisite: Business Organization 225. *3 h. c.*

431. MEN'S FASHIONS IN APPAREL. A comprehensive study of men's clothing materials, their use, and when to wear them, and of day and night formal, summer formal, dinner, business, and play attire with the correct accessories. For fashion merchandise buyers and salespeople. *2 h. c.*

432. ADVANCED TEXTILE FABRICS. An intensive study of materials used in women's, men's, infants', and children's wearing apparel and in house furnishings and domestics. Designed both to enable buyers and salespeople to select the correct materials and to provide the necessary merchandising information. Prerequisite: Merchandising 332 or consent of the instructor. Fee (for materials used): $3.50. *3 h. c.*

451. SEMINAR. Each student undertakes original research in some phase of merchandising or the merchandising business and presents his findings to the class, who study and discuss them. Prereq.: senior standing with major in merchandising. *1 to 3 h. c.*

Required Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in Merchandising

First Year	Hrs.
Acctg. 205 Elementary Industrial Accounting	3
Bus. Org. 100 Sources of Business Information	1
Bus. Org. 121 Mathematics of Business	3
*Comm. 105-106 Basic Course	6
Mdsg. 224 Marketing	3
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Science	6
Phys. Educ. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Acctg. 305 Industrial Cost Accounting	3
Adv. 227-228 Advertising Principles and Practice	6
Bus. Org. 210 Public Relations	3
Bus. Org. 212 Business Letters and Reports	2
Bus. Org. 215 Principles of Transportation or 216 Transportation Services	3
Bus. Org. 222 Insurance	3
*Comm. 107 Basic Course	3
Hist. 201 and 202 United States	6
Mdsg. 225 Salesmanship	3
Physical Education (activity)	1
	33

Third Year	Hrs.
Adv. 329 Advertising Copy, or Adv. 330 Advertising Layout	3
Bus. Org. 201 and 202 Business Law	6
Bus. Org. 322 Credits and Collections	3
Econ. 305 Statistics	3
Econ. 315 Corporation Finance	3
Engl. 200, 203, 204, 205, 206, or 251	3
Mdsg. 311-312 Buying and Merchandising Methods	6
Psych. 201 General Psychology	3
	30

Fourth Year	Hrs.
Econ. 401 Labor Problems, or Econ. 404 Personnel Management	3
Mdsg. 326 Applied Salesmanship	3
Mdsg. 332 Textile Fabrics	3
Mdsg. 409 or 410 Retail or Industrial Marketing	2 or 3
Mdsg. 420 Sales Promotion	3
Mdsg. 432 Advanced Textile Fabrics	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives	11 or 10
	31

*English 101-102 and Speech and Dramatics 115, 116 may be substituted for Communication 105-106-107.

SECRETARIAL STUDIES

Courses in secretarial studies are designed for students interested in secretarial positions and the more advanced types of office work. They give credit only toward (1) the degree of Bachelor of Science in Business Administration with a major in secretarial studies, (2) the degree of Bachelor of Science in Education with a major in business education, and (3) the title of Associate in Business Administration.

For the first of these, a curriculum is suggested following the course descriptions below; for the second, the required curriculum is on pages 114-115; for the third, see the first two years of the curriculum below.

Lower Division Courses

100. TYPEWRITING. For beginners. A speed of 20 words a minute must be attained. *2 h. c.*

101. TYPEWRITING. Advanced letter-writing, legal papers, tabulating, filling in forms, and speed work. A speed of 40 words a minute must be attained. Prerequisite: a speed of 20 words a minute. *2 h. c.*

104-105. BOOKKEEPING. First semester: single proprietorship; second semester: partnership. *2 + 2 h. c.*

200. SHORTHAND. For beginners. The student must master the shorthand manual and speed study text. *4 h. c.*

201. TRANSCRIPTION. Advanced typewriting and transcribing. A speed of 60 words a minute must be attained. *2 h. c.*

202. BUSINESS MATHEMATICS. Computation for accounting, discount, insurance, interest, payroll, social security, taxes, etc. *2 h. c.*

203. BOOKKEEPING. Corporation accounting. *2 h. c.*

207. BUSINESS ENGLISH AND CORRESPONDENCE. Business terms; the psychology, mechanics, and principles of effective letter-writing; practice in writing various types of letters and in correcting common errors. *3 h. c.*

208. COMMERCIAL LAW. A brief study of the following: contracts, sales, bailments, negotiable instruments, guaranty and suretyship, agency, master and servant, partnership, corporations, insurance, property,

wealth and income and their management, the financial system and investing, buying and selling relations, and the organization and operation of business. *3 h. c.*

215, 216. OFFICE MACHINES. The operation of adding, calculating, mimeographing, and bookkeeping machines and dictaphones. *3 + 3 h. c.*

Upper Division Courses

300-301. SHORTHAND. Beginning dictation and transcription. A speed of 60 words a minute must be attained in the first part, and 80 words a minute in the second part. Prerequisite: Secretarial Studies 200, or passing a qualifying test. *2 + 2 h. c.*

302. SHORTHAND. A dictation speed of 100 words a minute must be attained, and a transcription rate of 25 words a minute. *2 h. c.*

303. SECRETARIAL DICTATION. Dictation at 120 words a minute and transcription at 35 words a minute. *2 h. c.*

304. ADVANCED DICTATION AND TRANSCRIPTION. For acquiring greater speed and accuracy in transcription. *2 h. c.*

403. OFFICE PRACTICE. Application of theory to practice: typical office problems, dictation, transcription, copy-work, answering letters, filling in forms; discussion of office procedure. Prerequisite: Secretarial Studies 301. *3 h. c.*

404. FILING AND INDEXING. The basic principles of filing and indexing, and practice in the most widely used procedures. *1 h. c.*

Suggested Curriculum Leading to the Degree of Bachelor of Science in Business Administration with a Major in Secretarial Studies

A student may receive the title of Associate in Business Administration after satisfactorily completing the first two years of this curriculum.

First Year	Hrs.
*Comm. 105-106 Basic Course	6
Soc. Sci. 101 and 102 Introduction to the Social Sciences	6
Sec. St. 100 and 101 Typewriting	4
Sec. St. 104-105 Bookkeeping	4
Sec. St. 200 Shorthand	4
Sec. St. 215 Office Machines	3
Sec. St. 300-301 Shorthand	4
Phys. Ed. 107 and 108 Hygiene	2
Physical Education (activity)	1
Orientation 100	Credit
	34

Second Year	Hrs.
*Comm. 107 Basic Course	3
Sec. St. 201 Transcription	2
Ses. St. 202 Business Mathematics	2
Sec. St. 203 Bookkeeping	2
Sec. St. 207 Bus. Engl. and Corresp.	3
Sec. St. 208 Commercial Law	3
Sec. St. 216 Office Mach. or Elective	3
Sec. St. 302 Shorthand	2
Sec. St. 303 Secretarial Dictation	2
Sec. St. 304 Adv. Dict. and Transcr.	2
Sec. St. 403 Office Practice	3
Sec. St. 404 Filing and Indexing	1
Psych. 201 General Psychology	3
Physical Education (activity)	1
	32

Third Year	Hrs.
Acctg. 305 Industrial Cost Accounting	3
Bus. Org. 110 Economic Geography	3
Bus. Org. 210 Public Relations	3
Bus. Org. 222 Insurance	3
History 201 and 202 United States	6
Mdsg. 224 Marketing	3
Mdsg. 225 Salesmanship	3
**Science	6
	30

Fourth Year	Hrs.
Adv. 227-228 Advertising Principles and Practice	6
Bus. Org. 322 Credits and Collections	3
Bus. Org. elective (Upper Division)	3
Humanities 401, 402, 403, or 404	3
Econ. 305 Economic and Social Statistics	3
Psych. 401 Business Psychology	3
Electives (Upper Division)	9
	30

*English 101-102 and Speech and Dramatics 115, 116, totaling 10 hours, may be substituted for Communication 105-106-107.

**Either 8 hours of biology, of chemistry, or of physics, or 9 hours of other sciences.

William Rayen
School of Engineering

GENERAL INFORMATION

Objectives

The aim of William Rayen School of Engineering is to impart such special and technical knowledge, based on a sound understanding of the fundamental sciences and arts upon which all engineering rests, as will enable its graduates to enter the various branches of engineering and to maintain themselves while gaining professional experience; and at the same time to enable them to develop their general cultural and educational background.

Each engineering curriculum therefore combines three interrelated programs: the basic science program, the technical program, and the social relations program. The basic science program, consisting of mathematics and the physical sciences, provides the basis for the technical program and increases the student's knowledge of the physical world around him. The technical program teaches the application of science to the problems of engineering. The social relations program is designed to teach the student to express himself clearly and to understand better both himself and other people, and thus deal more intelligently with the problems he will face both as an engineer and as a citizen and an individual.

In addition, certain courses in business administration are included, to improve the student's understanding of the broader area in which his engineering training will be applied.

Buildings and Facilities

Rayen Building, the former home of Rayen School, was made available to Youngstown College in 1945, and after it had been thoroughly remodeled and reinforced to enable it to house heavy machinery, William Rayen School of Engineering was established there as a main unit of the college.

The school's spacious laboratories have up-to-date equipment not only for all standard experiments but, in most fields,

for much advanced work. Its ample drawing rooms, classrooms, study, and offices are entirely modern in lighting and all other essentials. The building also contains a technical library (see page 37) as well as the school's own power-generating equipment, steam supply, and machine shop.

In the same building are the physics and mathematics departments of the College of Arts and Sciences. For a description of the physics and optics laboratories, see pages 38-39.

The engineering school also uses most of South Hall, the former Y. M. C. A. Youth Center Building, on Rayen Avenue east of Wick Avenue.

The *Electrical Engineering Laboratory* contains a 4,500-volt motor-driven double generator, a source of direct current for the electronics laboratory; a specially-designed Westinghouse 5-kw ac-dc generator with two interchangeable armatures and driven by either its own synchronous motor or a slip-ring induction motor; a 20-kw ac-dc motor-generator set, used with the 5-kw set in parallel generator operation; a double-current generator; a dc-dc adjustable-speed motor-generator set; an ac-dc frequency converter for supplying 240-cycle current; a 10-kw converter, also usable as an inverted rotary converter; transformers, including those for phase transformation; many types of single-, two-, and three-phase motors; a cathode-ray oscilloscope; and a wide assortment of resistors, condensers, inductors, controllers, reactors, and precision meters.

The *Electricity and Magnetism Laboratory* provides various bridges and standards for measurement of resistance, inductance, and capacitance; several laboratory potentiometers for precise voltage measurements and for the calibration of direct current instruments; decade resistance boxes, slide-wire resistors, galvanometers, permeameters, meters, and assorted auxiliary equipment.

The *Electronics Laboratory* is equipped with vacuum, gas-filled, and special-purpose tubes; impedance bridges; vacuum-tube voltmeters; cathode-ray oscilloscopes; signal generators; audio oscillators; an electronic switch; radio transmitters and receivers; power supplies; and a wide variety of resistors, condensers, inductors, transformers, and precision meters.

The *Strength of Materials Laboratory* has three Universal testing machines: a 400,000-pound hydraulic Olsen and two motor-driven Riehles, 60,000- and 20,000-pound; a 10,000-pound Baldwin-Southwark tester; Fairbanks-Morse concrete-briquet-testing equipment; Rockwell, Brinell, and Scleroscope hardness-testing equipment; and high-precision measuring instruments.

The *Mechanical Engineering Laboratory* has a complete power plant including a 150-psi, 150-horsepower boiler, a 60-kw turbo-generator, a 35-kw horizontal steam-engine generator, and a 10-kw vertical steam-engine generator with pumps, condensers, and cooling tower. There are also another complete but smaller power plant; a 25-kw Cummings Diesel-driven generator; internal combustion units; hydraulic pumps and reservoir; commercial refrigeration and air-conditioning units; a motor-driven blower set for airflow study; and various heat exchangers, calorimeters, gage testers, gas analyzers, etc.

The *Metallurgical Department* is in South Hall, on nearby Rayen Avenue. Of its four laboratories, the first, a furnace room, houses crushers, grinders, electric heat-treating and melting furnaces, and precision pyrometers; the

second contains polishers and chemical analysis equipment; the third, a dark room, has microscopes, cameras, and developing equipment; and the fourth is a geological laboratory, with an extensive selection of specimens and rocks and a large number of United States Government geological and topographical maps. Also available to the department is a lead-shielded room in the main engineering building containing a 250,000-volt x-ray machine.

Adjunct Faculty

Most of the school's courses may be taken in either day or evening sections. This is possible in part because of the number of highly qualified engineers and other technologists in the Youngstown area who are available as instructors to supplement the permanent staff. These men hold important posts with such firms as the United States Steel Corporation, Cold Metal Products Company, General Fireproofing Company, Ohio Edison Company, Sharon Steel Corporation, Truscon Steel Company, Westinghouse Electric Company, William B. Pollock Company, Youngstown Foundry and Machine Company, and Youngstown Sheet and Tube Company. Their number embraces engineers, designers, metallurgists, draftsmen, and other technical specialists, and includes men in such positions as plant engineer, district engineer, chief metallurgist, division industrial engineer, and general foreman. The interest of these people in the academic side of their professions provides a staff in whom expert training and up-to-the-minute practical experience are combined to an unusual degree, and the student is thus brought into closer contact with the professional world he is preparing to enter.

Awards and Prizes

The Professional Engineers Award. The Mahoning Valley Chapter of the Ohio Society of Professional and Registered Engineers, Tri-County Section, gives an annual award to the graduating engineering student outstanding in academic achievement and personality over a period of four years.

The award is made in honor of the memory of Louis A. Deesz, the first dean of the William Rayen School of Engineering.

The American Society of Mechanical Engineers, Youngstown Section, Awards in Mechanical Engineering. The American Society of Mechanical Engineers, Youngstown Section, grants an annual award to the outstanding graduate in mechanical engineering. In addition, awards made possible by Mr.

Henrik Ovesen, a life member of the society, are given to the two students with the next highest standings.

Admission and Grade Requirements

For admission to the William Rayen School of Engineering and to courses leading to the degree of Bachelor of Engineering, and for the entrance examinations in mathematics, see the general section on Admission.

The grade requirements for candidates for the degree of Bachelor of Engineering are stated on page 70.

Degree Requirements

Following are the requirements for the degree of Bachelor of Engineering. It is the student's responsibility to see that he satisfies all graduation requirements. The general requirements for all degrees are stated on pages 72 ff. Students enrolled or planning to enroll in the R. O. T. C. should note the relevant information on pages 73-74.

The Degree of Bachelor of Engineering

To be granted the degree of Bachelor of Engineering, a student must have met the general requirements for all degrees; have completed, with a point index of 1.0 or higher, one of the engineering curriculums listed later in this section; and have met the following requirements:

Communication ..... Satisfactory proficiency (8 or 9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education ..... 4 hours

Physical Education 107 and 108 (hygiene), totaling 2 hours; and four physical activity courses, totaling 2 hours. Night students may take other physical education courses in place of the activity courses.

Orientation 100 ..... Credit

Not required of night students.

Social Science 101 and 102 ..... 6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion ..... 3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Business Organization 201 and 202	6 hours
Economics 309	3 hours

The curriculums leading to this degree require a minimum of 150 semester hours of work, and are designed to be completed in 48 months. A student willing to carry a heavy load may finish the work in less time. For students desiring to do part of the work during summers, it is recommended that work so done be non-science courses such as Social Science 101, 102, Business Organization 201, 202, Economics 309, and the religion requirement course.

COURSES OF INSTRUCTION

It is important that the student familiarize himself with the course-numbering system and its significance, as well as the abbreviations used to indicate the amount of credit. These are explained on page 84.

Following the course descriptions are the curriculums for the six branches of engineering in which specialization is offered.

Lower Division Courses

101. ELEMENTARY ENGINEERING DRAWING. The use of drafting instruments, lettering, orthographic projection, sections, isometric drawing, and technical sketching, with special attention to pencil and ink line techniques and the fundamentals of dimensioning. One hour of lecture and three hours of laboratory a week. Fee: $2.50. *2 h. c.*

103. ADVANCED ENGINEERING DRAWING. Detail and assembly drawings of machine parts. Eventually students are grouped and given problems according to their major fields. One hour of lecture and three hours of laboratory a week. Prereq.: Engineering 101. Fee: $2.50. *2 h. c.*

130. SURVEYING. The theory of surveying, and the use of instruments. Practical problems in leveling, traversing, and topography. Maps are drawn from field notes. One hour of recitation and five hours of laboratory. Given in the summer only. Prerequisite: Mathematics 120-121 and Engineering 101. Fee: $5.00. *3 h. c.*

202. ENGINEERING DRAWING: DESCRIPTIVE GEOMETRY. Exercises in points, oblique lines, and oblique planes in space. Determination of distances, intersections, and angular measurements. The fundamental geometric solids are cut by oblique planes and surfaces developed. Prereq.: Engineering 103. Fee: $2.50. *3 h. c.*

203. ARCHITECTURAL DRAWING. A study of the structure of small houses and the basic materials in their construction. Drawing of floor plans, elevations, and details; isometric and perspective drawings of interiors, and perspectives of exteriors, together with shades and shadows. Prerequisite: consent of the instructor. Fee: $2.50. *3 h. c.*

204. ADVANCED ARCHITECTURAL DRAWING. The drawing and designing of small homes. Prerequisite: Engineering 203. Fee: $2.50. *3 h. c.*

211-212. PRINCIPLES OF RADIO. Circuit constants, resonant circuits, fundamental properties of vacuum tubes, diodes, triodes, vacuum tube amplifiers, power amplifiers, oscillators, tube characteristics, transmitters and receivers. Prerequisite: Mathematics 120-121. *3 + 3 h. c.*

220. ANALYTICAL MECHANICS: STATICS. The fundamental principles of mechanics and their application to problems of engineering. Forces, components, vectors, moments, couples, cables, and friction. Moments of inertia are introduced in preparation for the strength of materials course. Prerequisite: Mathematics 209 and Physics 201 and 201L. Prerequisite or concurrent: Mathematics 210 and Physics 202 and 202L. Identical with Physics 220. *3 h. c.*

230. ROUTE SURVEYING. Preliminary route location, with the necessary office and field work, including curves used in railroad and highway construction and earth work. During the first ten weeks, the class works six hours a week in the field; thereafter students spend three hours a week in the classroom. Prerequisite: Engineering 130. Fee: $5.00. *3 h. c.*

251, 252. GENERAL METALLURGY. The principles of metallurgical processes, with emphasis on iron and steel manufacture. Essentials of metallurgical reactions, refractories for metallurgical furnaces, furnaces and fuels, raw materials of the iron and steel industry, the iron blast furnace, the Bessemer converter, acid and basic open hearths and electric furnaces, manufacturing costs, and marketing of steel products. Prerequisite: Chemistry 109-110 or equivalent. *3 + 3 h. c.*

255. METALLOGRAPHIC TECHNIQUE. The techniques of preparation, examination, and photography of iron and steel samples. Acquaintance with typical steel structures; heat treatments and their general principles; identification of non-metallic inclusions; study of defective steels. Two hours of laboratory work a week, including a discussion period. Prerequisite: Chemistry 205. Fee: $5.00. *2 h. c.*

Upper Division Courses

301-302. REPORT WRITING. The content of the engineering report, and methods of presenting it; construction of a comprehensive report, using data from previous studies. Prerequisite: advanced standing in engineering. *2 + 2 h. c.*

311. ALTERNATING CURRENT CIRCUITS. Sinusoidal currents and voltages; vector representation; solution of series and parallel circuits; real and apparent power; voltage and current loci; balanced and unbalanced polyphase circuits; power in polyphase systems; Fourier analysis of non-sinusoidal waves. Prereq.: Engineering 313, Mathematics 210, Physics 202 and 202L. *3 h. c.*

311L. ALTERNATING CURRENT CIRCUITS LABORATORY. Three hours a week; taken concurrently with Engineering 311. Fee: $5.00. *1 h. c.*

312. ELECTRICAL NETWORKS. Network theorems; methods of network solution; resonance phenomena; coupled circuits and impedance transformation; filter design and analysis; transmission lines, infinite line and reflection, transient and steady-state behavior of lines. Prereq.: Engineering 311 and 311L. *3 h. c.*

312L. ELECTRICAL NETWORKS LABORATORY. Three hours a week; taken concurrently with Engineering 312. Fee: $5.00. *1 h. c.*

313. FUNDAMENTALS OF ELECTRICAL ENGINEERING. An introductory course in electrical engineering. Conductors and insulators; network solution of direct current circuits; network theorems; magnetic fields,

inductance, solution of magnetic circuits; electric fields and capacitance; simple transients; electrodynamic principles; elementary theory of alternating current circuits. Prereq.: Mathematics 209, Physics 201 and 201L. Prerequisite or concurrent: Mathematics 210, Physics 202 and 202L. *4 h. c.*

314. ELEMENTS OF ELECTRICAL MACHINES. A course in direct and alternating current machines for non-electrical majors. Theory and application of direct current motors and generators, transformers, alternators, synchronous motors and converters, and induction motors. Prereq.: Engineering 313. *3 h. c.*

314L. ELEMENTS OF ELECTRICAL MACHINES LABORATORY. Three hours a week; taken concurrently with Engineering 314. Fee: $10.00 *1 h. c.*

315. ELECTRICAL MEASUREMENTS. Electrical units and standards, experimental procedure in measurements, methods of measuring the various electric and magnetic quantities and circuit parameters. Theory and use of potentiometers, A. C. bridges, indicating instruments, instrument transformers, etc. Two hours of theory and three hours of laboratory a week. Prereq.: Engineering 311 and 311L. *3 h. c.*

317. APPLIED THERMODYNAMICS. The law of conservation of energy and its illustration in the transformation of energy. General energy equations, the characteristic and energy equations of a perfect gas, reversible non-flow processes of gases, the Carnot cycle; heat power plants; steam and steam calorimetry, steam fuels and combustion, steam boilers, steam generator auxiliaries; feedwater treatment, feedwater heaters; draft apparatus, chimneys, fans. Prereq.: Physics 201 and 202 and Mathematics 209-210. *3 h. c.*

317L. APPLIED THERMODYNAMICS LABORATORY. Three hours of laboratory a week; taken concurrently with Physics 317. Fee: $10.00. *1 h. c.*

323. GRAPHIC SOLUTIONS. The fundamental principles of graphic statics and engineering mechanisms. Force systems, trusses, cranes, and derricks; displacements, velocities, accelerations, relative motion, and machines. One hour of lecture and two hours of drawing laboratory a week. Prereq.: Engineering 220; prerequisite or concurrent: Engineering 325. Fee: $2.50. *2 h. c.*

325. ANALYTICAL MECHANICS: DYNAMICS. The motions of a particle, the dynamics of moving bodies, Newton's Laws, simple harmonic motion, mechanical vibrations, impulse and momentum, balancing, the gyroscope, governors, and work and energy. Prereq.: Engineering 220. Identical with Physics 325. *3 h. c.*

326. STRENGTH OF MATERIALS. Application of advanced mechanical principles to problems of stress and strain, including resistance to direct force, bending, torque, shear, eccentric load, beam deflection, and compounded stress. Prereq.: Engineering 220. *3 h. c.*

326L. STRENGTH OF MATERIALS LABORATORY. Determination of mechanical properties of materials in direct tension and compression, transverse and torsional shear, and bending; testing of wood, brick, concrete, and ferrous and non-ferrous metals. Three hours a week; taken concurrently with Engineering 326. Fee: $10.00. *1 h. c.*

328. HYDRAULICS. The laws of fluid mechanics and their application; properties of fluids; statics of fluids, compressible and incompressible; accelerated liquids; dynamics of fluids; flow of fluids in pipes; flow with free surface; orifices and nozzles; impulse and momentum; resistance to immersed and floating bodies; dynamical similitude. Prereq.: Engineering 220. *3 h. c.*

328L. HYDRAULICS LABORATORY. Two hours a week; taken concurrently with Engineering 328. Fee: $10.00. *1 h. c.*

330. THEORY OF STRUCTURES. Reactions, shears, bending moments, and deflections in beams and trusses due to external fixed and moving loads; design of simple trusses and beams; analytical and graphical methods of solution. Three hours of lecture and recitation a week. Prereq.: Engineering 220. *3 h. c.*

331. DESIGN OF STEEL STRUCTURES. The theory and design of beams, girders, steel bridges, and steel roofs. Three hours of lecture and recitation and three hours of design and calculation a week. Prereq.: Engineering 326 and 326L. Fee: $2.50. *4 h. c.*

332. HIGHWAY CONSTRUCTION. The design and construction of roads and pavements; the materials used in their construction; their location and maintenance. Prereq.: Engineering 220. *3 h. c.*

333. SEWAGE DISPOSAL. The collection, treatment, and disposal of sewage, with special attention to municipal sewerage and the construction of disposal plants. Prereq.: Chemistry 109-110 or 111-112, and Engineering 328 and 328L. *3 h. c.*

340-341. PRINCIPLES OF CHEMICAL ENGINEERING. Identical with Chemistry 340-341. *3 + 3 h. c.*

343-344. FUELS AND FURNACES. The origins, production, and combustion of natural and manufactured fuels, and the chemical principles involved; the utilization of fuel and burners in metallurgical furnaces. The design and efficiency of various furnace structures, including electric furnaces; calculation of furnace efficiency, heat losses, and furnace capacities; recuperation and regeneration, heat flow, and rate of heat transfer; and study of materials used in furnace construction. Prereq.: Mathematics 209-210 and Engineering 251, 252. *3 + 3 h. c.*

350. METALLURGICAL ANALYSIS. This course is now offered as Chemistry 250, in the College of Arts and Sciences.

351, 352. PHYSICAL METALLURGY. The crystal structure of pure metals and alloys, the freezing of metals, phase diagrams for metallic systems, solid solution alloys, intermetallic compounds, eutectic systems, the plastic deformation of metals and the principles of hot and cold working, recrystallization, x-ray diffraction for study of metal structures, diffusion in metals, the mechanical properties of metals and alloys, flow of heat in metals, magnetic properties, damping capacity, other physical properties of metals, powder metallurgy. Prereq.: Engineering 251, 252. *3 + 3 h. c.*

351L, 352L. METALLOGRAPHY LABORATORY. Study of the more common micro-structures of both ferrous and nonferrous metals and alloys. The student studies approximately fifty prepared specimens under the microscope, writes a description of each, and draws its typical micro-structure. Instruction in microscope technique. Taken concurrently with Engineering 351, 352. One three-hour period a week. Fee: $5.00 each semester. *1½ + 1½ h. c.*

353. METALLURGY. The crystalline structure of metals, their freezing, age hardening, etc. Review of the most common nonferrous alloys and their properties and uses. Development of the iron carbon equilibrium diagram and the significance of the thermal critical points. Two hours of lecture and recitation and three hours of laboratory a week. Fee: $5.00. *3 h. c.*

354. METALLURGY. The effects of the various elements on the mechanical properties of steel; testing; calculating hardenability; study of steel complaints and defects observed in laboratories. Strip and sheet mill processing. Two hours of lecture and three hours of laboratory a week. Fee: $5.00. *3 h. c.*

355. METALLURGICAL CALCULATIONS. Calculations in thermo-chemistry, including those of blast furnace charges, open hearth charges, heat transfer, and chimney design, and of the efficiency of blowing engines, blast furnaces, Bessemer converters, and reheating furnaces. The course covers both ferrous and non-ferrous metallurgy. Prereq.: Mathematics 209-210 and Chemistry 205 and 206. *3 h. c.*

361. MOTION AND TIME ANALYSIS. Fundamentals and elements of motion study, construction and use of process charts and operation analysis, work simplification and standardization, characteristics of motions, and basic divisions of accomplishment. Visits to local plants are arranged. Prerequisite: Mathematics 120-121. *3 h. c.*

362. TIME STUDY AND FORMULA-MAKING. Tools and methods of time study, practice in making time-study observations, determination of constants and variables, leveling for effort and skill, allowances for delays and fatigue, construction and use of formula standards. Time studies are made of actual plant operations. Prereq.: Mathematics 120-121. *3 h. c.*

363. PRINCIPLES OF INDUSTRIAL ENGINEERING AND MANAGEMENT. The general principles of industrial engineering and the basic principles of industrial management. Prereq.: junior standing. *3 h. c.*

371. ELEMENTARY MACHINE DESIGN. A study of the design of basic machine elements, including springs, shafts, screw fastenings, belts, brakes, and clutches. Prerequisite: Engineering 202, 326, and 326L. *2 h. c.*

371L. ELEMENTARY MACHINE DESIGN LABORATORY. Designing of machine elements, such as shafts, belt drives, gears, and cams; layouts for cam profiles and gear teeth; study of displacements, velocities, and accelerations associated with machine elements. Taken concurrently with Engineering 371. Fee: $2.50. *1 h. c.*

372. IRON FOUNDRY. The theory and practice of the foundry of ferrous and non-ferrous metals; heat requirements; a first-hand study of foundry practice in core-making. Study of various mouldings and castings. *3 h. c.*

373. STEEL FOUNDRY. Sand mixtures and their functions. Founding: floor, bench, and machine moulding; centrifugal casting; heading and gating; cleaning and preparing castings for shipment. Design: pattern and casting. Melting practice: crucible, converter, open hearth, and electric; acid and basic practices, and chemical reaction. Heat treatment: annealing, normalizing, and air, oil, and water quenching of carbon and alloy steels. Specifications and uses of various types of alloy steels. Prerequisite: Engineering 372. *3 h. c.*

374. HEAT ENGINEERING. Practical application of thermodynamic principles to steam, air, and gas power. Prereq.: Engineering 317. *3 h. c.*

374L. HEAT ENGINEERING LABORATORY. Three hours a week; taken concurrently with Engineering 374. Prerequisite: Engineering 317L. Fee: $10.00. *1 h. c.*

401-402. THESIS. The student prepares a written report, of at least 2,500 words, of an investigation of a subject selected by either the student or the dean of the engineering school. Three bound copies are required; specifications are available on request. For credit, the thesis must be accepted by both the dean and the adviser. Prereq.: senior standing. Estimated thesis expense: $50.00-$60.00. *2 + 2 h. c.*

411. DIRECT CURRENT MACHINES. Dynamo principles; armature windings; armature reaction; voltage characteristics of generators; speed-torque characteristics of motors; starting and speed control of motors; ratings, losses, and efficiencies; special direct current machines such as Amplidyne, Rototrol, and others. Prereq.: Engineering 313. *3 h. c.*

411L. DIRECT CURRENT MACHINES LABORATORY. Three hours a week; taken concurrently with Engineering 412. Fee: $10.00. *1 h. c.*

413-414. ALTERNATING CURRENT APPARATUS. The theory, operation, and analysis of transformers, alternators, synchronous motors, synchronous converters, polyphase induction motors, single-phase motors, and motor controls. Prereq.: Engineering 311 and 311L, 411 and 411L. *3 + 3 h. c.*

413L-414L. ALTERNATING CURRENT APPARATUS LABORATORY. Three hours a week; taken concurrently with Engineering 413-414. Fee: $10.00 each semester. *1 + 1 h. c.*

415. ELECTRONIC CIRCUIT ELEMENTS. A study of the theory of high vacuum, gaseous, thermionic, and photoelectric tubes. Contingent field theory, electron ballistics and optics, emission at metallic surfaces, gaseous conduction, construction of electronic circuit elements, parametric circuit equations of tubes, characteristic curves, rating and efficiency, basic utilization circuits. Prereq.: Mathematics 315 and Engineering 311-312 and 311L-312L. (Formerly "Electron Dynamics".) *3 h. c.*

415L. ELECTRONIC CIRCUIT ELEMENTS LABORATORY. Two hours a week; taken concurrently with Engineering 415. Fee: $10.00. *1 h. c.*

416. ELECTRONIC APPLICATIONS. Theory and design of amplifiers, rectifiers, and oscillators. Survey of pulse forming, triggering, and timing circuits. Examination or analysis of typical control and regulation circuits, induction heating and welding, radiation detectors, principles of radar utilization of communication facilities and the decibel convention. Prereq.: Engineering 415 and 415L, or equivalent. *3 h. c.*

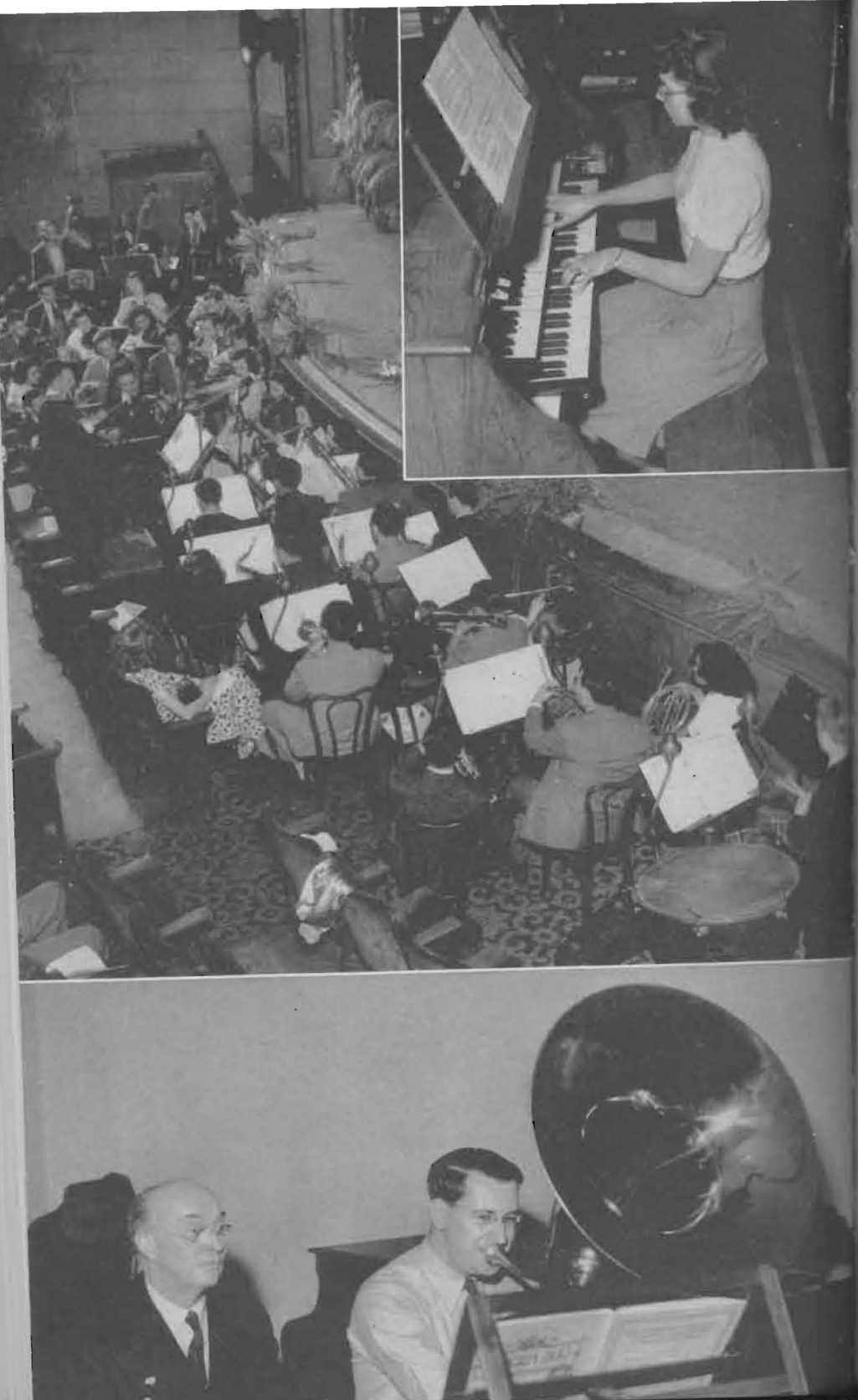
416L. ELECTRONIC APPLICATIONS LABORATORY. Three hours a week; taken concurrently with Engineering 416. Fee: $10.00. *1 h. c.*

417. ELECTRIC POWER TRANSMISSION. Transmission line parameters; solution of the short and long line; circle diagrams; symmetrical components and their application to fault calculations and sequence impedance of machines; and other topics relating to power transmission. Prereq.: Engineering 312, 413. *3 h. c.*

418. ELECTROMAGNETIC FIELD THEORY. Definitions of fields and potentials, study of the static electric and magnetic field, steady currents and the associated magnetic field, changing electric and magnetic fields, Maxwell's equations and their applications to waves in dielectric and conducting media, reflection, radiation, Poynting's vector. Vector notation is used throughout the course. Prereq.: Mathematics 315, Engineering 311. *3 h. c.*

430. CONCRETE CONSTRUCTION. The properties of concrete; the design and constrcution of concrete walls, slabs, girders, beams and columns. Prerequisite: Engineering 326, 326L, and 330. *4 h. c.*

431. CONSTRUCTION OF BUILDINGS. The materials, structural elements and details, utilities, and services involved in building construction. Prerequisite: Engineering 331. *3 h. c.*



432. WATER SUPPLY. Public and industrial water supply systems and methods of purification; construction and operation of distribution systems. Prerequisite: Chemistry 109-110 or 111-112, and Engineering 328 and 328L. *3 h. c.*

433. INDETERMINATE STRUCTURES. Analysis of statically indeterminate structures: elastic arches, closed rings, rigid frames, continuous beams. Prerequisite: Engineering 330, 331, and 430. *3 h. c.*

434. SOIL MECHANICS. The mechanical properties of soils, soil classification; capillarity and permeability, stresses and strains, consolidation, shear; stability of footings, retaining walls, cuts, and embankments. Prerequisite: Engineering 325. *3 h. c.*

451, 452. METALLOGRAPHY. The principles and application of metallography and heat treatment of iron and steel. Application of commercial laboratory methods to study of complaints and defects in "unknown" samples. Two hours of lecture and recitation and three hours of laboratory a week. Prerequisite: Engineering 351, 352 and 351L, 352L. Fee: $10.00 each semester. *3 + 3 h. c.*

453, 454. ADVANCED METALLOGRAPHY. Group work in the techniques of selecting, processing, sectioning, grinding, polishing, etching, and photomicrography of metallographic specimens. Correlation of physical properties and micro-structure of ferrous and nonferrous metal and alloy specimens and preparation of project reports, including photomicrographic illustrations. Projects cover heat treatment of cast, forged, hot-rolled, extruded, and coldworked steels and commercial alloys of copper, aluminum, nickel, zinc, tin, and other metals. One hour of lecture and four hours of laboratory a week. Prerequisite: Engineering 351, 352 and 351L, 352L. Fee: $10.00 each semester. *3 + 3 h. c.*

455. IRON AND STEEL METALLURGY. Study of the raw materials required for the production of iron and steel. Ore concentration, by-products, ovens, blast furnaces, Bessemer processes, open hearth, and refractories. Prerequisite: Engineering 251, 252. *3 h. c.*

456. NONFERROUS METALLURGY. The production of nonferrous metals, including cadmium, chromium, copper, aluminum, gold, silver, tin, and zinc. Types of ores, types of blast furnace melting, converters; continuous decantation and cyanide processes. Prerequisite: Engineering 251, 252. *3 h. c.*

457. NONFERROUS METALLURGY: RARE METALS. A study of the production, properties, and uses of the lesser-known nonferrous elements: beryllium, calcium, tantalum, columbium, molybdenum, titanium, zirconium, tungsten, etc. Prerequisite: Engineering 252. Prerequisite or concurrent: Engineering 456. *3 h. c.*

458. MECHANICAL METALLURGY: HOT WORKING. The theory and practice of the hot working of metals and alloys with emphasis on iron and steel, including forging, extrusion, rolling, swaging, and other operations. Study of roll design, equipment design, mill layout, and the physical metallurgy involved. Prerequisite or concurrent: Engineering 351, 352 and 351L, 352L. *3 h. c.*

459. MECHANICAL METALLURGY: COLD WORKING. The theory and practice of the cold working of metals and alloys with emphasis on iron and steel, including the cold drawing of wire, bars, tubes, and special shapes; the cold rolling of strip and sheet; and the related heat treatments. Consideration of reduction schedules used in successive drawing or rolling passes and of the design and utilization of cold-working equipment. Prerequisite or concurrent: Engineering 351, 352 and 351L, 352L. *3 h. c.*

461, 462. PRODUCTION PLANNING AND CONTROL. The fundamentals and techniques of planning and control required in the co-ordination of product engineering, production engineering, quality control, material control, expediting, purchasing, scheduling, and dispatching. Applications to seasonal and non-seasonal business. Economic lot size calculations and formulas. Plant capacity and plant layout; material handling. Prereq.: Business Organization 310. *3 + 3 h. c.*

463. JOB ANALYSIS. The fundamentals and techniques of job descriptions, job specifications, salary determination, and the use of charts in setting up labor grades, locality surveys, and merit ratings for purposes of wage determination, with examples from actual practice. Prerequisite: Engineering 361. Prerequisite or concurrent: Engineering 362. *3 h. c.*

470. ADVANCED MACHINE DESIGN. A continuation of Engineering 371, including the designing of bearings, gears, cams, thick-walled pressure vessels, flywheels, and other machine elements. Prereq.: Engineering 371. *2 h. c.*

470L. ADVANCED MACHINE DESIGN LABORATORY. A continuation of Engineering 371L. Includes the design of an entire machine. Taken concurrently with Engineering 470. Fee: $2.50. *1 h. c.*

471. HEATING, VENTILATING, AND AIR CONDITIONING I. The essentials of heating and ventilating, with attention to the essential definitions, laws, and properties of various media: factors affecting human comfort; heat transmission and air infiltration in buildings; calculation and estimation of building heat losses and gains; heat disseminators, radiators, and convectors; fuels, combustion, draft, chimneys; steam and hot water heating; piping, steam flow, insulation. Prereq.: Engineering 317 and 317L. *3 h. c.*

472. HEATING, VENTILATING, AND AIR CONDITIONING II. Air conditioning in relation to heating and ventilating problems and the processing of materials. Air conveying and air cleaning; air-flow, fans, duct design, air cleaners, gravity-flow, unit systems of ventilation; heating with warm-air furnace systems, central hot-blast systems, and unit heaters; air humidification and dehumidification, drying of materials, control of air temperature and humidity, summer cooling of buildings. Prerequisite: Engineering 471. *3 h. c.*

473. REFRIGERATION. Application of the thermodynamic theory to refrigeration; pumps, centrifugal and reciprocal; compressors; refrigerants and their properties; compression and absorption systems. Prerequisite: Engineering 317 and 317L. *3 h. c.*

474. TURBINES AND JETS. Theory of the turbine, thermodynamic study of the flow of gaseous mixtures through nozzles; design of blades; efficiency; governing. Prereq.: Engineering 374 and 374L. *3 h. c.*

475. INTERNAL COMBUSTION ENGINES. Thermodynamic analysis of internal combustion engine cycles; fuels; combustion; carburetion, cooling, lubrication, and effect of supercharging on engine performance. Prereq.: Engineering 374 and 374L. *3 h. c.*

475L. INTERNAL COMBUSTION ENGINES LABORATORY. Two hours a week; taken concurrently with Engineering 475. Fee: $10.00. *1 h. c.*

476. MECHANICAL VIBRATIONS. The causes, effects, and control of vibration in machine elements and foundations. Vibrations with and without damping. Vibration of systems with several degrees of freedom. Vibration isolation and absorption, with the application of modern methods in this field. Prereq.: Mathematics 315. *3 h. c.*

CURRICULUMS

Below are the required curriculums leading to the degree of Bachelor of Engineering. In the first section are listed the 109 semester hours of courses taken by all engineering students; in the second are the additional courses for the major in each special branch.

I. Courses Common to All Engineering Curriculums

The 109 semester hours listed below are required in all engineering curriculums, unless an exception is indicated.

A. Non-Science and Non-Technical Courses

Basic

Course	Hours
Communication 105-106-107, Basic Course	9
Orientation 100, Freshman Orientation	Credit
Physical Education 107 and 108, Hygiene	2
Physical Education 121, 122, 221, 222 (activity)	2

General

Humanities 401, Greek Classics and the Old Testament	3
Social Science 101, 102, Introduction to the Social Sciences	6

Professional

Business Organization 201-202, Business Law	6
Economics 309, Engineering Economics	3
Engineering 301, Report Writing	2
	33

B. Basic Science and Mathematics Courses

Chemistry 109-110, General Chemistry	10
Mathematics 120-121, Freshman Mathematics	10
Mathematics 209-210, Calculus I and II: Differential and Integral	10
*Mathematics 315, Differential Equations	3
*Mathematics 416, Partial Differential Equations	3
Physics 201, General Physics: Mechancis, Heat, and Sound	3
Physics 201L, General Physics Laboratory	1
Physics 202, General Physics: Light and Electricity	3
Physics 202L, General Physics Laboratory	1
	44

*Except for chemical engineering.

C. Engineering Courses

Engineering 101, Elementary Engineering Drawing	2
Engineering 103, Advanced Engineering Drawing	2
Engineering 202, Engineering Drawing: Descriptive Geometry	3
Engineering 220, Analytical Mechanics: Statics	3
Engineering 251, Physical Metallurgy	3
Engineering 313, Fundamentals of Electrical Engineering	4
†Engineering 314, Elements of Electrical Machines	3
†Engineering 314L, Elements of Electrical Machines Laboratory	1
*Engineering 325, Analytical Mechanics: Dynamics	3
*Engineering 326, Strength of Materials	3
*Engineering 326L, Strength of Materials Laboratory	1
Engineering 401-402, Thesis	4
	32

II. Additional Courses for Each Major Field

In addition to the 109 semester hours listed above, one of the following groups of courses is required, according to the student's major.

Chemical Engineering

Chemistry 205, Qualitative Analysis	4
Chemistry 206, Quantitative Analysis	2
Chemistry 207, Quantitative Analysis	3
Chemistry 208, Quantitative Analysis	3
Chemistry 301, 302, Organic Chemistry	6
Chemistry 303, 304, Organic Chemistry Laboratory	4
Chemistry 311, 312, Physical Chemistry	6
Chemistry 411, Thermodynamics	2
Chemistry 412, Thermodynamics	2
Chemistry 419, Advanced Inorganic Chemistry	2
Chemistry 430, Unit Design	3
Engineering 252, General Metallurgy	3
Engineering 302, Report Writing	2
Engineering 328, Hydraulics	3
Engineering 328L, Hydraulics Laboratory	1
Engineering 340-341, Principles of Chemical Engineering	6
Engineering 374, Heat Engineering	3
Engineering 374L, Heat Engineering Laboratory	1
	56

Civil Engineering

Engineering 130, Surveying	3
Engineering 230, Route Surveying	3
Engineering 323, Graphic Solutions	2
Engineering 328, Hydraulics	3
Engineering 328L, Hydraulics Laboratory	1
Engineering 330, Theory of Structures	3
Engineering 331, Design of Steel Structures	4
Engineering 332, Highway Construction	3
Engineering 333, Sewage Disposal	3
Engineering 430, Concrete Construction	4
Engineering 431, Construction of Buildings	3
Engineering 432, Water Supply	3
Engineering 433, Indeterminate Structures	3
Engineering 434, Soil Mechanics	3
	41

*Except for chemical engineering.

†Except for electrical engineering majors, who take Engineering 315, Electrical Measurement, instead.

Electrical Engineering

Engineering 311-312, Electric Circuits	6
Engineering 311L-312L, Electric Circuits Laboratory	2
Engineering 315, Electrical Measurements	3
Engineering 317, Applied Thermodynamics	3
Engineering 317L, Applied Thermodynamics Laboratory	1
Engineering 374, Heat Engineering	3
Engineering 374L, Heat Engineering Laboratory	1
Engineering 411, Direct Current Machines	3
Engineering 411L, Direct Current Machines Laboratory	1
Engineering 413-414, Alternating Current Apparatus	6
Engineering 413L-414L, Alternating Current Apparatus Laboratory	2
Engineering 415, Electronic Circuit Elements	3
Engineering 415L, Electronic Circuit Elements Laboratory	1
Engineering 416, Electronic Applications	3
Engineering 416L, Electronic Applications Laboratory	1
Engineering 417, Electric Power Transmission	3
Engineering 418, Field Theory	3
	45

Industrial Engineering

Accounting 205, Elementary Industrial Accounting	3
Accounting 205L, Elementary Industrial Accounting Laboratory	0
Accounting 305, Industrial Cost Accounting	3
Business Organization 315, Corporation Finance	3
Economics 303, Financial Organization	3
Economics 319, Economics of American Industry	3
Economics 401, Labor Problems	3
Engineering 317, Applied Thermodynamics	3
Engineering 317L, Applied Thermodynamics Laboratory	1
Engineering 361, Motion and Time Analysis	3
Engineering 362, Time Study and Formula-Making	3
Engineering 363, Principles of Industrial Engineering and Management	3
Engineering 461, 462, Production Planning and Control	6
Engineering 463, Job Analysis	3
Speech and Dramatics 215, Public Speaking and Oral Interpretation	2
	42

Mechanical Engineering

Engineering 317, Applied Thermodynamics	3
Engineering 317L, Applied Thermodynamics Laboratory	1
Engineering 323, Graphic Solutions	2
Engineering 328, Hydraulics	3
Engineering 328L, Hydraulics Laboratory	1
Engineering 343-344, Fuels and Furnaces	6
Engineering 371, Elementary Machine Design	2
Engineering 371L, Elementary Machine Design Laboratory	1
Engineering 374, Heat Engineering	3
Engineering 374L, Heat Engineering Laboratory	1
Engineering 470, Advanced Machine Design	2
Engineering 470L, Advanced Machine Design Laboratory	1
Engineering 471, Heating, Ventilating, and Air Conditioning I	3
Engineering 473, Refrigeration	3
Engineering 474, Turbines and Jets	3
Engineering 475, Internal Combustion Engines	3
Engineering 475L, Internal Combustion Engines Laboratory	1
Engineering 476, Vibration	3
	42

Metallurgical Engineering

Chemistry 205, Qualitative Analysis	4
Chemistry 206, Quantitative Analysis	2
Engineering 252, General Metallurgy	3
Engineering 343-344, Fuels and Furnaces	6
Engineering 351, 352 Physical Metallurgy	6
Engineering 351L, 352L Metallography Laboratory	3
Engineering 355, Metallurgical Calculations	3
Engineering 453, 454 Advanced Metallography	6
Engineering 455, Iron and Steel Metallurgy	3
Engineering 456, Nonferrous Metallurgy	3
Engineering 458, Mechanical Metallurgy: Hot Working	3
Engineering 459, Mechanical Metallurgy: Cold Working	3
	45

Semester-by-semester versions of these curriculums are available at the office of William Rayen School of Engineering.

Dana School of Music*

General Information

ORGANIZATION AND PURPOSE

Dana School of Music of Youngstown College began in 1869 as Dana's Musical Institute in Warren, Ohio. It was merged with Youngstown College in 1941. The former Charles S. Thomas mansion at 616 Wick Avenue, a block north of the main campus, became its home and remains its principal building.

The school offers instruction for both professional and avocational needs. Moreover, since a program of general education is available in the College of Arts and Sciences, the student who has studied voice or an instrument while in high school may continue his work in music, whatever his purpose, without overlooking the broader aspects of his education.

The School of Music offers courses leading to the degree of Bachelor of Music, with the major in piano, organ, voice, any standard string or wind instrument, percussion, theory-composition, sacred music, or music education. It also provides the work in music for the degree of Bachelor of Arts with the major in the history and literature of music. A preparatory department is maintained for pre-college students.

The music education department prepares students for certification as music teachers in public schools, and also provides the music courses needed for the general elementary teaching certificate. Music education students have ample opportunity for practice teaching, since close co-operation is maintained between the college and the public schools of Youngstown and vicinity.

Credit in music is allowed in varying amounts toward the other degrees granted by Youngstown College.

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*Dana School of Music is a member of the National Association of Schools of Music.

Buildings

The school's main building, at 616 Wick Avenue, contains the administrative offices, thirteen studios, four classrooms, two soundproof record-playing rooms, and the record library. The Dana Annex, directly behind the main music building, contains twenty-one soundproof practice rooms and a small rehearsal room. In the second story of Central Hall, on the main campus, are one studio and classroom, a pipe organ practice room, a large soundproof rehearsal and recital hall seating three hundred, and the instrumental and choral libraries.

Equipment

Equipment includes fifteen grand pianos and twenty-seven uprights, a Moeller two-manual pipe organ, a Hammond model E electric organ, and band and orchestral instruments. A three-manual Austin organ at the First Presbyterian Church, close to the campus, is also available for both practice and teaching.

Libraries

The library of band, orchestral, and choral music, mentioned above, contains about a thousand titles. In the Main Library of Youngstown College there are over seventeen hundred books on music. The phonograph record library, in the main Dana building, contains records valued at twenty-five hundred dollars, nearly half of them having been presented to Dana School of Music as a gift in 1948. Covering the entire field of music history, they are invaluable for both listening and teaching.

Scholarships and Loans

The School of Music has at its disposal a number of scholarships, which are awarded, after competitive auditions, on the basis of talent, intelligence, and need. Applications should be directed to the dean of Dana School of Music.

College Scholarships. A limited number of scholarships are awarded for proficiency in a band or orchestral instrument, singing, or accompanying. The stipends vary.

The Strouss-Hirshberg Music Center Scholarships. These scholarships were presented to the School of Music in 1947 by

the Strouss-Hirshberg Music Center for the use of worthy students of the Greater Youngstown area. They provide a stipend of one hundred dollars a year for each of four students.

The William H. Dana Scholarship Loan Fund. This fund was established by the Alumni Association of Dana School of Music as a memorial to the school's founder. Information about loans may be secured from the secretary of the association, at Dana School of Music.

Self-Help

See page 45.

Placement Service

Through its many alumni, the school can give its graduates considerable assistance in finding professional positions. Its contacts extend through forty-two states, and each year requests for graduates are received from all branches of the profession.

In addition, the college maintains a placement service for students and graduates, for all types of positions; see page 44.

ACTIVITIES

Musical Activities

Dana School of Music supplements the concert activities of the Monday Musical Club and the Youngstown Symphony Society with a series of lecture-recitals by outstanding artists, composers, and musicologists. In addition, the faculty presents a series of complimentary programs for the general public.

Student recitals afford additional training through experience in public performance. Besides graduation recitals, there are informal student recitals every Monday at 5 p. m.

Attendance at recitals is obligatory for music students. Additional hours of credit in the student's major applied field may be required for non-attendance.

The *College Bands* are an integral part of the campus life. The Marching Band functions during the football season and is open to all students of the college who can qualify. The Concert Band presents a series of concerts through the year, playing

various types of band music. Students of the college are chosen for this group through auditions. The Laboratory Band is for students who need additional training to qualify for the Concert Band.

The *Symphony Orchestra* provides opportunity for musical growth and development in its presentations of symphonic works. It possesses an adequate library of symphonic and chamber music. It is open to all students of the college who can qualify.

The *A Cappella Choir* offers, to all students of the college who can qualify, the opportunity to participate in unaccompanied singing of sacred and secular compositions from all periods of musical history, including the contemporary.

The *Mixed Chorus* is a group of men and women chosen for their vocal and musical ability and is open to any student of the college who can qualify. Larger choral works are studied and presented through the year. The group also forms the nucleus of operatic presentations.

The *Madrigal Singers* are a group of sixteen selected voices from the School of Music. The group studies and sings *a cappella* compositions of the English madrigal school, modern arrangements of folk tunes, and suitable contemporary works.

The String Quartet and the *Brass* and *Woodwind Ensembles* are likewise restricted to selected students of the School of Music.

Opera is a tradition in Youngstown College. Casts are selected through competitive audition, and productions are staged in collaboration with the Department of Art and the Department of Speech and Dramatics of the College of Arts and Sciences. The Mixed Chorus plays an important part in these presentations.

Professional Fraternities

Alpha Nu Chapter of Sigma Alpha Iota, an honorary professional music fraternity for women, and Delta Eta Chapter of Phi Mu Alpha Sinfonia, an honorary professional music fraternity for men, are chartered to Dana School of Music.

Other Student Activities

Students of the School of Music may take part in other activities of Youngstown College on an equal basis with other students. These activities are described on pages 47-51.

The Alumni Association

Dana School of Music has a large and active Alumni Association, formed many years ago during the school's independent existence. The organization is the means of a continuing relationship between the school and its graduates, and its services are continually increasing.

TUITION AND FEES

For a detailed explanation of tuition and fees, see pages 76-83.

Full-time Students

The full-time music student (one taking from 11 to 15 semester hours of work, including both applied music and other courses) pays each semester a charge of $216.00. This sum covers his tuition fees for both applied music and other courses; his fees for student activities, health, athletics, library, guidance, and student union; and the lecture-recital fee for music students. In applied music, his tuition fee provides for two private half-hour lessons a week in the major subject, one private half-hour lesson a week in the minor subject, and the use of practice rooms.

Additional applied music lessons, or course work bringing the total number of semester hours to more than 15 (exclusive of physical education), must be paid for at the pertinent rates as stated on page 77.

For charges for organ practice and instrument rental, see the pertinent paragraph below.

Part-Time Students

A part-time student for the degree of Bachelor of Music is charged for applied music at the rates listed below under "Tuition Rates for Applied Music," and, for any other course he takes, at the ordinary rates for part-time students.

Special Students in Applied Music

A student from another unit of the college who studies applied music pays at the rates listed below under "Tuition Rates for Applied Music". These charges are in addition to his regular tuition and are payable under the same conditions as all other college fees. (Such a student must first see the dean of the School of Music for assignment to a teacher.)

Private Students in Applied Music

A student from outside the college who studies with any of the School of Music faculty pays at the rates listed below under "Tuition Rates for Applied Music". The following policies prevail:

Arrangements for lessons and for assignment to teachers must first be made at the office of the dean of Dana School of Music.

Payment must be made either in advance for the complete term (semester or summer session), or under an installment contract arranged through the business office (see page 81). All payments are made to the cashier in the Main Building, 410 Wick Avenue. In case of official withdrawal during a term, fees paid in advance will be refunded according to the number of lessons taken during that term. No student may enroll for a new term until all his previous lessons have been paid for.

No private student may enroll for less than a full term. Lessons may be taken on a weekly basis only. Lessons missed (with satisfactory excuse) must be made up by the end of the term. No lessons will be carried over from one term to another.

Tuition Rates for Applied Music

The following rates apply to all students in applied music except full-time music students, whose applied music fees are included in their full-time tuition charge.

	Semester of Eighteen Weeks	
	One half-hour lesson a week	Two half-hour lessons a week
Brass		
Raymond H. Dehnbostel (trumpet or French horn)	$36.00	$72.00
John W. Remick (trombone or tuba)	36.00	72.00

Organ		
Samuel S. Badal	$45.00	$90.00
Henry V. Stearns	45.00	90.00
Percussion		
Myron J. Wisler	36.00	72.00
Piano		
Theodore Baar	36.00	72.00
Mary E. Fankhauser	45.00	90.00
Henry V. Stearns	45.00	90.00
Preparatory Department	27.00	54.00
Strings		
Theodore Baar (violoncello)	45.00	90.00
" " (contrabass)	36.00	72.00
Alvin Myerovich (violin or viola)	45.00	90.00
Voice		
Kathryn T. Guarnieri	45.00	90.00
Kenneth R. Kitchen	45.00	90.00
Leah MacDonald McIlroy	45.00	90.00
William Hugh Miller	45.00	90.00
Woodwinds		
Mark Dolliver	45.00	90.00
Harry L. Joyce	36.00	72.00

Instrument Rental

Organ practice will be charged for by the hour at the prevailing rates whenever use is made of the college pipe organ, the college Hammond organ, or the First Presbyterian Church organ.

Students in instrumental classes are expected to provide their own instruments. While the School of Music does not obligate itself to provide practice instruments, it has a limited number of string, woodwind, and brass instruments which may be allocated to members of classes at the discretion of the instructor. The rental fee for such an instrument is $3.00 a semester. The student will receive the instrument in playing condition; thereafter he must supply his own strings, reeds, etc., is responsible for the care and safe-keeping of the instrument, and must return it in as good condition as when he received it.

Preparatory Department

Music instruction in applied music (piano, voice, band, and orchestral instruments) is offered to pre-college students from 7 to 18 years of age. It is designed to prepare the student for entrance to the college courses in Dana School of Music. The student has the choice of two plans of study:

1. Private instruction only. Fees are payable as shown above under "Private Students in Applied Music."

2. Private and class instruction combined, each student receiving one private lesson and taking part in one musicianship class weekly. The cost is based on the teacher's private lesson rate plus $23.00 for the musicianship class. Private lesson fees are listed above under "Private Students in Applied Music."

From the beginning, the child's ability is made the foundation upon which all later work is built. Harmony, ear-training, rhythms, sight reading, transposition, and biography are included in the class work, in which each child has a share. Public recitals are held frequently.

Lessons and class instruction in the Preparatory Department are offered after school and on Saturdays.

ADMISSION

Application and Examinations

An applicant for admission to Dana School of Music must satisfy the general requirements for admission to the college (pages 59-61). His application for admission to the School of Music must be submitted to the dean of the School of Music (from whose office application forms are obtainable) on or before August 1 for the fall semester or January 1 for the spring semester.

Every freshman takes placement examinations to determine his proficiency in applied music and in basic theory. These examinations are usually given one week before the opening of a semester.

The entering student must give considerable thought to the branch of applied music in which he will specialize, as a change of curriculums later on is likely to delay his graduation.

Admission to Courses Leading to the Degree of Bachelor of Music

Scholastic Requirements

The applicant must present 16 units of high school credit, as follows:

English	3 units
A foreign language	2 units
Mathematics	1 unit
Science or history	1 unit
Others	9 units

Musical Proficiency

It is expected that the applicant will have developed a certain proficiency in one or more branches of applied music before entering college, as he must meet certain standards in technique and repertory. His qualifications are determined by the placement tests mentioned above; and the student not qualifying for the first regular course in his major branch of applied music takes preparatory work, without credit, until he is ready to undertake credit courses.

The student wishing to specialize in music theory or in composition, or to prepare for advanced study after graduation from college, should present evidence of his ability to handle the materials of music. This ability may be determined in part by placement tests. If he wishes to place the major emphasis on composition, he must present original compositions as evidence of creative talent.

Admission from Other Colleges

The general policy is stated on page 61. Advanced standing in applied music and in aural and written theory is granted tentatively and must be validated by examinations or by completion of more advanced work in Dana School of Music.

Special Students

The general policy is stated on page 61. Accordingly, the adult department of the School of Music provides training for mature students who wish to improve their playing ability or to study music for cultural reasons, but who for technical reasons cannot enter the degree courses. Private lessons on all instruments and in voice are available to such students.

REQUIREMENTS FOR DEGREES

Following are the requirements for the degrees for which the major work is done in this unit. It is the student's responsibility to see that he satisfies all graduation requirements. The general requirements for all degrees are stated on pages 72 ff. Students enrolled or planning to enroll in the R. O. T. C. should note the relevant information on pages 73-74.

The Degree of Bachelor of Music

To receive the degree of Bachelor of Music, the student must fulfill the general requirements for all degrees and satisfactorily complete one of the curriculums described on pages 210 ff. Each curriculum includes courses that satisfy one of the following sets of requirements:

For the Major in Instrument, Voice, Theory-Composition, or Sacred Music

Communication.....Satisfactory proficiency (9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education ..... 4 hours

Physical Education 107 and 108 (hygiene), totaling 2 hours of credit; and four semesters of eurhythmics, totaling 2 hours of credit.

Orientation 100 ..... Credit

Not required of night students.

Social Science 101 and 102 ..... 6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion ..... 3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

History 201 and 202 ..... 6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

Music ..... 85-91 hours

Electives ..... 2-8 hours

For the Major in Music Education

Communication ..... Satisfactory proficiency (9 hours)

The director of the Division of Language and Literature is the judge of this proficiency. Ordinarily, he will grant a certificate to a student who has received a grade of C or higher in the final semester of his required course in communication or its equivalent.

Physical Education ..... 4 hours

Physical Education 107 and 108 (hygiene), totaling 2 hours of credit; and four semesters of eurhythmics, totaling 2 hours of credit.

Orientation 100 ..... Credit

Not required of night students.

Social Science 101 and 102 ..... 6 hours

Not required of transfer students with 30 or more hours of credit acquired elsewhere.

Religion ..... 3 hours

A course in the Department of Philosophy and Religion, or Humanities 401 or 402.

Science ..... 3 hours

Music 206 (Acoustics of Music).

History 201 and 202 ..... 6 hours

Not required of transfer students with 60 or more hours of credit acquired elsewhere.

Psychology ..... 6 hours

Music ..... 76-94 hours

Education ..... 15 hours

Electives (Upper Division) ..... 6-14 hours

The Degree of Bachelor of Arts with Major in the History and Literature of Music

For the degree of Bachelor of Arts with the major in the history and literature of music, only the work for the major is taken in Dana School of Music. The rest is done in the College of Arts and Sciences, and the other requirements for the degree will be found, accordingly, on page 91.

The music study for this degree is regarded as purely cultural and non-professional, and includes no work in music education. The major consists of 45 semester hours, in the following courses:

*Course 201-202 in voice or an instrument	6 hours
**Music 103-104, Theory I	8 hours
Music 203-204, Theory II	8 hours
Music 207-208, Survey of Music Literature	4 hours
Music 209-210, Counterpoint I, or 333-334, Counterpoint II	4 hours
Music 305-306, History of Music	4 hours
Music 327-328, Form and Analysis	4 hours
Music 427-428, Symphonic Literature	4 hours
Music Ensemble	3 hours

Curriculums

The student not qualifying for a 101 or 103 applied music course (whichever his curriculum requires) takes the relevant course 45, without credit, until his deficiency is overcome.

A student who can meet the applied music proficiency requirements of his curriculum without taking the courses designed to develop that proficiency, may earn in other applied music courses as many hours of credit as he would in the courses not taken.

For the Degree of Bachelor of Music with Major in Instrument, Voice, Theory-Composition, or Sacred Music

INSTRUMENTAL MAJOR

Designed for the student primarily interested in performance and/or in teaching (other than in public schools). Piano, if not the major, is desirable as the minor.

First Year	Hrs.
Major Instrument 101-102	6
Minor Instrument 105-106	2
**Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Social Science 101 and 102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Major Instrument 201-202	6
Minor Instrument 205-206	2
Music 203-204 Theory II	8
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
Electives (non-music)	5
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	33

*If the student demonstrates that he has already attained this level of proficiency, he may substitute other music courses, according to his choice and his qualifications.

**Prerequisite: grade of C or better in Music 109, or passing grade in placement examination in theory.

Third Year	Hrs.
Major Instrument 301-302	6
Minor Instrument 305-306	2
Music 209-210 Counterpoint I	4
Music 301-302 Sight Singing and Ear-Training I	2
Music 305-306 History of Music	4
Music 319-320 Conducting	2
Music 409-410 Orchestration	4
Music Ensemble	2
History 201 and 202	6
Philosophy and Religion elective, or Humanities 401 or 402	3
	35

Fourth Year	Hrs.
Major Instrument 401-402	6
Minor Instrument 405-406	2
Music 327-328 Form and Analysis	4
Music 333-334 Counterpoint II	4
Music 401-402 Sight Singing and Ear-Training II	2
Music 405, 406 Instrumental Conducting and Score-Reading	2
Music 421-422 Composition I	4
Music 427-428 Symphonic Literature	4
Music Ensemble	2
Recital	1
	31

VOICE MAJOR

Designed for the student primarily interested in performance and/or in teaching (other than in public schools). Piano is required as the minor.

First Year	Hrs.
Major: Voice 101-102	6
Minor: Piano 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Italian 101-102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Major: Voice 201-202	6
Minor: Piano 205-206	2
Music 203-204 Theory II	8
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
French 101-102	6
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	34

Third Year	Hrs.
Major: Voice 301-302	6
Minor Instrument 305-306	2
Music 209-210 Counterpoint I	4
Music 301-302 Sight Singing and Ear-Training I	2
Music 305-306 History of Music	4
Music 319-320 Conducting	2
Music Ensemble	2
German 101-102	6
Social Science 101 and 102	6
	34

Fourth Year	Hrs.
Major: Voice 401-402	6
Minor Instrument 405-406	2
Music 327-328 Form and Analysis	4
Music 333-334 Counterpoint II	4
Music 401-402 Sight Singing and Ear-Training II	2
Music 403, 404 Choral Conducting	2
Music Ensemble	2
Recital	1
History 201 and 202	6
Philosophy and Religion elective, or Humanities 401 or 402	3
	32

THEORY-COMPOSITION MAJOR

Designed for the student wishing to specialize in music theory or composition, and/or to prepare for advanced study and specialization at the graduate level. Such a student should demonstrate his ability to handle the materials of music, and if wishing to emphasize composition, must furnish evidence of his creative talent.

If the student lacks proficiency in piano of the level of Piano 305, he must elect piano (unless it is his major instrument) until such proficiency is achieved.

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* Prerequisite: grade of C or better in Music 109 or passing grade in placement examination in theory.

First Year	Hrs.
Major Instrument or Voice 103-104	4
Minor Instrument or Voice 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Social Science 101 and 102	6
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Major Instrument or Voice 203-204	4
Minor Instrument or Voice 205-206	2
Music 203-204 Theory II	8
Music 207-208 Survey of Music Literature	4
Music 209-210 Counterpoint I	4
Music Ensemble	2
Communication 107	3
History 201 and 202	6
Physical Education (eurhythmics)	1
	34

Third Year	Hrs.
Major Instrument or Voice 303-304	4
Minor Instrument (String) 105-106	2
Music 301-302 Sight Singing and Ear-Training I	2
Music 305-306 History of Music	4
Music 319-320 Conducting	2
Music 327-328 Form and Analysis	4
Music 409-410 Orchestration	4
Music 421-422 Composition I	4
Music Ensemble	2
English 200, 203, 204, 205, or 206	3
	31

Fourth Year	Hrs.
Major Instrument or Voice 403-404	4
Minor Instrument (Woodwind and Brass) 105	2
Music 333-334 Counterpoint II	4
Music 401-402 Sight Singing and Ear-Training II	2
Music 403, 404 Choral Conducting, or 405, 406 Instrumental Conducting	2
Music 427-428 Symphonic Literature	4
Music 430 Modern Harmony	2
Music Ensemble	2
†Recital	1
Philosophy and Religion elective, or Humanities 401 or 402	3
**Electives (Upper Division)	8
	34

SACRED MUSIC MAJOR

Designed for the voice or organ major wishing to specialize in sacred music with a view to becoming a Minister of Music and/or preparing for advanced study and specialization at the graduate level.

First Year	Hrs.
Major Instrument (Organ or Voice) 101-102	6
Minor Instrument (Organ, Voice, or Piano) 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Social Science 101 and 102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	31

Second Year	Hrs.
Major Instrument (Organ or Voice) 201-202	6
Minor Instrument (Organ, Voice, or Piano) 205-206	2
Music 203-204 Theory II	8
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
History 201 and 202	6
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	34

Third Year	Hrs.
Major Instrument (Organ or Voice) 301-302	6
Minor Instrument (Organ, Voice, or Piano) 305-306	2
Music 209-210 Counterpoint I	4
Music 301-302 Sight Singing and Ear-Training I	2
Music 305-306 History of Music	4
Music 319-320 Conducting	2
Music 361-362 Hymnology and Gregorian Chant	4
Music 363-364 Junior and Senior Choir Methods	4
Music Ensemble	2
Philosophy and Religion elective, or Humanities 401 or 402	3
	33

Fourth Year	Hrs.
Major Instrument (Organ or Voice) 401-402	6
Minor Instrument (Organ, Voice, or Piano) 405-406	2
Music 327-328 Form and Analysis	4
Music 333-334 Counterpoint II	4
Music 401-402 Sight Singing and Ear-Training II	2
Music 403, 404 Choral Conducting	2
Music 461 History of Sacred Music	2
Music 463-464 Choral Literature	4
Music Ensemble	2
Recital	1
†Elective (Upper Division)	3
	32

*Prerequisite: C in Music 109 or passing theory placement examination.

**Music 431-432 is required for the composition major; Music 433-434 is required for the theory major.

†Music 465 required of organ majors.

‡Instead of a recital, the composition major submits a one-hour program of

For the Degree of Bachelor of Music with Major in Music Education

These curriculums lead to the special certificate to teach music in the public schools of Ohio. The certification requirements of the various states differ greatly, and if a student wishes to be certified in another state, it is his responsibility to bear in mind that state's requirements in his choice of courses. Courses satisfying such requirements usually give credit toward the degree, but some additional courses may be found necessary.

Piano takes precedence over all other applied minors.

For convenience, the applied music sequences possible for each of the following curriculums are designated, along with the pertinent curriculum, as A, B, C, D, or E. Each set of sequences precedes the curriculum to which it applies. (For certification purposes, the "A or B" curriculum is considered "vocal" regardless of which sequence is elected.)

A or B: VOCAL

Sequences

	A			B		
	VOICE MAJOR	PIANO MINOR		PIANO MAJOR	VOICE MINOR	
First Year			**Total Hrs.**	**First Year**		**Total Hrs.**
1st Semester	103	105	3	103	105	3
2nd Semester	104	106	3	104	106	3
Second Year				**Second Year**		
1st Semester	203	205	3	203	205	3
2nd Semester	204	206	3	204	206	3
Third Year				**Third Year**		
1st Semester	303	305	3	303	305	3
2nd Semester	304	306	3	304	306	3
Fourth Year				**Fourth Year**		
1st Semester	403	405	3	403	405	3
2nd Semester	404	406	3	404	406	3
			24			24

his own work for public performance. The theory major may do likewise, or he may present a recital in his major applied music field.

Curriculum

First Year	Hrs.
Applied Major A or B, 103-104	4
Applied Minor A or B, 105-106	2
**Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Education 101	3
Social Science 101 and 102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	32

Second Year	Hrs.
Applied Major A or B, 203-204	4
Applied Minor A or B, 205-206	2
Music 203-204 Theory II	8
Music 206 Acoustics of Music	3
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
Psychology 201	3
Psychology 202	3
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	35

Third Year	Hrs.
Applied Major A or B, 303-304	4
Applied Minor A or B, 305-306	2
Music 301-302 Sight Singing and Ear-Training I	2
Music 311-312 Class Voice Methods	2
Music 315-316 Music in the First Six Grades	4
Music 319-320 Conducting	2
Music Ensemble	2
Education 301	3
Education 304	3
History 201 and 202	6
Philosophy and Religion elective, or Humanities 401 or 402	3
	33

Fourth Year	Hrs.
Applied Major A or B, 403-404	4
Applied Minor A or B, 405-406	2
Music 403, 404 Choral Conducting	2
Music 409-410 Orchestration	4
Music 411-412 Junior and Senior High School Methods	4
Music Ensemble	2
Recital	1
Education 404	6
Elective (Upper Division)	6
	30

C: INSTRUMENTAL

Sequences

	PIANO, STRING, WIND, OR PERCUSSION MAJOR	*PIANO MINOR	OTHER MINORS	Total Hrs.
First Year				
1st Semester	103	105	——	3
2nd Semester	104	106	——	3
Second Year				
1st Semester	203	205	C-1, C-2, C-3, or C-4, below	4
2nd Semester	204	206		4
Third Year				
1st Semester	303	——		3
2nd Semester	304	——		3
Fourth Year				
1st Semester	403	——		3
2nd Semester	404	——		3
				26

C-1: VIOLIN MAJOR

Minors	Total Hrs.
Cello 105-106	2
Trumpet 105-106	2
Clarinet 105-106	2

C-2: CLARINET MAJOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Trumpet 105-106	2

C-3: TRUMPET MAJOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2

C-4: OTHER MAJOR INSTRUMENTS

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2

*If piano is the major, the minor may be in another instrument or in voice.
**Prerequisite: C in Music 109 or passing theory placement examination.

Curriculum

First Year	Hrs.
Applied Major C, 103-104	4
Applied Minor C, 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Education 101	3
Social Science 101 and 102	6
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
Orientation 100	Credit
	34

Second Year	Hrs.
Applied Major C, 203-204	4
Applied Minor C, 205-206	2
Applied Minor C-1, -2, -3, or -4, 105-106	2
Music 203-204 Theory II	8
Music 207-208 Survey of Music Literature	4
Music 225-226 Woodwind Methods	2
Music Ensemble	2
Communication 107	3
Psychology 201	3
Psychology 202	3
Physical Education (eurhythmics)	1
	34

Third Year	
Applied Major C, 303-304	4
Applied Minor C-1, -2, -3, or -4, 105-106	2
Music 206 Acoustics of Music	3
Music 301-302 Sight Singing and Ear-Training I	2
Music 318 Percussion Methods	1
Music 319-320 Conducting	2
Music 329-330 Brass Methods	2
Music Ensemble	2
Education 301	3
Education 304	3
History 201 and 202	6
Elective (Upper Division)	2
	32

Fourth Year	
Applied Major C, 403-404	4
Applied Minor C-1, -2, -3, or -4, 105-106	2
Music 325-326 String Methods	2
Music 405, 406 Instrumental Conducting	2
Music 409-410 Orchestration	4
Music 417 Instrumental Problems	2
Music 419 Band Organization	2
Music Ensemble	2
Recital	1
Education 404	6
Philosophy and Religion elective, or Humanities 401 or 402	3
	30

D: GENERAL, with Piano or Voice as Applied Major

Sequences

	PIANO OR VOICE MAJOR	VOICE OR PIANO MINOR	STRING OR WIND MINOR	Total Hrs.
First Year				
1st Semester	103	105	——	3
2nd Semester	104	106	——	3
Second Year				
1st Semester	203	205	——	3
2nd Semester	204	206	——	3
Third Year				
1st Semester	303	305	——	3
2nd Semester	304	306	——	3
Fourth Year				
1st Semester	403	——	D-1, D-2, D-3, or D-4, below	3
2nd Semester	404	——		3
Fifth Year				
1st Semester	——	——		3
2nd Semester	——	——		3
				30

* Prerequisite: grade of C or better in Music 109 or passing theory placement examination.

D-1: VIOLIN MINOR

Minors	Total Hrs.
Cello 105-106	2
Clarinet 105-106	2
Trumpet 105-106	2
Elective 105-106	2

D-2: CLARINET MINOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Trumpet 105-106	2
Elective 105-106	2

D-3: TRUMPET MINOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2
Elective 105-106	2

D-4: OTHER MINOR INSTRUMENTS

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2
Elective 105-106	2

Curriculum

A five-year curriculum: it may be completed in four years and five summers by starting with a summer session.

First Year	Hrs.
Applied Major D, 103-104	4
Applied Minor D, 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Education 101	3
Social Science 101 and 102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	32

Second Year	Hrs.
Applied Major D, 203-204	4
Applied Minor D, 205-206	2
Music 203-204 Theory II	8
Music 206 Acoustics of Music	3
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
Psychology 201	3
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	32

Third Year	Hrs.
Applied Major D, 303-304	4
Applied Minor D, 305-306	2
Music 225-226 Woodwind Methods	2
Music 301-302 Sight Singing and Ear-Training I	2
Music 315-316 Music in the First Six Grades	4
Music 318 Percussion Methods	1
Music 319-320 Conducting	2
Music Ensemble	2
Education 301	3
History 201 and 202	6
Psychology 202	3
Electives (Upper Division)	2
	33

Fourth Year	Hrs.
Applied Major D, 403-404	4
Applied Minor D-1, -2, -3, or -4, 105-106	2
Music 311-312 Class Voice Methods	2
Music 325-326 String Methods	2
Music 329-330 Brass Methods	2
Music 403, 404 Choral Conducting	2
Music 409-410 Orchestration	4
Music 411-412 Junior and Senior High School Methods	4
Music Ensemble	2
Recital	1
Education 304	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives (Upper Division)	2
	33

Fifth Year	Hrs.
Applied Minor D-1, -2, -3, or -4, 105-106	2
Applied Minor D-1, -2, -3, or -4, 105-106	2
Applied Minor D-1, -2, -3, or -4, 105-106	2
Music 405, 406 Instrumental Conducting	2
Music 417 Instrumental Problems	2
Music 419 Band Organization	2
Music Ensemble	2
Education 404	6
Electives (Upper Division)	10
	30

*Prerequisite: grade of C or better in Music 109 or passing grade in placement examination in theory.

E: GENERAL, with Instrument as Applied Major

Sequences

	STRING, WIND, OR PERCUSSION MAJOR	PIANO MINOR	VOICE MINOR	STRING OR WIND MINOR	Total Hrs.
First Year					
1st Semester	103	105	—	—	3
2nd Semester	104	106	—	—	3
Second Year					
1st Semester	203	205	—	—	3
2nd Semester	204	206	—	—	3
Third Year					
1st Semester	303	—	105	—	3
2nd Semester	304	—	106	—	3
Fourth Year					
1st Semester	403	—	205	—	3
2nd Semester	404	—	206	—	3
Fifth Year					
1st Semester	—	—	—	E-1, -2, -3, or	3
2nd Semester	—	—	—	-4, below	3
					30

E-1: VIOLIN MAJOR

Minors	Total Hrs.
Cello 105-106	2
Clarinet 105-106	2
Trumpet 105-106	2

E-2: CLARINET MAJOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Trumpet 105-106	2

E-3: TRUMPET MAJOR

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2

E-4: OTHER MAJOR INSTRUMENTS

Minors	Total Hrs.
Violin 105-106	2
Cello 105-106	2
Clarinet 105-106	2

Curriculum

A five-year curriculum; it may be completed in four years and five summers by starting with a summer session.

First Year	Hrs.
Applied Major E, 103-104	4
Applied Minor E, 105-106	2
*Music 103-104 Theory I	8
Music Ensemble	2
Communication 105-106	6
Education 101	3
Social Science 101 and 102	6
Physical Education (eurhythmics)	1
Orientation 100	Credit
	32

Second Year	Hrs.
Applied Major E, 203-204	4
Applied Minor E, 205-206	2
Music 203-204 Theory II	8
Music 206 Acoustics of Music	3
Music 207-208 Survey of Music Literature	4
Music Ensemble	2
Communication 107	3
Psychology 201	3
Physical Education 107 and 108	2
Physical Education (eurhythmics)	1
	32

Third Year	Hrs.
Applied Major E, 303-304	4
Applied Minor E, 105-106	2
Music 225-226 Woodwind Methods	2
Music 301-302 Sight Singing and Ear-Training I	2
Music 315-316 Music in the First Six Grades	4
Music 318 Percussion Methods	1
Music 319-320 Conducting	2
Music Ensemble	2
Education 301	3
History 201 and 202	6
Psychology 202	3
Electives (Upper Division)	2
	33

Fourth Year	Hrs.
Applied Major E, 403-404	4
Applied Minor E, 205-206	2
Music 311-312 Class Voice Methods	2
Music 325-326 String Methods	2
Music 329-330 Brass Methods	2
Music 403,404 Choral Conducting	2
Music 409-410 Orchestration	4
Music 411-412 Junior and Senior High School Methods	4
Music Ensemble	2
Recital	1
Education 304	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Electives (Upper Division)	2
	33

Fifth Year	Hrs.
Applied Minor E-1, -2, -3, or -4, 105-106	2
Applied Minor E-1, -2, -3, or -4, 105-106	2
Applied Minor E-1, -2, -3, or -4, 105-106	2
Music 405, 406 Instrumental Conducting	2
Music 417 Instrumental Problems	2
Music 419 Band Organization	2
Music Ensemble	2
Education 404	6
Electives (Upper Division)	10
	30

COURSES OF INSTRUCTION

It is important that the student familiarize himself with the course-numbering system and its significance. It is explained on page 84. *H. c.* stands for "semester hours of credit."

Applied Music

Students desiring credit must enroll for not less than one semester.

Advanced standing in applied music is granted tentatively after a placement examination given by members of the faculty. Final classification is made at the end of the first semester of residence study.

Instruction is in two half-hour lessons a week in major courses, and in one half-hour lesson a week in minor courses.

A student may transfer from a minor course to a major course if he has the approval of the faculty concerned. He is then assigned an appropriate major course number on the basis of his proficiency and repertory.

*Prerequisite: grade of C or better in Music 109 or passing grade in placement examination in theory.

Proficiency examinations in applied music are given at the end of each semester. Promotion to the next applied course depends upon quality of performance and quantity of repertory.

As far as teaching staff and practice rooms are available, enrollments in applied music will be accepted in the following order:

1. Full-time music majors
2. Other students of the college
3. Private students

A student's choice of instructor will be respected as far as possible, but final assignment rests with the dean of the School of Music.

ENSEMBLES

The awarding of credit for any ensemble work presupposes satisfactory participation.

Voice and piano majors and voice minors must participate in *A Cappella Choir* and/or *Mixed Chorus* each semester of residence. These groups are open to any students of the college who can qualify. *1 h. c. each semester.*

Instrumental majors must participate in *Concert and Marching Band* and/or *Orchestra* each semester of residence. These ensembles are also open to all students of the college who can qualify. *1 h. c. each semester.*

Laboratory Band For students who need additional training to qualify for the *Concert and Marching Band.* *1 h. c. each semester.*

Brass Ensemble. Limited to selected students of the School of Music. *½ h. c. each semester.*

Madrigal Singers. Limited to selected students of the School of Music. *½ h. c. each semester.*

String Ensemble. Open to any student of the college who can qualify. *½ h. c. each semester.*

String Quartet. Limited to selected students of the School of Music. *½ h. c. each semester.*

Woodwind Ensemble. Limited to selected students of the School of Music. *½ h. c. each semester.*

PIANO

45. For those who do not qualify for Piano 101 or 103. This course may be repeated. *No credit.*

Major Courses

101-102. Studies such as Czerny, Op. 299; Loeschorn, Op. 66; Phillip, *Studies.* Bach, *Two-* and *Three-Part Inventions;* Mozart and Haydn sonatas; earlier Beethoven sonatas; romantic and modern compositions. Chords, major and minor scales, arpeggios, octaves. *3 + 3 h. c.*

201-202. Cramer, *Studies;* Czerny, Op. 740; Preyer, Kullak, or other octave studies. Bach: *Three-Part Inventions, French* and *English Suites, The Well-Tempered Clavichord;* Beethoven sonatas of a more advanced grade; a Mendelssohn, Mozart, or Beethoven concerto in C major or C minor. Schumann, *Andante and Variations* for two pianos. Selected Chopin nocturnes, waltzes, mazurkas, polonaises; classic, romantic, and modern compositions. *3 + 3 h. c.*

301-302. Clementi, *Gradus ad Parnassum,* or Czerny, Op. 740. Bach: *English Suite, The Well-Tempered Clavichord.* Beethoven sonata, one of three in Op. 31 begun here and completed in 402. Chopin compositions, more advanced. One major concerto, completed in 402. Debussy and Ravel compositions. *3 + 3 h. c.*

401-402. Bach: one partita; advanced compositions such as toccatas, the *Italian Concerto,* and *Chromatic Fantasy and Fugue.* Beethoven sonata, advanced. Concerto completed. Romantic compositions such as Brahms rhapsodies, Chopin ballades, and Liszt rhapsodies. Compositions by standard American and foreign composers such as MacDowell, Debussy, Ravel, Rachmaninoff, Griffes, Ibert, Medtner, and others. The student prepares a recital program of serious content and difficulty, ranging from classic to modern music; also, a major piano concerto is prepared for performance with orchestra. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of performance is insisted upon. A recital is required.

103-104. See Piano 101-102. *2 + 2 h. c.*

203-204. See Piano 201-202. *2 + 2 h. c.*

303-304. See Piano 301-302. *2 + 2 h. c.*

403-404. See Piano 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Bilbro, *First Melody Book*: Burrows, *The Adult Explorer*; Bach-Schaum. Three pieces from *53 Piano Solos.* Chords, sight reading. *1 + 1 h. c.*

205-206. All major scales. Sight reading of part songs and duets. Bach-Carroll, Vol. I; Hanon; Czerny-Germer, Vol. I, Part I; Burgmuller, Op. 100. Romantic and modern compositions. *1 + 1 h. c.*

305-306. Added technical work. All the minor scales. Bach-Carroll, Vol. II, or Bach-Foote, *First Year*; Czerny-Germer, Vol. I, Part II; Heller, *Studies,* Op. 47. Sonatinas by Clementi, Kuhlau, and others. Romantic and modern compositions. Arpeggios: tonic, dominant seventh, diminished seventh. Major and minor triads played in three positions. Sight reading, transposition. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

ORGAN

45. Intended for those who do not qualify for Organ 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Schneider-Warren, *Studies*; Buck, *Pedal Phrasing Studies*; preparatory manual exercises. Bach: chorale preludes for manuals; trios for manuals and pedals; chorale and preludes from *Das Orgelbuechlein*; Variation II from *Sei Gegrusset* (Book V, ed. Peters); short preludes and fugues; *Canzona Fugue in B minor* (Corelli); *Prelude and Fugue in E Minor* (Lesser, ed. Schirmer). Also modern compositions. *3 + 3 h. c.*

201-202. Continuation of Schneider and Buck studies; Neilson, *Pedal Studies*. Bach: *Fantasie and Fugue in C Minor* (Book III, ed. Schirmer); *Fugue in G Minor* (Book II, ed. Schirmer); *Prelude and Fugue in A Major*; *Prelude in C Minor* (Book III, ed. Schirmer); *First Sonata*; *Prelude in F Minor*; chorale preludes. Mendelssohn: *Second Sonata*. Pieces by the old masters from *Historical Series* (Vol. I, ed. Bonnet). Modern compositions by American, French, English, or German composers. *3 + 3 h. c.*

301-302. Bach: chorale preludes; *Prelude and Fugue in E Minor* (Wedge); *Prelude and Fugue in A Minor* (Book IV, ed. Schirmer); *Second Sonata*; *Toccata and Fugue in D Minor* and *Toccata in D Minor* (Dorian); *Prelude and Fugue in G Major*. Franck: *Cantabile*; *Prelude, Fugue, and Variation*; *Pastorale*; *Piece Héroique*. Mendelssohn: *Third Sonata*. Modern compositions. *3 + 3 h. c.*

401-402. Bach: *Third Sonata*; chorale preludes; *Fantasie and Fugue in G Minor*; *Toccata, Adagio, and Fugue in C Major*; *Prelude and Fugue in E Flat* ("St. Ann's"); *Passacaglia and Gugue in C Minor*; *Prelude and Fugue in B Minor*. Franck: *Chorale in A Minor*. Mendelssohn: *First Sonata*, *Sixth Sonata*. Vierne: selected movements from the six symphonies. Widor: *Sixth Symphony*. Sowerby: *Suite, Symphony in G Minor*. Roger-Ducasse: *Pastorale*. Bennett: *Sonata in G*, shorter compositions suitable for recitals. Concerto for organ and orchestra. Public recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high level of proficiency is insisted upon, and a recital is required.

103-104.	See Organ 101-102.	*2 + 2 h. c.*
203-204.	See Organ 201-202	*2 + 2 h c.*
303-304.	See Organ 301-302.	*2 + 2 h. c.*
403-404.	See Organ 401-402.	*2 + 2 h. c.*

Minor Courses

105-106.	See Piano 105-106.	*1 + 1 h. c.*
205-206.	See Piano 205-206.	*1 + 1 h. c.*
305-306.	See Piano 305-306.	*1 + 1 h. c.*
405-406.	See Piano 405-406.	*1 + 1 h. c.*

VOICE

45. For those who do not qualify for Voice 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Classification of the voice, vocalizations for tone production, and simple songs in English and Italian classics. Songs from Volumes I and II of *Italian Anthology* (Schirmer edition); two easy oratorio and operatic arias. A selected list of songs by American composers. Prerequisite or concurrent: Italian 101-102. *3 + 3 h. c.*

201-202. Continuation of technical studies for the development of the individual voice. Additional songs from Volumes I and II, *Italian Anthology*. Additional songs in English; songs in French by Debussy, Faure, Lalo, Duparc; two operatic and oratorio arias. A selected list of songs by American composers. Prerequisite or concurrent: French 101-102. *3 + 3 h. c.*

301-302. Advanced literature and technique. Songs in German by Schubert, Brahms, Wolf, Strauss; additional songs in French by Chausson, Saint-Saens, Debussy; Italian songs by Respighi, Donaudy, Sibella; two operatic and three oratorio arias; additional songs by American composers. Prerequisite or concurrent: German 101-102. *3 + 3 h. c.*

401-402. Advanced literature and technique. Additional songs from a selected list of twentieth-century French, German, Italian, Russian, English, and American composers. Six additional opera and oratorio arias. Preparation of the public recital and of one or more programs from the repertoire of the previous courses. *3 + 3 h. c*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104.	See Voice 101-102.	*2 + 2 h. c.*
203-204.	See Voice 201-202.	*2 + 2 h. c.*
303-304.	See Voice 301-302.	*2 + 2 h. c.*
403-404.	See Voice 401-402.	*2 + 2 h. c.*

Minor Courses

105-106. Classification of the voice; breath control; technical exercises and appropriate song material. Amount of repertoire decided by voice faculty. Open to students with no previous training. *1 + 1 h. c.*

205-206. Advanced vocal technique and literature suited to the individual voice. Standard oratorio arias. Songs in foreign languages, at the discretion of the instructor. Amount of repertoire decided by voice faculty. *1 + 1 h. c.*

305-306.	For those who can qualify.	*1 + 1 h. c.*
405-406.	For those who can qualify.	*1 + 1 h. c.*

VIOLIN

45. For those who do not qualify for Violin 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Kreutzer, *Studies*, to No. 32. Concertos by Vivaldi, Nardini, Rode, deBeriot. Sonatas by Corelli, Veracini, Leclair. Technical material including Sevcik, Op. 8 and 9, Schradier, Casorti. Not fewer than six short compositions suitable for recital repertoire. Major and minor scales and arpeggios in three octaves, using fundamental strokes. *3 + 3 h. c.*

201-202. Kreutzer concluded; Fiorillo, Rovelli. Concertos by Bach, Viotti, Kreutzer, deBeriot. Sonatas by Tartini, Mozart, Handel. Not fewer than six compositions added to repertoire. Scales and arpeggios in three octaves continued with secondary strokes. Technical materials of 101-102 continued. *3 + 3 h. c.*

301-302. Rode, *Studies*. Concertos by Mozart, Bruch, Vieuxtemps. Sonatas by Beethoven, Bach. Not fewer than six short compositions added to repertoire. Scales in double stops in all keys. Technical material from Sevcik, Op. 4, Part 4; Schradier, Book II. *3 + 3 h. c.*

401-402. Advanced studies from Wieniawski; Dont, Op. 35; Gaviniies and Paganini concertos. Wieniawski, Saint-Saens, Mendelssohn, Lalo, Beethoven, etc. Completion of repertoire requirement; senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104. See Violin 101-102. *2 + 2 h. c.*

203-204. See Violin 201-202. *2 + 2 h. c.*

303-304. See Violin 301-302. *2 + 2 h c.*

403-404. See Violin 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Fundamentals in correct posture and positions of the left hand and of the bow arm. Yost's *Violin Method* supplemented by Riegger's *Exercises*. Studies by Wohlfahrt and Rodin and easy first-position pieces. Scales and arpeggios in keys of not more than four accidentals. *1 + 1 h. c.*

205-206. Beginning of position studies. Maia Bang, Book III. Hans Sitt, Op. 32, Books II and III. Kayser, Op. 20, pieces in first three positions. Not fewer than six compositions by Seitz and Rieding. *1 + 1 h. c.*

305-306. Position studies continued. Maia Bang, Book IV. Schubert sonatinas. Mazas, *Special Studies*. Accozay and Hollander concertos. Easy double stops and scales. Scales and arpeggios in five positions. Not fewer than six new recital pieces. *1 + 1 h. c.*

405-406. Continued study of positions. Maia Bang, Book V. Studies by Mazas and Dont; beginning of Kreutzer. *Allegro Brillante* by Tenhave, concerto by Hollander, sonatas by Handel. Scales in three octaves. *1 + 1 h. c.*

VIOLA

45. For those who do not qualify for Viola 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Studies by Mazas, Kreutzer, Sitt. Schradier technic. Sonatas by Handel, repertoire material; not fewer than six scales. Scales and arpeggios in three octaves. *3 + 3 h. c.*

201-202. Studies by Kreutzer and Fiorillo. Sonatas by Vivaldi and Marcello. Scales and arpeggios continued. Six recital pieces. *3 + 3 h. c.*

301-302. Studies by Rode, Campagnoli, and Bruni. Concertos by Stamitz and Mozart. Scales in double stops. Six recital pieces. *3 + 3 h. c.*

401-402. Studies by Gavinies and Dolesji; sonatas by Bowen, Bach, and others. Scales and arpeggios continued. Senior recital. *3 + 3 h. c*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of performance is insisted upon. A recital is required.

103-104. See Viola 101-102. *2 + 2 h. c.*

203-204. See Viola 201-202. *2 + 2 h. c.*

303-304. See Viola 301-302. *2 + 2 h. c.*

403-404. See Viola 401-402. *2 + 2 h c.*

Minor Courses

105-106. Fundamentals of left and right hand technics. Reading facility in alto clef is developed. Studies by Hofmann. Scales in the first position. Easy pieces. *1 + 1 h. c.*

205-206. Development of left hand facility. Beginning of lower positions. Studies by Kayser. Scales in positions. Pieces in positions. *1 + 1 h. c.*

305-306. First five positions. Studies by Mazas and Dont. Schubert sonatina. Seventeenth- and eighteenth-century sonatas. Six recital pieces. Scales in three octaves. Easy double stops. *1 + 1 h. c.*

405-406. Higher positions. Mazas, Kreutzer. Pieces by Nardini, Sitt, and others. Scales in three octaves. *1 + 1 h. c.*

CELLO

45. For those who do not qualify for String Bass 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Studies from Dotzauer, Op. 35, and Duport. Scales and arpeggios in three octaves. Solos such as Bach, *Suite No. 1*, and Goltermann, *Concerto No. 4*. *3 + 3 h. c.*

201-202. Scales and arpeggios in four octaves. Franchomme studies. Repertoire to include Romberg, *Concerto No. 2;* Bach, *Suite No. 2* or *No. 3;* and Beethoven, *Sonata*, Op. 69, in A Major. *3 + 3 h. c.*

301-302. Scales in octaves, thirds, sixths. Popper, *Studies*. Concert pieces to include Breval, *Sonata in G Major*, or Eccles, *Sonata in G Minor*, and concertos by Boccherini and Lalo. *3 + 3 h. c.*

401-402. All scales in octaves, thirds, sixths, and tenths. Piatti, *Studies*, and Servais, *Caprices*. Repertoire such as Reger, *Solo Suite No 2*, and Haydn or Dvorak concerto. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses vary only in degree from those listed above. A high standard of proficiency is maintained. A recital is required.

103-104. See Cello 101-102. *2 + 2 h. c.*

203-204. See Cello 201-202. *2 + 2 h. c.*

303-304. See Cello 301-302. *2 + 2 h. c.*

403-404. See Cello 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Kummer, *Method,* and Schroeder, *Studies.* Scales and solos in first position. *1 + 1 h. c.*

205-206. Schroeder, *Studies.* Scales. Klengel, *Concerto in C Major;* Marcello, *Sonata in F Major.* *1 + 1 h. c.*

305-306. Schroeder, *Studies.* Scales. Loeillet, *Sonata in G Major;* Goltermann, *Concerto No. 4.* *1 + 1 h. c*

405-406. For those who can qualify. *1 + 1 h. c.*

STRING BASS

45. Intended for those who do not qualify for Cello 101 or 103. This course may be repeated. *No credit.*

Major Courses

101-102. Simandl, *30 Etudes.* Major and minor scales in two octaves. Solos such as Anderson, *Sonatina,* and Chapini, *Fantasie Concertante.* Bach, *Minuet and Gavotte;* Vivaldi, *Intermezzo.* *3 + 3 h. c.*

201-202. Hrabe, *Studies.* Repertoire, such as Cappuzzi, *Concerto;* sonatas by Galliard and Loeillet; Ratez, *Six Characteristic Pieces,* Op. 46. *3 + 3 h. c.*

301-302. Bille, *Method,* Part II, Books 4 and 5. Concert pieces to include sonatas by Eccles, Antoniotti, and D'Andrieu. *3 + 3 h. c.*

401-402. Kreutzer, *Studies.* Reynolds, *Orchestra Studies;* Strauss, *Orchestra Studies.* Solos to include Koussevitzky concerto or Dragonetti concerto. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104. See String Bass 101-102. *2 + 2 h. c.*

203-204. See String Bass 201-202. *2 + 2 h. c.*

303-304. See String Bass 301-302. *2 + 2 h. c.*

403-404. See String Bass 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Simandl, *Method*, Part I. Scales. *1 + 1 h. c.*

205-206. Simandl, *Method*, Part II. Bach, *Minuet and Gavotte*; Vivaldi, *Intermezzo*. *1 + 1 h. c.*

305-306. Simandl, *30 Etudes*. Anderson, *Sonatina*. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

FLUTE

45. To be elected by students who do not qualify for Flute 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Studies and solos such as Altes, *Method*, Book II; Kuhlau, *Duets*, Op. 10; Barrere, *The Flautist's Formulae;* Boehm, *24 Caprice Etudes*, Op. 26; Bach-Barrere, *Arioso;* Handel, sonatas; Pessard, *Bolero*. *3 + 3 h. c.*

201-202. Studies and solos such as Altes, *Method*, Book III; Anderson, *Etudes*, Op. 33, Op. 21; Kuhlau, *Duets*, Op. 81; Moyse, *24 Petits Duos Mélodiques;* Bach, *Sonata No. 2;* Rogers, *Soliliquy;* Gluck, scene from *Orpheus;* Briccialdi, *Il Vento*. *3 + 3 h. c.*

301-302. Studies and solos such as Schindler, *Bach Studies;* Anderson, *Etudes*, Op. 30, Op. 15; Kuhlau, *Duets*, Op. 102; orchestral studies; Bach, *B Minor Suite;* Boccherini, *Concerto in D Major*, Op. 27; Mozart, concertos; Telleman, *Suite in A Minor*. *3 + 3 h. c.*

401-402. Jeanjean, *16 Studies in the Modern Style;* Moyse, *48 Virtuoso Studies;* orchestral studies; special work on piccolo; Bach, *Sonatas No. 1 and No. 4 in A Minor Unaccompanied;* Ibert, *Piece;* Griffes, *Poem*. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104. See Flute 101-102. *2 + 2 h. c.*

203-204. See Flute 201-202. *2 + 2 h. c.*

303-304. See Flute 301-302. *2 + 2 h. c.*

403-404. See Flute 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Altes, *Method*, Book I; Moyse, *The Beginning Flutist;* Magnani, *Clouds and the Moon;* Loeillet solos. *1 + 1 h. c.*

205-206. Altes, *Method*, Book II; Boehm, *24 Caprice Etudes;* Mozart-Barrere, *Minuette in D Major;* Bach, *Polonaise* and *Badinage* from *B Minor Suite*. *1 + 1 h. c.*

305-306. Studies and solos of the level indicated for Flute 101-102. *1 + 1 h. c.*

405-406. Studies and solos of the level indicated for Flute 201-202. *1 + 1 h. c.*

CLARINET

45. To be elected by those who do not qualify for Clarinet 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Studies and solos such as Klose, *Method,* Book II; Rose, *40 Etudes,* Books I, II; Langenus, *Method,* Book III; Von Weber, *Concertino* and *Concerto in F Minor;* Jeanjean, *Clair Matin;* Mozart, *Concerto.* *3 + 3 h. c.*

201-202. Studies and solos such as Rose, *32 Etudes;* Baermann, *Method,* Book IV; Perier, *Etudes de Genres et Interprétation,* Book I; Marty, *First Fantasy;* Lefevre, *Fantaisie Caprice;* Haln, *Sarabande et Themes Varies.* *3 + 3 h. c.*

301-302. Studies and solos such as Rose, *20 Grand Studies;* Baermann, *Method,* Book V; Cavalini, *30 Caprices;* Perier, *20 Sonata Studies;* orchestral studies; Rabaud, *Solo de Concours;* Gaubert, *Fantaisie;* Stravinsky, *Three Pieces;* Schumann, *Phantasiestuecke.* *3 + 3 h. c.*

401-402. Studies and solos such as Stark, *24 Grand Studies;* Jeanjean, *18 Etudes;* Jeanjean, *16 Modern Etudes;* orchestral studies; Widor, *Introduction and Ronde;* Debussy, *Premiere Rhapsodie;* Brahms, sonatas; Milhaud, *Concerto.* Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104.	See Clarinet 101-102.	*2 + 2 h. c.*
203-204.	See Clarinet 201-202.	*2 + 2 h. c.*
303-304.	See Clarinet 301-302.	*2 + 2 h. c.*
403-404.	See Clarinet 401-402.	*2 + 2 h. c.*

Minor Courses

105-106. Klose, *Method,* Book I; Perier, *Le Débutant Clarinettiste, 20 Etudes Melodiques et Faciles;* Gretchaninoff, *Suite Miniature;* Petit, *Piece de Concours.* *1 + 1 h. c.*

205-206. Perier, *20 Etudes Faciles et Progressives;* Rose, *40 Etudes,* Book I; Langenus, *Scale Studies;* Debussy, *First Arabesque for Clarinet;* Avon, *Fantaisie de Concours.* *1 + 1 h. c.*

305-306. Studies and solos of the level indicated for Clarinet 101-102. *1 + 1 h. c.*

405-406. Studies and solos of the level indicated for Clarinet 201-202. *1 + 1 h. c.*

SAXOPHONE

Courses in saxophone are offered but they cannot be taken for credit, nor can they be applied toward any degree. If the student wishes to work for a degree, he must major in clarinet.

OBOE

45. For those who do not qualify for Oboe 101 or 103. This course may be repeated. *No credit.*

Major Courses

101-102. Studies and solos such as Ferling, *48 Etudes;* Sellner, *Etudes for Oboe,* Book II; Handel, *Concerto in G Minor;* Labate, *Villanella;* Schumann, *Three Romances for Oboe.* *3 + 3 h. c.*

201-202. Studies and solos such as Labate, *16 Exercises;* Capelle, *20 Grand Etudes,* Book I; Cimarosa, *Concerto;* Nielson, *Romance;* Foret, *Sonata in G Major;* Ropartz, *Pastorale and Dance.* *3 + 3 h. c.*

301-302. Studies and solos such as Andraud, *Vade-Mecum* (etudes and orchestral studies); Bleuzet, *The Technique of the Oboe,* Book II; Loyon, *32 Modern Etudes;* Saint-Saens, *Sonata;* Hindemith, *Sonata;* Palidilhe, *Concertante.* Work on English horn begun *3 + 3 h. c.*

401-402. Continued study of English horn. Studies and solos such as Andraud, *Vade-Mecum;* Gillet, *Advanced Studies;* Jeanjean, *Remembrances;* Rivier, *Improvisation and Finale;* Dallier, *Fantaisie Caprice;* Piston, *Suite.* Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104. See Oboe 101-102. *2 + 2 h. c.*

203-204. See Oboe 201-202. *2 + 2 h. c.*

303-304. See Oboe 301-302. *2 + 2 h. c.*

403-404. See Oboe 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Studies and solos such as Andraud, *Method* (1949); Niemann-Labate, *Oboe Method;* Bakaleinikoff, *Elegy;* Templeton, *Siciliana;* J. Wagner, *Three Pastorales.* *1 + 1 h. c.*

205-206. Studies and solos such as Gekeler, *Method,* Book II; Verroust, *24 Etudes,* Op. 65, Books I, II; Pares, *Daily Technical Studies;* Klemcke, *Pastorale;* Handel, *Sonata in C Minor;* Gliere, *Chanson;* Bach-Gillet, *Three Little Pieces.* *1 + 1 h. c.*

305-306. Studies and solos of the level indicated for Oboe 101-102. *1 + 1 h. c.*

405-406. Studies and solos of the level indicated for Oboe 201-202. *1 + 1 h. c.*

BASSOON

45. For those who do not qualify for Bassoon 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Studies and solos such as Weissenborn, *Duets;* Oubradous, *Enseignement Complet du Basson,* Book I; Jancourt, *Reverie;* Foret, *Three Pieces;* Mozart, *First Concerto.* *3 + 3 h. c.*

201-202. Studies and solos such as Milde, Book II; Oubradous, *Enseignement Complet du Basson,* Book II; orchestral studies; Hindemith, *Sonata;* Handel, *Concerto in C Minor;* Jeanjean, *Capriccioso.* *3 + 3 h. c.*

301-302. Studies and solos such as Bozza, *Daily Studies;* Oubradous, *Enseignement Complet du Basson,* Book III; orchestral studies; Saint-Saens, *Sonata;* Grovlez, *Sicilienne* and *Allegro Giocoso;* Jancourt, *Cantilene;* Bruns, *Concerto.* *3 + 3 h. c.*

401-402. Studies and solos such as Giampieri, *Daily Studies;* Orefice, *Bravura Studies;* orchestral studies; Pierne, *Prelude de Concert;* Bozza, *Concerto,* Op. 49; Bozza, *Fantaisie;* Jeanjean, *Prelude and Scherzo.* Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104.	See Bassoon 101-102.	*2 + 2 h. c.*
203-204.	See Bassoon 201-202.	*2 + 2 h. c.*
303-304.	See Bassoon 301-302.	*2 + 2 h. c.*
403-404.	See Bassoon 401-402.	*2 + 2 h. c.*

Minor Courses

105-106. Studies and solos such as Weissenborn, Op. 8, Book I; Jancourt, *Studies,* Book I; Isaak, *Jolly Dutchman;* Ziesi, *Souvenier.* *1 + 1 h. c.*

205-206. Studies and solos such as Weissenborn, Op. 8, Books I and II; Jancourt, *Studies,* Books I and II; Bakaleinikoff, *Ballad;* Weissenborn, *Capriccio.* *1 + 1 h. c.*

305-306. Studies and solos of the level indicated for Bassoon 101-102. *1 + 1 h. c.*

405-406. Studies and solos of the level indicated for Bassoon 201-202. *1 + 1 h. c.*

TRUMPET

45. To be elected by those who do not qualify for Trumpet 101 or 103. This course may be repeated. *No credit.*

Major Courses

101-102. The development of a daily practice routine suitable to the individual, for the purpose of acquiring a correct and lasting command of fundamental skills such as tone production, embouchure, breath control, flexibility, and legato and staccato articulations, using Arban's *Method* for cornet, *Etudes* by Hering, *Daily Drills and Studies* by Schlossberg. Major and minor scales and chords, introduction to transposition, sight reading, and the study of cantabile solos such as the *Lieder* of Schubert, Brahms, Schumann, and other solos of grade III difficulty. *3 + 3 h. c.*

201-202. Concentration upon basic techniques; slurs, scales, chords, intervals, and single, double, and triple articulations in major and minor keys, using Arban, *Method;* Schlossberg, *Daily Drills and Studies;* Clark, *Studies;* Brandt, *Orchestral Studies;* Sachse, *Transposition Studies.* Cantabile solos, and other solos of grade III and IV difficulty. *3 + 3 h. c.*

301-302. Continuation of technical studies: Arban, *Method;* Schlossberg, *Studies;* Paudert, *Studies;* Brandt, *Orchestral Studies;* Petit, *Studies;* Sachse, *Transposition Studies.* Sight reading. Solos of grade IV and V difficulty by Fitzgerald, Vidal, Barat, Goeyens, Deboeck, Busser, and others. *3 + 3 h. c.*

401-402. Advanced studies by Clark, Peitzsch, Laurent, Petit, Charlier; Sachse, *Transposition Studies;* sight reading. Solos of grade V and VI difficulty. Concertos by Haydn, Vidal, Williams, Brandt, Delcroix. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of perfection is insisted upon. A recital is required.

103-104. See Trumpet 101-102. *2 + 2 h. c.*

203-204. See Trumpet 201-202. *2 + 2 h. c.*

303-304. See Trumpet 301-302. *2 + 2 h. c.*

403-404. See Trumpet 401-402. *2 + 2 h c.*

Minor Courses

105-106. Introduction to problems of brass instrument playing, stressing formation of embouchure, attack and release, breath control, tone quality, flexibility, legato and staccato articulation. Elementary exercises showing these skills in the Edwards-Hovey *Method,* Arban's *Method,* or equivalent studies. Introduction to scales. Selected cantabile solos. Open to students without previous training. *1 + 1 h. c.*

205-206. Continued stress on fundamentals of grade I with extension of range. Scale studies to include all major and minor keys. Selected cantabile solos. Material stressing these skills in World's *Method for Cornet,* Hering's *Studies,* or equivalent. *1 + 1 h. c.*

305-306. Extension of range, using scale studies in major and minor keys and broken chords. Flexibility studies as in Schlossberg's *Daily Drills.* Additional progress in World's *Method for Cornet,* Hering's *Studies,* or equivalent studies. Selected cantabile solos. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

FRENCH HORN

45. For those who do not qualify for French Horn 101 and 103. The course may be repeated. *No credit.*

Major Courses

101-102. Development of the fundamental skills, such as tone production, embouchure, breath control, and legato and staccato articulations, using Franz, Kopprasch, Alphonse, Michiels. Major and minor scales and chords; transposition, sight reading. Cantabile solos, and other solos of grade III difficulty. *3 + 3 h. c.*

201-202. Studies by Franz, Kopprasch, Alphonse, Pottag. Slurs, scales, chords, intervals, legato and staccato articulations in major and minor keys. Transposition and sight reading. Cantabile solos, and other grade III and IV solos. *3 + 3 h. c.*

301-302. Continuation of technical studies, using Pottag, Gallay, Alphonse, Gumbert. Transposition and sight reading. Solos of grade IV and V difficulty. *3 + 3 h. c.*

401-402. Advanced studies, including studies by Pottag, Gallay, Alphonse; Gumbert's *Orchestral Studies*. Transposition and sight reading. Grade V and VI solos. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. Quality of performance is insisted upon. A recital is required.

103-104.	See French Horn 101-102.	*2 + 2 h. c.*
203-204.	See French Horn 201-202.	*2 + 2 h. c.*
303-304.	See French Horn 301-302.	*2 + 2 h. c.*
403-404.	See French Horn 401-402.	*2 + 2 h. c.*

Minor Courses

105-106. Special studies for development of embouchure, breath control, articulation, flexibility, tone control. Pottag-Hovey, *Method for French Horn;* Horner, *Primary Studies.* Introduction to scales. Selected cantabile solos. *1 + 1 h. c.*

205-206. Horner, *Studies.* Continued stress upon fundamentals of grade I. Scale studies in major and minor keys. Extension of range. Selected cantabile solos. *1 + 1 h. c.*

305-306. Extension of range, using scale studies in major and minor keys and broken chords. Flexibility studies as in Schlossberg's *Daily Drills.* Additional progress in World's *Method for Cornet.* Hering's *Studies,* or equivalent studies. Selected cantabile solos. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

TROMBONE

45. To be elected by those who do not qualify for Trombone 101 or 103. This course may be repeated. *No credit.*

Major Courses

101-102. The development of a daily practice routine to enable the individual to acquire the fundamental skills, such as tone production, embouchure, breath control, flexibility, and legato and staccato articulations. Major and minor scales and chords; introduction to transposition; sight reading. Materials include Mueller, Rochut, Dieppo, Mantia. Cantabile solos, and other solos of grade III and IV difficulty. *3 + 3 h. c.*

201-202. Continuation of basic technical studies. Slurs, scales, chords, intervals, single, double, and triple articulations in major and minor keys,

transposition, and sight reading, using Mueller, Rochut, Dieppo, Mantia. Cantabile solos, and other grade III and IV solos. *3 + 3 h. c.*

301-302. Studies from Mueller, Rochut, Blume, Kopprasch. Transposition and sight reading. Grade IV and V solos. *3 + 3 h. c.*

401-402. Advanced studies by Mueller, Voboran, Rochut, Blazevitch. Transposition and sight reading. Solos of grade V and VI difficulty. Senior recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of perfection is insisted upon. A recital is required.

103-104. See Trombone 101-102. *2 + 2 h. c.*

203-204. See Trombone 201-202. *2 + 2 h. c.*

303-304. See Trombone 301-302. *2 + 2 h. c.*

403-404. See Trombone 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Studies to develop embouchure, attack, release, breath control, tone quality, flexibility, knowledge of positions. Studies by Cimera-Hovey, Endressen. Selected cantabile solos. *1 + 1 h. c.*

205-206. Continuation of development of skills stressed in grade I. Scale studies, stressing legato and staccato articulation. Extension of range. Studies by Mueller, Cimera. Study of cantabile solos for development of legato-cantabile style. *1 + 1 h. c.*

305-306. Extension of range, using scale studies in major and minor keys and broken chords. Flexibility studies as in Schlossberg's *Daily Drills*. Additional progress in World's *Method for Cornet*, Hering's *Studies*, or equivalent studies. Selected cantabile solos. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c*

TUBA

45. For those who do not qualify for Tuba 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. The development of the fundamental skills, such as tone production, embouchure, breath control, flexibility, and legato and staccato articulations. Major and minor scales and chords. Sight reading. Material includes studies by Bell, Eby, Arban. Cantabile solos, and other solos of grade III difficulty. *3 + 3 h. c.*

201-202. Studies by Arban, Eby, Blazevitch. Slurs, scales, chords, intervals, and legato and staccato articulations in major and minor keys. Sight reading. Study of orchestral and band works. Cantabile solos, and other solos of grade III and IV difficulty. *3 + 3 h. c.*

301-302. Continuation of technical studies, material by Arban, Eby, Blazevitch. Sight reading. Study of orchestral and band works. Solos of grade IV and V difficulty. *3 + 3 h. c.*

401-402. Continuation of technical studies. Study of band and orchestral works. Sight reading. Solos of grade V and VI difficulty. Senior recital. *3 + 3 h c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high degree of proficiency is insisted upon. A recital is required.

103-104. See Tuba 101-102. *2 + 2 h. c.*

203-204. See Tuba 201-202. *2 + 2 h. c.*

303-304. See Tuba 301-302. *2 + 2 h. c.*

403-404. See Tuba 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Introduction to fundamental skills, such as tone production, development of embouchure, attack and release, breath control, tone quality, flexibility. Introduction to scales. Studies by Eby, Arban, Bell. Cantabile solos. *1 + 1 h. c.*

205-206. Continuation of development of skills stressed in grade I. Scale and chord studies. Extension of range. Studies by Eby, Arban, Bell. Cantabile solos. *1 + 1 h. c.*

305-306. Extension of range, using scale studies in major and minor keys and broken chords. Flexibility studies as in Schlossberg's *Daily Drills.* Additional progress in World's *Method for Cornet,* Hering's *Studies,* or equivalent studies. Selected cantabile solos. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

PERCUSSION

45. To be elected by those who do not qualify for Percussion 101 or 103. The course may be repeated. *No credit.*

Major Courses

101-102. Snare drum: review and/or complete twenty-six rudiments. Stone, *Stick Control;* Wilcoxon, *Modern Methods.* Studies for independence of hands. Gardner, *Progressive Studies,* Book III; Moeller, *Rudimental Drumming.* Relaxation. Bass drum, cymbals, and accessories. —Mallet instruments, including bells, xylophone, marimbas, and vibraharp: malleting, roll, scales, arpeggios. Peterson, *Rubank Elementary Method;* graded violin, saxophone, and clarinet exercises. *3 + 3 h. c.*

201-202. Snare drum: Moeller, *Rudimental Solos;* Wilcoxon, *Rudimental Swing.* Foot studies for bass drum. Gardner, *Post-graduate Studies;* Rale and Morales, *Latin-American and Afro-Cuban Rhythms.* —Mallet instruments: keyboard harmony, phrasing, expression; solos and excerpts from standard compositions; Peterson, *Three- and Four-mallet Playing.* —Tympani: position, mechanics, attack, single strokes, tuning; ear-training exercises: Gardner, Sietz, and Cross methods. *3 + 3 h. c.*

301-302. Snare drum: Moeller, Wilcoxon, and Bellson methods. —Mallet instruments: solos for two, three, and four mallets. —Tympani: advanced studies; technical problems, cross-sticking, fast tone changes. Excerpts from classic and modern compositions. Use of pedal, pedal effects, glissandi. Gardner, Sietz, Cross, and Zettleman methods. *3 + 3 h. c.*

401-402. Snare drum: hand and foot independence studies; rudimental solos. —Mallet instruments: Musser transcriptions of Chopin; Musser, *Masterworks for Vibraharp.* Modern solos by Norvo and others. —Tympani: modern arrangements, concertos, and solos by Stock, Berlioz, Stiegler, and others. Recital. *3 + 3 h. c.*

Major Courses—Music Education

The following courses differ only in degree from those listed above. A high standard of proficiency is insisted upon. A recital is required.

103-104. See Percussion 101-102. *2 + 2 h. c.*

203-204. See Percussion 201-202. *2 + 2 h. c.*

303-304. See Percussion 301-302. *2 + 2 h. c.*

403-404. See Percussion 401-402. *2 + 2 h. c.*

Minor Courses

105-106. Snare drum: position, mechanics of playing, muscular action, method of attack, relaxation. Rudiments, including single-stroke roll, double-stroke roll, five-, seven-, and nine-stroke rolls, flams, three- and four-stroke ruffs. Primary exercises. Harr, Book I and II. Gardner, *Progressive Studies,* Book I. *1 + 1 h. c.*

205-206. Snare drum: rudiments, including flam taps, flam accents, flamacues, single, double, and triple paradiddles, half-drags, single drags. Exercises. Harr, Book II. Gardner, *Progressive Studies,* Book II. *1 + 1 h. c.*

305-306. Snare drum: Stone, *Stick Control*; Wilcoxon, *Modern Methods*; Gardner, *Progressive Studies,* Book III. —Mallet-played instruments (bells, xylophone, marimba, vibraharp): malleting, roll scales, arpeggios. Exercises; Peterson, *Rubank Elementary Method.* Graded violin, saxophone, and clarinet exercises. *1 + 1 h. c.*

405-406. For those who can qualify. *1 + 1 h. c.*

Theory, Composition, History, and Literature of Music

103-104. THEORY I. A unified course of study consisting of part-writing, ear-training, sight singing, and keyboard harmony. Harmony-chord structures; diatonic triads, triad forms, chord progressions, simple cadences, harmonization of melodies; uses of inversions, sequences, open harmony, non-harmonic tones, the dominant seventh chord, dominant ninth, and modulation to nearly-related keys; application of materials to simple compositions. Harmonic analysis of simple compositions. Harmonic ear-training and keyboard practice: exercises in singing, playing, dictation, and notation; special attention to memorization of the tonal effects of chords and their progression. Solfeggio and sight singing: melodic reading and dictation; use of syllables; study of meter and rhythm; development of reading skill. Meets five hours a week. Prereq.: Music 109 with grade of C or better, or passing grade in entrance examination in theory. *4 + 4 h. c.*

109. FUNDAMENTALS OF MUSIC. A comprehensive introduction to the theoretical factors of music, including staffs, clefs, key signatures, rhythms, intervals, and chords. Simple exercises in sight singing and ear-training. *3 h. c.*

203-204. THEORY II. Continuation of Music 103-104. Study of diminished and dominant seventh chords, augmented sixth chords, modulation to remote keys, and compositions in smaller forms. Ear-training, sight singing, and keyboard harmony, correlated with theoretical work in harmony. Meets five hours a week. Prereq.: Music 103-104 with grade of C or better. *4 + 4 h. c.*

206. ACOUSTICS OF MUSIC. Nature of vibrations and sound waves. Sources of musical sounds: strings, air columns, percussion, voice. Scales, intervals, and temperament. Acoustics of rooms. Recording, reproduction, and synthesis of sound. Designed especially for music majors. *3 h. c.*

207-208. SURVEY OF MUSIC LITERATURE. A psychological and aesthetic approach to listening to music, with discussion of the problems of listening. The first semester includes a study of the elements of music and the fundamental principles of analysis. The second semester deals with form, from the simpler da capo to the larger and more complex forms. Lectures, outside reading, scores, and representative recordings. Fee: $1.00 each semester. *2 + 2 h. c.*

209-210. COUNTERPOINT I. A study of the medieval modes and vocal polyphony with emphasis on the works of Palestrina and other sixteenth-century composers. *2 + 2 h. c*

301-302. SIGHT SINGING AND EAR-TRAINING I. Two-part sight-singing exercises on modal basis; three-part exercises for soprano, alto, and baritone. Melodic dictation: difficult diatonic skips and chromatic tones in both major and minor keys and in treble, bass, tenor, and alto clefs. Rhythmic dictation: phrase, irregular phrase, period form, major and minor keys, bass and treble clefs, and two-part exercises using the bass and treble clefs, and two-part exercises using the bass and treble clefs combined, with time and key signatures indicated by the student. Intervals: quality, consecutive intervals in bass and treble clefs, major and minor keys with chromatic tones, two-part intervals combining bass and treble clefs. Chords: quality; chord progressions introducing all the diatonic seventh chords and chromatic triads in addition to the chords already studied. Two recitations a week. *1 + 1 h. c.*

305-306. HISTORY OF MUSIC. A study of music from earliest times to the present, with special reference to the relation of the history of music to that of the other arts and to the political and religious hisory of the corresponding period. Fee: $1.00 each semester. *2 + 2 h. c.*

327-328. FORM AND ANALYSIS. A study of musical form, beginning with the phrase and continuing through the song form to the rondo forms and sonata allegro. *2 + 2 h. c.*

401-402. SIGHT SINGING AND EAR-TRAINING II. Three- and four-part sight-singing exercises for soprano, alto, tenor, and bass voices. Melodic dictation of maximum difficulty in all clefs and keys. Rhythmic dictation: phrase, irregular phrase, and period form exercises in two parts using bass and treble clefs combined, with time and key signatures indicated by the student. Intervals of maximum difficulty introducing modulation to nearly-related and remote keys. Chord progressions using all the diatonic and chromatic chords with modulations to nearly-related and remote keys. Two recitations a week. *1 + 1 h. c*

409-410. ORCHESTRATION. A study of the instruments of the modern orchestra, their technic, and their tone color, individually and in combination. Writing and arranging for them singly, in groups, and in full score. *2 + 2 h. c.*

421-422. COMPOSITION I. A study of the phrase and section leading to the two- and three-part forms, theme and variations, and sonatina. As a corollary, the student composes in these forms for piano, alone or in combination with some other instrument or voice. For those working toward a major in composition. *2 + 2 h. c.*

427-428. SYMPHONIC LITERATURE. The historical development of the symphony from its beginning to the present. Symphonic poems, suites, overtures, and miscellaneous compositions for the modern orchestra. Fee: $1.00 each semester. *2 + 2 h. c.*

430. MODERN HARMONY. A study of harmonic trends in modern music, including polytonality, atonality, and other factors. Prereq.: senior standing, with major in music. *2 h. c.*

431-432. COMPOSITION II. A continuation of Composition I. Writing for the string quartet and larger instrumental groups in the sonata allegro, overture, symphonic poem, rhapsody, and rondo designs. *2 + 2 h. c.*

433-434. PEDAGOGY OF THEORY. The methods, materials, and special problems in the teaching of theory. *2 + 2 h. c.*

Sacred Music

361-362. HYMNOLOGY AND GREGORIAN CHANT. The history of the hymn and hymn tune; types of hymns and their uses; analysis and interpretation of hymns; evaluation of standard hymnals. The second semester deals with the practical and artistic aspects of Gregorian chant in general choir work, the fundamentals of Gregorian rhythm, and authentic and plagal modes and notation. *2 + 2 h. c.*

363-364. JUNIOR AND SENIOR CHOIR METHODS. Organization, methods, child psychology, the child voice, and materials suitable for choirs. The second semester deals with the organization and motivation of the volunteer choir; achieving balance, blend, intonation; interpretation of choral literature, program building, and methods; psychology in rehearsal. *2 + 2 h. c.*

461. HISTORY OF SACRED MUSIC. The development of great religious music from earliest times to the present, with a study of the Jewish and Christian liturgies and their music, and the Church Year. *2 h. c.*

463-464. CHORAL LITERATURE. The study and interpretation of the standard oratorios, with emphasis on solos, choruses, and accompaniment. A practical course for the singer, organist, and choirmaster. Representative oratorios covered are from the Baroque, Classic, Romantic, and Modern periods. *2 + 2 h. c.*

465. SERVICE-PLAYING AND EXTEMPORIZATION. The fundamentals of improvisation, modulation, and transposition. Service-playing of hymns, anthems, and solos. *2 h. c.*

Music Education

121. INTRODUCTION TO MUSIC, FOR ELEMENTARY TEACHERS. Fundamental knowledge of the problems of notation and development of skill in sight singing and ear-training. *2 h. c.*

221. MUSIC LITERATURE AND APPRECIATION, FOR ELEMENTARY TEACHERS. A general orientation course to meet the needs of the classroom teacher and the average music lover, with emphasis on the human values of music and its relationship to art, literature, geography, history, and other curricular interests. Prereq.: Music 121. *2 h. c.*

225-226. WOODWIND METHODS. Each student selects a woodwind instrument, which he learns to play as well as possible during the time allotted. As soon as enough progress has been made in playing the instrument chosen, other instruments of the woodwind group may be selected and studied. The problems underlying the teaching of these instruments are kept constantly before the class. Meets two hours a week. *1 + 1 h. c*

311-312. CLASS VOICE METHODS. Fundamentals of correct voice production. Methods of conducting voice classes, glee clubs, and choirs, with a survey and evaluation of materials. Meets two hours a week. *1 + 1 h. c.*

315-316. MUSIC IN THE FIRST SIX GRADES. General methods of teaching public school music in the first six grades. A study of rote songs and rhythmic and tonal problems, and analysis of student vocal problems in successive years, with demonstration of methods used in elementary grades. *2 + 2 h. c.*

318. PERCUSSION METHODS. Like Music 225-226, but for percussion instruments. Meets two hours a week. *1 h. c.*

319-320. CONDUCTING. A practical course in conducting that stresses baton technique, interpretation, and leadership. Interpretative studies are in chorals, anthems, part-songs, opera, and symphony. Meets two hours a week. *1 + 1 h. c.*

321. MUSIC EDUCATION FOR ELEMENTARY TEACHERS. A study of the child voice and its care. Rote songs, materials for rhythmic expression and listening, and the teaching skills and methods which the classroom teacher needs to work effectively under supervision. Prereq.: Music 221. *2 h. c.*

325-326. STRING METHODS. Like Music 225-226, but for string instruments. Meets two hours a week. *1 + 1 h. c.*

329-330. BRASS METHODS. Like Music 225-226, but for brass instruments. Meets two hours a week. *1 + 1 h. c.*

403, 404. CHORAL CONDUCTING AND SCORE-READING. The organization and conducting of choral groups. Practical work with chorus. Practice in score reading. Prereq.: Music 319-320. *1 + 1 h. c.*

405, 406. INSTRUMENTAL CONDUCTING AND SCORE-READING. The organization and conducting of instrumental groups. Practical work with orchestra and band. Practice in score reading. Prereq.: Music 319-320. *1 + 1 h. c.*

411-412. JUNIOR AND SENIOR HIGH SCHOOL METHODS. Classification, problems, materials, methods, organization, and management. Prereq.: Music 311-312. *2 + 2 h. c.*

417. INSTRUMENTAL PROBLEMS. Methods of organizing and conducting instrumental classes, bands, and orchestras in the public schools, with a survey of materials. *2 h. c.*

419. BAND ORGANIZATION, DRUM MAJORING, AND FIELD TECHNIQUE. Organizing and conducting concert and military bands. Materials, seating plans, marching formations, balanced instrumentation, preparation for rehearsals, and problems of conducting. Opportunity for study and practical experience in drum majoring, with emphasis on military baton signals, field techniques, and drum figures. *2 h. c.*

The School of Law

COMMITTEE ON THE SCHOOL OF LAW

For the Board of Trustees:

WILLIAM F. MAAG, JR., *Chairman*
Editor and Publisher, The Youngstown Vindicator

J. CAMERON ARGETSINGER
Retired

JOSEPH G. BUTLER III
Director, The Butler Art Institute

SIDNEY J. COLLINS
Clark and Collins, Certified Public Accountants

For the School of Law:

RAYMOND L. FALLS
Dean of the School of Law

GENERAL INFORMATION

Objectives and Methods of Instruction

The School of Law has the following objectives: To familiarize the student with the history of our laws and institutions; to study the rules of law, their development, and the reasons for their existence; to teach the student the fundamental rules and principles of law and to apply them to actual cases; to develop the ability for legal research; to inculcate legal ethics and the professional point of view; and to prepare the student for the practice of law.

The system of instruction is the case method. Cases that have actually been decided are used as texts. From an analytical study of each case the student determines the operative facts and the rule of law upon which the decision has been based and finds the governing principles of law by the inductive method of reasoning.

Thus the student learns to discriminate between the material and the immaterial; to weigh and estimate relative legal values; to discover fallacies in reasoning; and to express his own conclusions clearly and concisely.

The Academic Year

The School of Law operates on the quarter plan. The quarters are designated as fall, winter, spring, and summer. Four quarters constitute the school's year; the work of the summer quarter is not optional.

Libraries

The law library, in the Annex, contains more than 10,000 books. Of those added in recent years, several hundred have been made available through the generosity of the Mahoning Law Library Association. With this group the School of Law also has an agreement whereby members of each, including students, may use the library of the other.

The Gessner Law Club

The Gessner Law Club is a voluntary organization of students and alumni. Its program includes regular monthly

meetings and a series of lectures by visiting speakers and specialists in various fields of law. All students must attend the lectures, without credit (see page 244).

Prize

The Land Title Guaranty and Trust Company of Youngstown awards annually a prize of $100 to the student making the highest grade in the subject of real property based on examinations in the courses Real Property I, II, and III.

Tuition and Fees

See pages 76-83.

Admission

Normally, new students are admitted at the beginning of the fall quarter only. The policy has been to admit about thirty students to the first-year class.

Effective September 1952, the minimum requirements for admission to the School of Law will be 90 semester hours of undergraduate credit*. This change is in accordance with a resolution adopted by the American Bar Association, effective as of that date.

An applicant may expect to be given preference in the following order:

1. If he is a graduate of an accredited college.
2. If he has qualified under the combined course leading to the degrees of Bachelor of Arts and Bachelor of Laws (see page 93). The student planning to enter the law school under the combined course should select his undergraduate subjects to meet the requirements for the Bachelor of Arts degree.
3. If he presents not less than 90 semester hours of undergraduate credit and is of high scholastic standing.

Each applicant must take the Law Aptitude Test, the results of which are used for guidance purposes. The applicant makes arrangements for the test at the Testing Office, after his application has been approved by the dean or assistant dean.

*Exclusive of non-academic courses (orientation, required physical activity, and music ensemble courses open to all students).

Application for admission to the law school must be made on a form obtainable at the office of the Registrar of Youngstown College, and must be filed in the same office by August 10 for the ensuing year. If approved by the dean of the School of Law, the application is referred to the Committee on Admissions, and the applicant must appear personally before the committee, which has final authority over admissions.

Admission to Advanced Standing

Advanced standing will be given only on the basis of credits earned in residence in Ohio law schools which are members in good standing of the League of Ohio Law Schools, or in law schools outside Ohio which are approved by the American Bar Association or are members of the American Association of Law Schools.

A student entering from another law school will be admitted only upon presentation of a letter of recommendation from the dean of the school from which he is transferring.

Attendance, Examinations, and Grades

Attendance. The right to take examinations is conditioned upon regular attendance in classes.

Examinations. Written examinations are given at the conclusion of each subject. A student who is frequently unprepared or absent in any course, or whose work is otherwise of low grade, may be denied the privilege of taking the examination in that course.

Grades and Grade Requirements. The School of Law follows the grading system used in the rest of Youngstown College (see pages 67 ff.). A student must have a point average of 1.0 or better to graduate.

The law student normally enrolls for two subjects each quarter. Failure in one subject places him on probation. Failure in both subjects results in his exclusion from the law school. A student whose point average for any quarter falls below 1.0 may be excluded from the school by action of the dean in consultation with the faculty. A student whose point average falls below 1.0 for any school year is automatically excluded

from the school. No re-examination is given for a subject failed; the student must repeat the subject if he is eligible to continue in school.

Incomplete Work. If a student is unable to take an examination with his class because of illness or for any other unavoidable reason, he must complete the examination within the first quarter after his return or repeat the course.

The Student Load

Two subjects, or four semester hours, are the normal schedule. A student who has completed the first year with a grade average of B or better may thereafter schedule a third subject as an elective, if he has the approval of the faculty.

Times of Classes

A student carrying the normal load attends classes two evenings a week, usually Monday and Thursday, from seven to ten o'clock. Third subjects are offered during certain quarters on Wednesday evening from seven to ten o'clock.

Requirements for the Bar Examination

Every law student upon enrolling in the School of Law should ask for an instruction sheet regarding admission to the bar. The candidate must have been a legal resident of Ohio for the year immediately preceding his taking the bar examination. Other important information is included on the instruction sheet, and each entering law student should study it carefully so that he may plan to fulfill all requirements.

CURRICULUMS

Suggested Pre-Law Curriculum

The student should note that this curriculum is suggested, not required, and should consult with his adviser. For further information on the combined course leading to the degrees of Bachelor of Arts and Bachelor of Laws, see pages 61 and 93-94.

First Year	Hrs.
‡Accounting 201-202, or History 105, 106	6
†Biology or chemistry	8
*Communication 105-106	6
**Foreign language (or elective)	6
Social Science 101 and 102	6
Physical Education (activity)	1
Orientation 100	Credit
	33

Second Year	Hrs.
Communication 107	3
**Foreign language (or elective)	6
History 201 and 202	6
History 215, 216	6
Political Science 201, 202, or Accounting 201-202	6
Psychology 201	3
Physical Education 107 and 108	2
Physical Education (activity)	1
	33

Third Year	Hrs.
English or American literature	3
History, political science, sociology, economics, accounting (in any selection or combination)	18
Mathematics or science	3
Philosophy and Religion elective, or Humanities 401 or 402	3
Elective (Upper Division)	3
	30

*English 101-102 and Speech and Dramatics 115, 116, totaling 10 hours, may be substituted for Communication 105-106-107.

**Foreign language requirements are explained on pages 94-95.

†Eight hours of biology can not be completed in two semesters; the student electing it must rearrange this curriculum slightly, and should consult his adviser.

‡The law student with less than six hours of accounting in his undergraduate work must take the accounting course offered in the law school. (See the paragraph on electives, below.)

Curriculum for the Degree of Bachelor of Laws

To receive the degree of Bachelor of Laws, a student must have credit for 78 semester hours of work with a point average (see page 69) of not less than 1.0 in the following courses:

First Year

Civil Procedure	4 hrs.	Torts	4 hrs.
Contracts	6 hrs.	Legal Bibliography	2 hrs.
Personal Property	2 hrs.		

Second Year

Torts	2 hrs.	Sales	2 hrs.
Criminal Law	2 hrs.	Real Property III	2 hrs.
Real Property I	2 hrs.	Agency	2 hrs.
Negotiable Instruments	2 hrs.	*Accounting	2 hrs.
Real Property II	2 hrs.		

Third Year

Equity	5 hrs.	Trusts	2 hrs.
Private Corporations	2 hrs.	Insurance	2 hrs.
Evidence	4 hrs.	Legal Ethics	1 hr.
*Taxation	2 hrs.		

Fourth Year

Wills	4 hrs.	Pleading and Practice	4 hrs.
Constitutional Law	4 hrs.	Partnership	2 hrs.
*Labor Law	2 hrs.	Conflict of Laws	2 hrs.

Fifth Year

*Municipal Corporations	2 hrs.	*Mortgages	2 hrs.
Quasi Contracts	2 hrs.	*Administration of Debtors' Estates	2 hrs.
Domestic Relations	2 hrs.		
*Suretyship	2 hrs.		

*Elective

Electives

Of the 78 semester hours needed for graduation, 66 are in required courses. For the other 12 hours the student may choose from the following courses: Accounting, Administration

of Debtors' Estates, Insurance, Labor Law, Mortgages, Municipal Corporations, Suretyship, Taxation. Accounting is required of any student who has not taken it as an undergraduate; it is prerequisite to the Private Corporations course.

Lectures

In addition to the regular curriculum, all students must attend the lectures arranged by the Gessner Law Club (page 239). No credit toward the degree in given for such attendance. The lectures pertain to the following subjects:

Labor Law
Jurisprudence
Trial Practice
Administrative Law
Probate Practice and Procedure
Problems of the Practice of Law
Taxation Practice and Procedure
Federal Jurisdiction and Procedure
Brief-making and Preparation of Cases
Drafting and Construction of Statutes

COURSES OF INSTRUCTION

Normally, each course is offered once a year. However, in view of abnormal enrollment conditions, courses will be offered as and when justified by enrollment.

The letters "h. c." stand for "(semester) hours of credit".

ACCOUNTING. Introduction to financial statements and bookkeeping, followed by critical examination of selected problems illustrating generally accepted accounting principles governing recognition of revenue, matching cost against appropriate revenues, reserves, capital and surplus transactions, and consolidation. No previous accounting is required. *2 h. c.*

ADMINISTRATION OF DEBTORS' ESTATES. Composition agreements, receiverships, assignments for benefit of creditors, and proceedings in bankruptcy. *2 h. c.*

AGENCY. Distinction between law of principal and agent, and law of master and servant; formation of relation of principal and agent, by agreement, by ratification, by estoppel, and by necessity; termination of the relation by act of the parties and by operation of law; irrevocable agencies; obligations and duties of agent; torts and frauds of agents; admission and notice; contracts made by agent on behalf of his principal, and torts between agent and third parties. *2 h. c.*

CIVIL PROCEDURE. An introduction to the procedures involved in litigation, to give the beginning student an understanding of the judicial process and of the relationship between the adjective and the substantive law; the organization of the courts in England and in the United States; the forms of action at common law, and the effect of their abolition; the purposes and functions of pleadings, at common law and under codes, practice acts, and rules of court; the trial of an action at law; the functions of the jury and the extent of the court's control of the jury; the validity and effect of judgments, with special reference to the requirements of due process of law in the exercise of jurisdiction over person or property; the history of equity, and an outline of the proceedings in suits in equity; the enforcement and effect of decrees; the effect of merger of law and equity. Emphasis is laid throughout upon the fundamentals of procedure in the courts today. *4 h. c.*

CONFLICT OF LAWS. The legal principles governing the application of laws of different jurisdictions to a cause of action arising in one jurisdiction and enforced in another. Judgments, obligations, personal rights, property rights, and a general study of the subject. *2 h. c.*

CONSTITUTIONAL LAW. The general principles of delegation of governmental powers; due process; police power; taxation powers of state and federal governments; interstate commerce; unconstitutional laws generally. *4 h. c.*

CONTRACTS. Place of contract in our law; essentials of a valid contract; void, voidable, and unenforceable contract; offer and acceptance; Statute of Frauds; consideration; capacity to contract; mistake, misrepresentation, fraud, duress, and undue influence; legality of object; contracts for benefit of third person; assignment in the law of contract; impossibility as affecting contracts; breach of contract and its legal effect; discharge of contract. *6 h. c.*

CRIMINAL LAW. The general principles relating to crimes, and some of the essentials in criminal procedure. *2 h. c.*

DOMESTIC RELATIONS. Statutes and cases embracing the law of marriage, divorce, and alimony; property and contract rights of husband and wife; antenuptial and postnuptial agreements; actions by one spouse against the other; parent and child; guardian and ward; rights and liabilities of infants, care, custody, and control of infants. *2 h. c.*

EQUITY. In two parts. Equity I embraces the origin, history, general principles, and scope of equity jurisprudence. Equity II deals with maxims and special heads of equity jurisprudence, such as rescission, reformation, and cancellation; specific performance; injunction; receivers; estoppel; election; subrogation; equitable remedies. *5 h. c.*

EVIDENCE. Reasons for and the rules of admission and exclusion of proffered evidence; development of rules of evidence; introduction of evidence; objections to evidence; rulings upon evidence; exceptions to rulings, making or protecting a record in the trial court for reviewing courts, and courts of last resort. *4 h. c.*

INSURANCE. Fire, life, and accident insurance, with respect to: insurable interests; concealment; misrepresentation; warranties; other causes of invalidity of contract; amount of recovery; subrogation; conditions; waiver; estoppel; election and powers of agents; assignees and beneficiaries. *2 h. c.*

LABOR LAW. The historic background of the law relating to labor relations; the development and modern legal status of labor contracts; legality of strikes, lockouts, and boycotts; injunctions and damage suits; federal and state statutes. *2 h. c.*

LEGAL BIBLIOGRAPHY. The various types of law books, including statutes, court decisions, textbooks, encyclopedias, digests, etc. Methods of search are outlined and problems in legal research assigned. *2 h. c.*

LEGAL ETHICS. A study of the canons of legal ethics and cases demonstrating the application thereof. *1 h. c.*

MORTGAGES. Theory of mortgages in various jurisdictions, forms, debts, foreclosure, redemption, sales, writ of restitution, and recording requirements. *2 h. c.*

MUNICIPAL CORPORATIONS. Creation, control, powers, liabilities, and dissolution of municipal corporations; their charters, proceedings, officers, and agents; powers of agents; assignees and beneficiaries. *2 h. c.*

NEGOTIABLE INSTRUMENTS. Drawing forms of negotiable papers; formal requisites; acceptance, transfer, and extinguishment; obligation of parties; effect of delay and diligence; bills of exchange; notice and protest; forgery and alteration. Special attention is given to the uniform negotiable instrument law and the judicial construction thereof. *2 h. c.*

PARTNERSHIP. The creation of partnership; the purpose for which a partnership may be formed; the advantages and disadvantages of a partnership; the incidents of partnership; the rights and duties of partners toward each other; partnership property and the interest of partners and creditors therein; actions by and against the firm; dissolution of partnership; final accounting; limited partnerships and partnership associations. *2 h. c.*

PERSONAL PROPERTY. Distinction between real and personal property; gifts, bailments, common law and statutory liens; chattel mortgages and conditional sales contracts; pledges; fixtures and emblements. *2 h. c.*

PLEADING AND PRACTICE. Designed to prepare the student to state accurately and concisely a cause of action or defense. After a general review of the substantive law preceding, attention is given to forms of action and all pleadings. This is followed by a history of procedure and a careful study of the codes as exemplified by the statutes of New York and Ohio and illustrated and clarified by the study of cases. To enable the student to feel at home in both office and courtroom, considerable attention is directed to trial procedure from the filing of a petition and issuing of summonses to the final determination of a case in an appellate court. *4 h. c.*

PRIVATE CORPORATIONS. Forms of business organizations; formation of corporations; the separate corporate entity; criminal and tort liability; directors and management; rights and liability on contracts; rights and powers of shareholders; issue of shares and subscriptions; underwriting and marketing of securities; stock structure; capital requirements and dividends; liability of shareholders, directors, and promoters; transfer of shares; fundamental changes in corporate organization; shareholders' actions. Prerequisite: the Accounting course, or its equivalent. *2 h. c.*

QUASI CONTRACTS. Nature of obligation; restitution at law for benefits conferred under mistake of fact or mistake of law; benefits conferred in misreliance upon contract invalid, illegal, unenforceable, or impossible of performance; benefits conferred through intervention in another's affairs; benefits conferred under constraint; restitution as alternative remedy for breach of contract and for tort. *2 h. c.*

REAL PROPERTY I. Introduction to the law of real property; the feudal system, theory of estates, non-possessory interests in land, joint ownership, disseizin, history of uses. Rights incidental to possession, including water rights in the land of another, including profit, easements, and licenses. *2 h. c.*

REAL PROPERTY II. Covenants running with the land, including enforcement at law or in equity, and between landlord and tenant and fee owners; rents; waste; public rights in streams and highways. *2 h. c.*

REAL PROPERTY III. Future interests; conditions, reversions, remainders, and conditional limitations; Rule in Shelley's Case; future interests in personalty; powers; rules against perpetuities. *2 h. c.*

SALES. Subject matter of sales, executory and executed sales, stoppage in transit, warranties, remedies for breach of warranties, fraud, Statute of Frauds, and the uniform commerical acts. *2 h. c.*

SURETYSHIP. Guaranty and suretyship defined and distinguished; application of the Statute of Frauds; commercial guaranty bonds to secure private obligations; bonds of public officers; subrogation, contribution, and indemnity; surety defenses. *2 h. c.*

TAXATION. A study of the legal principles of taxation; jurisdiction and constitutional limitations on the power to tax; the major types of modern taxation. *2 h. c.*

TORTS. Assault, battery, malicious prosecution, false imprisonment, negligence, deceit, slander, libel, and other disputes. *6 h. c.*

TRUSTS. Voluntary trusts, language and formalities necessary to the creation of a trust, resulting trusts, oral trusts, constructive trusts, executed and executory interests of trustees. *2 h. c.*

WILLS. Testamentary capacity; dispositions in contemplation of death; execution, revocation, republication, and revival of wills; descent; liability of heirs for debt; probate and administration; title and powers of executors and administrators; payment of debts; legacies and distributive shares. *4 h. c.*

NOTE—Subjects taught and hours of instruction, as well as admission requirements, tuition charges, grading system, case books, and all similar matters, may be changed at any time by the dean and the president.

DEGREES CONFERRED
June 8, 1950

Bachelor of Laws

Mark E. Dilley ..... Youngstown
Irvin Fine ..... Youngstown
Lloyd R. Haynes ..... Youngstown
George A. Mondrut ..... Youngstown
James G. Nuth ..... Youngstown
Bert Rigelhaupt ..... Youngstown

Bachelor of Arts

Nancy JoAnne Ashley ..... Youngstown
James Bell ..... Youngstown
Willis Wade Biddlestone ..... Niles
Nick Bobosh ..... Campbell
Leland Eugene Bricker ..... Struthers
George A. Chuparkoff ..... Struthers
Robert Gregory Clark ..... Niles
Stephen S. Conroy ..... Youngstown
Daniel Coseriu ..... Youngstown
Richard Arthur Crino ..... Campbell
Spero Peter Cummings ..... Youngstown
Harry Leslie Davis ..... Youngstown
Anthony Raymond DeSanto ... Campbell
Betty Jayne Dimenno ..... Youngstown
Anthony James Donatelli, Jr. ..... Lowellville
William Phillip Erme .. Sharpsville, Pa.
Carla Merilyn Fenstermaker ..... Youngstown
Gilbert Paul Fitzpatrick ..... Struthers
Stephen J. Furin ..... Campbell
Israel Gibbs .. New York (Bronx), N. Y.
George J. Hotchkiss ..... Youngstown
William George Houser ..... Youngstown
William Huff ..... Youngstown
Azeez Zeke Jabbour ..... Youngstown
Edsel Tyree Johnson ..... Warren
John Lawrence Knupp, Jr. Youngstown
Vincent Don Lepore ..... Youngstown
Robert Edgar Loew ..... Youngstown
Laura Buchanan Long ..... Youngstown
Jeanne L. Lyons ..... Youngstown
Dorothy Ruth Martin ..... Sharon, Pa.
Richard John Miller ..... Youngstown
Steven Mulichak ..... Youngstown
Dale Benjamin Nelson ..... Youngstown
Nancy Jean Niggel ..... Youngstown
James Freeman Osborne ... Youngstown
Bruno R. L. Parro ..... Youngstown
John Francis Petten ..... Youngstown
William James Rohrer . New Castle, Pa.
Charles M. Ropar ..... Youngstown
Victor P. Salajko ..... Girard
M. Carolyn Sandford ..... Youngstown
Robert John Sause ..... Youngstown
Karl John Sherfel ..... Youngstown
James L. Simon ..... Warren
Edward N. Sobnosky ..... Youngstown
Edward C. Taylor ..... Youngstown
Ethel M. Wagner ..... Youngstown
Robert Mack Walker ..... Youngstown
John Thomas Walsh ..... Youngstown
Lawrence E. Wigfall, Jr. ..... Struthers
Glenn L. Williams ..... Sharon, Pa.

Bachelor of Science

Alexander Bakich ..... Girard
Nelson Clyde Bletso ..... Youngstown
John Bogdan ..... Farrell, Pa.
Cledo J. Castrodale ..... Youngstown
Joseph George Ceryan ..... Youngstown
Mary Jo Davin ..... Youngstown
William Lee Davis, Jr. ..... Youngstown
Theodore G. Gerwing ..... Sharon, Pa.
Livio L. Giudici ..... Youngstown
Carol Jean Henderson ..... Struthers
William Edward Hess ..... Youngstown
Emil Hrivnak ..... Farrell, Pa.
Margaret Kostyo ..... Campbell
Thomas W. Livermore ..... Sharon, Pa.
Raymond A. Lynch ..... Mineral Ridge
Nicholas Majecic ..... Brookfield
Margaret Patricia Mariner Youngstown
James Curtis Martin ..... Warren
Dolores Agnes Novak ..... Struthers
Robert Milton Ray ..... Hubbard
Betty Kloss Stickney ..... Sharon, Pa.
John Cecil Tooill ..... Youngstown
Samuel E. Zimmerman ..... Sharon, Pa.

Bachelor of Science in Education

Jean Boesel Bare ..... Niles
Edward Lewis Batanian ..... Sharon, Pa.
Livio Louis Bertolini ..... Youngstown
Mary Martha Boyles ..... Warren
Robert Leroy Brickley ..... Youngstown
Edward R. Brienz ..... Youngstown
Marjorie Lansing Brimner Youngstown
Daniel Lawrence Cardinal ..... Warren
Helen Cataland ..... Campbell
Joseph M. Ciminelli ..... Youngstown
Rose Marie Clark ..... Hubbard
Michael R. Conti ..... Youngstown
Amelia Jeannette Corrado Youngstown
John William Cottom ..... North Lima

Neva Williams Crouch .....Warren
Robert W. Cubick .....Youngstown
Eli Danilov .....Youngstown
Eleanor Elizabeth Davies..Youngstown
Jody Anthony DeGenaro ...Youngstown
Rita M. Delcamp .....Youngstown
Joseph John Derenzo .....Lowellville
Geraldine Ann Diorio .....Struthers
Edward Raymond Dupay .....Poland
Earl Eugene Eminhizer.....Warren
Jeannine Ovens Faiver.....Youngstown
Edward Earl Finamore....Youngstown
Paul R. Fiscus .....Struthers
Andrew Fogarish .....Struthers
Teresa Maria Gatto.....Hillsville, Pa.
Norma Louise Gould.....Youngstown
Eleanor Graban .....Campbell
Robert A. Gray .....Warren
Dorothy V. Heiges...W. Middlesex, Pa.
Rozella Poole Heilman.....Sharon, Pa.
Ruth Anne Henderson.....Youngstown
Michael Robert Hura .....Campbell
Robert Phillip Ilas .....Warren
Eugene Kenneth Janecko ..Youngstown
Mariel J. Jenkins .....Hubbard
William Robert Jennings .....Canton
John David Johnson.....Youngstown
Jerome Stanley Kahn .....Warren
Nancy Lorraine Kale.....Youngstown
Susan Bonekamp Lewis...Youngstown
Gordon Clifford Llewellyn .....Niles
Marjorie Grimsley Lowery.Youngstown
Rose Marie Malone.....Youngstown
Richard Joseph Marks.....Farrell, Pa.
Richard Thomas Martin...Youngstown
Clara Louise Mines.....Cortland
Morris Mirkin .....Youngstown
Margaret Ann Moore.....Youngstown
William David Moore..New Castle, Pa.
Alex J. Nagy .....Youngstown
Mary Jo Nesselbush .....Poland
Robert James O'Hare .....Hubbard
Ruth Ondash .....Youngstown
John Pete, Jr. .....McDonald
Jo Ann Porter .....Youngstown
Donald Robert Record.....Sharon, Pa.
Edna Ruth Rees .....Girard
Joan Elizabeth Richards.....Struthers
James Edward Robinson.. Youngstown
Edward Ernst Schreiber...Youngstown
Ignace Michael Sebbio .....Niles
John Joseph Shirilla .....Campbell
Sister Mary John .....Youngstown
Sister Mary Bernard Volk.Youngstown
Margaret M. Brown Smith.Youngstown
Thomas James Stanton....Youngstown
Carol Ruth Stull .....Youngstown
Donald Joseph Tamburro..Youngstown
George T. Tomaski .....Warren
Fred William Van Kirk....Youngstown
Robert Vansuch .....Campbell
Claude F. Vasu .....Youngstown
Ruth Galley Weir .....Warren
Marjorie Bell Wern .....Brookfield
Randall Vernon Wilson....Youngstown
Raymond L. Wise .....Youngstown

Bachelor of Science in Business Administration

William C. Anderson .....Sharon, Pa.
Henry Keith Ardinger.....Warren
Julia Marie Aurilio .....Girard
Emanuel George Axiotis .....Warren
Daniel D. Baker .....Canfield
Eugene Barko .....Youngstown
Harold Bunting Barre .....Hubbard
Michael D. Belegris.....Steubenville
Thomas Joseph Bevan..New Castle, Pa.
Marguerite Peggy Biga.....Farrell, Pa.
James Preston Black .....Hubbard
Parke S. Bloyer .....Youngstown
Vincent James Cardinal .....Warren
Christopher J. Carfano .....Struthers
Joseph James Case .....Youngstown
Stephen Cepin .....Youngstown
Ernest Chelekis .....Youngstown
Phillip A. Clarke .....Struthers
James Walter Colbrunn ...Youngstown
Robert Samuel Conklin.....Struthers
Donald E. Coppersmith.....Youngstown
Calvin J. Cox .....Youngstown
Harvey Stewart Crass, Jr....Pittsburgh
Robert George Crawford....Youngstown
James Mansell Crum.....Youngstown
Betty Anne Cummerick.... Farrell, Pa.
Amelia Janet Cvengros .....Campbell
Joseph Jerome Danylchak.....Campbell
John Edward Davanzo.....Warren
John DeEulio .....New Castle, Pa.
Helen Rose DeMain .....Youngstown
Bruno Enes DeMolli .....Youngstown
Katherine Demshuk .....Masury
Richard DePerro .....Youngstown
George Thomas Derenzo ....Lowellville
John Patrick Desmond ....Youngstown
Howard Allison Dilley .....Youngstown
Joseph B. Donegan.....New Castle, Pa.
Francis Anthony Dugan....Sharon, Pa.
James E. Dunphy .....Warren
Robert Patsy Eusanio.....Youngstown
Joseph W. Fedorek .....Campbell
John R. Fitch .....Girard
Wayne Earl Follweiler ....Youngstown
Raymond Paul Freisen ....Youngstown
Philip P. Gainan .....Youngstown
Andrew Gaydos .....Sharon, Pa.
Paul Edward Gehrlein .....Warren
Joseph Matthew Gerek .....Struthers
Nicholas Gialdini .....Girard

Ronald Eugene Gill .....Sharon, Pa.
Anthony Louis Ginocchi .....
New Castle, Pa.
Stephen Francis Goral ....Youngstown
Lynn Bart Griffith .....Warren
Joseph John Hanrahan, Jr. .....
Sharon, Pa.
Edward August Hantula .....Girard
David J. Hibbard .....Youngstown
Charles Lloyd Hofmeister.....Niles
Harold Vaughn Hotchkiss, Jr...Warren
Belmont C. Hughes .....Sharon, Pa.
John Charles Jacobs.....Struthers
Marius Richard Johnson...Youngstown
Robert Joseph Kalafut.....Youngstown
Denny Dale Kennedy .....Struthers
Richard Komo .....Youngstown
William R. Kondas .....Youngstown
George Konik .....Campbell
Joseph M. Korsala .....Youngstown
John Frank Kunstel .....Girard
Michael John Lacivita .....Youngstown
Harry E. Lamb .....Struthers
Steve Francis Leko .....Struthers
John Eugene Lemieux .....Masury
Henry A. Lepore .....Youngstown
Edward Andrew Leskovec..Youngstown
Robert Allen Lininger.....Youngstown
Leon Lipson .....Youngstown
Joseph Nicholas Lotze .....Youngstown
Henry Luszcz .....Youngstown
Jack E. Magoulakis .....Youngstown
Melvin Mamula .....Lowellville
Martin John Mayer .....Youngstown
Ralph Cyrus McCorkle..North Jackson
Thomas Edward Micklas...Youngstown
Frank Joseph Mitch, Jr. .....
Sharpsville, Pa.
Charles Joseph Morley.....Youngstown
Louis E. Muehlbauer .....Youngstown
Angelo Vincent Nacarato..Youngstown
Frank Anthony Naples.....Youngstown
Nina Nicoludis .....Youngstown
Joseph C. Novotny .....Youngstown
Peter Donald O'Neill .....Youngstown
Robert Charles Orton .....Youngstown
Kenneth Wesley Ott .....Struthers
William Parfenchuk .....Youngstown
William Robert Patterson.....Hubbard
Thomas Andrew Petro .....Youngstown
Paul R. Price .....Youngstown
Charles E. Quinn .....Struthers
Floyd Rand .....Youngstown
Pat Michael Revezzo .....Niles
Robert R. Rodecker .....Sharon, Pa.
Lyall N. Rodgers...Minneapolis, Minn.
Edward F. Rogers.....Youngstown
John Roman, Jr. .....Hubbard
Charles Lawrence Ross, Jr. ...
New Castle, Pa.
John James Rowlands.....Sharon, Pa.
Martin Henry Schuller.....Youngstown
Harry R. Schwab .....Struthers
Thomas John Seefred .....Youngstown
Katherine Shabala.....New Castle, Pa.
Frank J. Shaffer .....Warren
Edward Thomas Simchick..Youngstown
William Frederick Skinner.Youngstown
Burton Larry Sloan...New Castle, Pa.
John Thomas Sontich.....Lowellville
Robert A. Spatholt .....Leetonia
Fred R. Stafford .....Warren
John Vendal Stocz .....Warren
J. Albert Tauss .....Youngstown
Frank J. Terreri.....New Castle, Pa.
William Perry Thomas.....Youngstown
Frank Thornton .....Struthers
Peter David Truog .....Youngstown
Alice M. Turner .....Sharon, Pa.
Paul John Uhrain .....Youngstown
Calvin Willis Utecht .....Youngstown
Adelbert W. Valiensi..New Castle, Pa.
James S. Vocature.....East Palestine
Matthew David Vrancich...Youngstown
Paul Richard Walko.....Youngstown
Arthur E. Warden, Jr.....Youngstown
William Wallace Watson ..Youngstown
Marvin Ralph Weiner...Sharpsville, Pa.
Lewis S. Wilder.....New Castle, Pa.
John Raymond Wile, Jr....Youngstown
Russell Charles Wise, Jr....Sharon, Pa.
Carl A. Wittenauer.....Hubbard
Norman Earl Wright, Jr...Youngstown
William Wynne .....Youngstown
Thomas Jerome Yanta .....
West Middlesex, Pa.
Anthony Joseph Zarzeski..Youngstown

Bachelor of Engineering

James Wallace Anderson .....
New Castle, Pa.
Stanley John Baranski New Castle, Pa.
Sam Lawrence Battafarano .....
Youngstown
John Michael Bigowsky...Youngstown
Robert James Bishop.....Youngstown
Eugene Samuel Bova .....Youngstown
Robert McCune Bricker....E. Palestine
Robert Louis Brown.....Youngstown
James Howard Campbell...Youngstown
Forest W. Clark .....Youngstown
Carmen Samuel Conglose .....
New Castle, Pa.
Walter W. Conley .....Cortland
Ambrose C. Corletzi .....Youngstown
Herbert Ray Croysdale.....Youngstown
Alec Cundik .....Youngstown
Frank Wyllys Davis .....Hubbard
William Joseph Dell .....Youngstown

Albert H. Dodson .....Youngstown
Albert J. Duda .....New Castle, Pa.
John Paul Ellsworth.....Youngstown
Samuel Fecto .....Youngstown
Henry Aloysious Fink .....Leetonia
Thomas Oscar Flink .....Youngstown
Joseph Gotal .....Sharon, Pa.
John Joseph Harkins .....Youngstown
William Hale Heintzelman..Youngstown
Charles Irwin Horlbeck .....
New York (Brooklyn), N. Y.
William Alexander Jamison.....
Youngstown
A. Glenn Johnson .....Youngstown
Carl Joseph Kachel, Jr....Youngstown
Edward A. Kleese, Jr.....Brookfield
Fred James Klem.....Youngstown
Howard Ellsworth Knight..Youngstown
Ted F. Kurdupski.....New Castle, Pa.
Milford Earl Landwert.....Salem
William Eugene Logue.....Warren
James Leo Lovy .....Sebring
William Thomas Lucas ...Youngstown
Thomas Joseph Lynch, Jr..Youngstown
Joseph Majecic, Jr.....Brookfield
James Kevin McLaughlin..Youngstown
Richard D. McMeans.....Youngstown
John Waddell McSkimming..Youngstown
Joe Mediate .....Struthers
Edward Hilary Menster...Youngstown
George W. Moser .....Warren
William C. Munn .....Lowellville
Donald E. Nelson.....Bessemer, Pa.
David Seward Nephew.....Youngstown
Michael Nevinsky.....Youngstown
John Joseph Noga.....Youngstown
Paul George Novak .....Struthers
John R. O'Neill .....Youngstown
Robert Claire Ordway .....Warren
Raymond John Owoc..New Castle, Pa.
Matthew Pacak .....Campbell
John Pavelko .....Youngstown
David Lee Porfilio .....Youngstown
Forest Lucian Riley .....Youngstown
Dan R. Rotar ..... Campbell
John Edward Saunders....Youngstown
Edward J. Semick .....Youngstown
Clayton E. Stambaugh.....Girard
Frank Joseph Stigliano.Sharpsville, Pa.
Lawrence A. Teaberry.....Youngstown
Victor Manual Thomas.New Castle, Pa.
Stephen Lesly Tomcsak....Youngstown
Marvin Martin Tradler .....Poland
John William Tucciarone.....Hubbard
Walter Vangeloff.....Youngstown
Joseph J. Vargo .....Youngstown
Stephen G. Vargo .....Campbell
Robert David Walters .....Canfield
Donald Evan Weyer .....Poland
Cassius Furman Whitehill.Franklin, Pa.

Bachelor of Music

Nicholas George Chroniak..Sharon, Pa.
Shirley Marilyn Hogen.....Pulaski, Pa.
Rosemarie Ianazone.....Youngstown
Esotto G. Pellegrini .....Youngstown
Orval Warren Redhair.....Sharon, Pa.
Jean Lucile Russell .....Diamond, O.
Edward L. Smith .....Youngstown
Miriam Suzanna Suosio .....
Slippery Rock, Pa.
Frank Donald Tomasello...Youngstown

TITLE CONFERRED

June 8, 1951

Associate in Business Administration

Jack Robert Brownlee.....Lowellville
Kalman Ernest Dankovich .....Masury
Jack D. Edwards .....Youngstown
Joan Helene Grass .....Youngstown
Ray I. Greenawalt .....Youngstown
Dwight McClain Griffith...Columbiana
Anna Margaret Hoffman .....
New Springfield
George Daniel Lanier.....Sharon, Pa.
Alice Rose Mayo .....Youngstown
Alvin J. Moose .....Sharon, Pa.
Delphine C. Olenick.....Lowellville
Irene D. Pavlov .....Struthers
Audrey Jean Savoia .....Youngstown
Robert J. Schrader .....Youngstown
David Robert Shaw .....Youngstown
Peggy Ann Skipp .....Youngstown
Rosemary Sturgeon .....Youngstown
Walter Connie Szymkowicz .....
New Castle, Pa.
Robert L. Wahlman .....Youngstown
Frank Stanley Wittenauer.Youngstown

DEGREES CONFERRED
August 16, 1951

Bachelor of Arts

Carole Mary Anderson.....Youngstown
Ernest Westley Butler .....Youngstown
June Elizabeth Dahlgren..Youngstown
Anthony Francis Fasline...Youngstown
Frank Edward Gasper.....Campbell
Arthur Joseph Grady, Jr...Youngstown
Thomas Wesly Harvey.....Youngstown
Ralph Randall Hazlett.....Brookfield
Richard Gordon Hinson....Youngstown
John Christ Kapouralos.....Warren
James William Kiriazis .....Warren
Valerian Kostyk .....Campbell
James R. Loshinsky.....East Palestine
Steve Mavrigian .....Youngstown
Paul A. Michaels .....Youngstown
Theodore M. Moss .....Youngstown
Marianne Navin .....Youngstown
Sallie Lou O'Brien .....Youngstown
William Melvin Perkins.....Struthers
Charles Rosser Pleasant....Sharon, Pa.
Albert Leonard Raab....East Liverpool
Harold E. Rauch .....Youngstown
Elmer Edward Rodgers.....Farrell, Pa.
Clifford C. Saunders.....Warren
Lemuel Earl Stewart .....Youngstown
Myron Paul Thomas .....Youngstown
Samuel E. Tochtenhagen.....Girard
John Andrew Tumbri .....Youngstown
Cerrelda Turner .....Girard
Robert Louis Villiott .....Youngstown
Bill Benjamin Weimer.....Youngstown

Bachelor of Science

Mary Catherine Benbow....Sharon, Pa.
John Francis Martin .....Youngstown
Samuel Marzullo .....Warren

Bachelor of Science in Education

Anne Christein Aiken.....Warren
Francis Barnot .....Masury
Maxine Mae Blair .....Sharon, Pa.
Martha I. Bruce .....Farrell, Pa.
James Phillip Carnevale...Youngstown
Garrett Leo Connors, Jr....Youngstown
Audrey L. Crishal .....Youngstown
Ann Marie D'Agostino .....Campbell
Gladys Hopkins Davis .....Hubbard
Helen Mary Dolan .....Warren
Fanny Jean Faustino .....Youngstown
William Frederick Forsythe .....
Youngstown
Joseph William Gayetsky.....Campbell
Fred Earl Griffiths .....Niles
Vic Muntean Hum .....Lisbon
Aurelia Jean Isalie .....Campbell
Martha Jane Jahn .....Youngstown
Edward Francis Kinney....Youngstown
Harry William Krall, Jr.....Struthers
Marjory Helen Lane .....Youngstown
Shirley Anne Liska .....Youngstown
George Raymond Lucia....Warren, Pa.
Dorothy Catherine McGraw .....
Goodland, Indiana
Harry Charles Meiers.....Youngstown
Viola Ripley Mentzer .....North Lima
Loyal Burdette Mould .....Girard
Tony A. Orleans .....Niles
Harry Kyran Perry .....Struthers
Frank A. Plihcik .....Youngstown
Cyril Joseph Roth .....McDonald
Sister Francis Xavier.....Youngstown
Sister Mary Carmel Incarnato .....
Youngstown
Frances A. Slanina .....Struthers
William Lee Stormer .....Warren
Philomena Pauline Vince.....Girard
Eunice Marie Vitullo .....Youngstown
Frances Monroe Winchester Youngstown
George A. Winsen .....Youngstown

Bachelor of Science in Business Administration

James Milton Baker .....Youngstown
Alan F. Boynton .....Youngstown
Edward Michael Ciriello...Youngstown
William Charles Colgrove..Youngstown
Robert Simpson Curtis ....Youngstown
William R. Dailey .....Warren
Wilfred Ray Dedrick .....Youngstown
Eugene Davis Delisio .....Lowellville
Joseph P. DiLallo .....Youngstown
Angelo M. DiLorenzo..New Castle, Pa.
Edward Roy Dowd .....Salem
Raymond George Emery ...Youngstown
Joseph Edwin Fuller .....Youngstown
Lynn A. Hatch .....Hubbard

William Gray Hewitson ....Youngstown
Earl Leroy Kleckner .....Youngstown
John Edward Kolunie..New Castle, Pa.
Earl John Kopnisky .....Warren
John Edward Liptak .....Campbell
Paul Joseph Matuscak .....Youngstown
George Ernest Miller .....Youngstown
James Lee Miller .....Girard
Leo John Muller .....Struthers
Jack E. Nichols .....Youngstown
Dane Wilbur O'Brien .....Youngstown
John C. Pastorie .....Youngstown
William Wilson Reed, Jr...Youngstown
Thomas A. Scarney .....Youngstown
Arthur Martin Shattuck ...Youngstown
Jack Edward Sommerlad .....Poland
George Preston Stahlman..Youngstown
John Thomas Sullivan .....Youngstown
David C. Williams .....Youngstown
Thomas Lee Wills .....Youngstown

Bachelor of Engineering

Sylvester Patrick Barovich .....
Sharpsville, Pa.
Charles Warren Heaton....Youngstown
John Payne Hiltabiddle.....Warren
Virgil L. Kynett .....Alliance
Merle Edward Maffei .....Youngstown
Arthur Paul McNeil .....Alliance
Donald Eugene Meigs .....Warren
Peter O'Shanick.....Wheatland, Pa.
Henry Peck Walters, Jr....Youngstown
Stanley John Zbegan..New Castle, Pa.

Bachelor of Music

Stella Lauretta Floresco...Youngstown
Eugene V. Greco .....Carrollton
Stanley Milton Jacobson...Youngstown

HONORS AND AWARDS

for 1950-51

YC Pins

William Robert Dailey
Amelia Jeannette Corrado
Jody Anthony DeGenaro
Betty Jayne Williams
Gerald Lee Williams

The Youngstown College Awards

For the best all-around student:
William Robert Dailey

For scholarship in the humanities:
James Louis Simon, *first*
Edward Norbert Sobnosky, *second*

For scholarship in English:
Laura Buchanan Long, *first*
Stephen Sebastian Conroy, *second*

For scholarship in the social science sequence:
Frank Aubrey O'Connor, *first*
William Hamilton Harris, *second*

The Greek Prize

James Dewey Young

The Chi Omega Alumnae Award

(in the social sciences)
Ethel Marie Wagner

The Roberts Deliberating Club Award in the Social Sciences

Ralph Randall Hazlett

The Scudder Award

(in chemistry)
Emil Hrivnak

The Professional Engineers Award

(in memory of Louis A. Deesz)
Walter Vangeloff

The Sigma Kappa Phi Fraternity Scholastic Award

(in business administration)
John Patrick Desmond

The American Society of Mechanical Engineers, Youngstown Section, Awards in Mechanical Engineering

Richard Dean McMeans
Marvin Martin Tradler
Cassius Furman Whitehill

The Nathan Hale Chapter, Sons of the American Revolution, Awards

Basic Course: Cadet Samuel Wilbert Penrod
Advanced Course: Lt. John Pete, Jr.

The Mahoning Chapter, Reserve Officers Association, R.O.T.C. Honor Awards

Basic Course: Cadet Charles Leo Coughlin
Advanced Course: Lt. Robert James Bishop

The United States Anti-aircraft Association Medal

Cadet Emmett Clair Shaffer, Jr.

The Mahoning Chapter, Daughters of the American Revolution, Awards

General Excellence: Cadet Henry Carl Hendel
Leadership: Cadet Richard William Brush

Art Prizes

announced in the spring of 1952

The Student Council Purchase Prize

William Robert Dailey

The McCall Prize in Art

Lucille Heyman

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See page 269 for
Addenda and Corrigenda

ADDENDA ET CORRIGENDA

Page 26, under "The College": after "Betty L. Boyer" add "A. B."

Page 26, under "The Libraries":
Below the Catherman line, add the name of Elmer Rodgers as Assistant Librarian. (The appointment is effective July 1, 1952.)

Page 34: The first paragraph under the heading "BUILDINGS AND OTHER FACILITIES" belongs at the foot of page 33.

Page 48, line 4: for "Student-Faculty" read "Faculty-Student"

Page 48, under "Publications," paragraph 3, line 5:
for "Student Activities funds" read "the Student Activity Fund"

Page 66, under "Class Rank": for the first sentence, substitute the following:
"A student who has from 29 to 60 semester hours of credit is a sophomore; one who has from 61 to 93 hours and has been admitted to the Upper Division is a junior; and one who has 94 or more and has been admitted to the Upper Division is a senior."

Page 76: For the footnote, substitute:
"Physical education activity courses, orientation, and music ensemble courses open to all students."

Page 78, note: Add "sacred music" to the 4-hours-of-credit group.

Page 79: For the Neon Fee paragraph, substitute:
"The Neon Fee ($2.50) entitles the student to a copy of the Neon (the college yearbook). The book's price is thus a great deal less than it would be otherwise."

Page 91, lines 1 and 6: for "page 72 ff." read "pages 72 ff."

Pages 91 and 92, in the explanatory paragraph under "A foreign language": for "the Department of Foreign Languages" read "the Department of Ancient Languages or the Department of Modern Languages"

Page 136, bottom: The last note on page 151 should appear here also.

Page 141, top: The heading "ORIENTATION" should appear above the first paragraph.

Page 185, under "Adjunct Faculty":
for "Westinghouse Electric Company" read "Westinghouse Electric Corporation"

Page 200: The heading "FACILITIES" should appear above the sub-heading "Buildings."

Page 203, under "Full-Time Students", line 3: for "$216.00" read "$218.50".

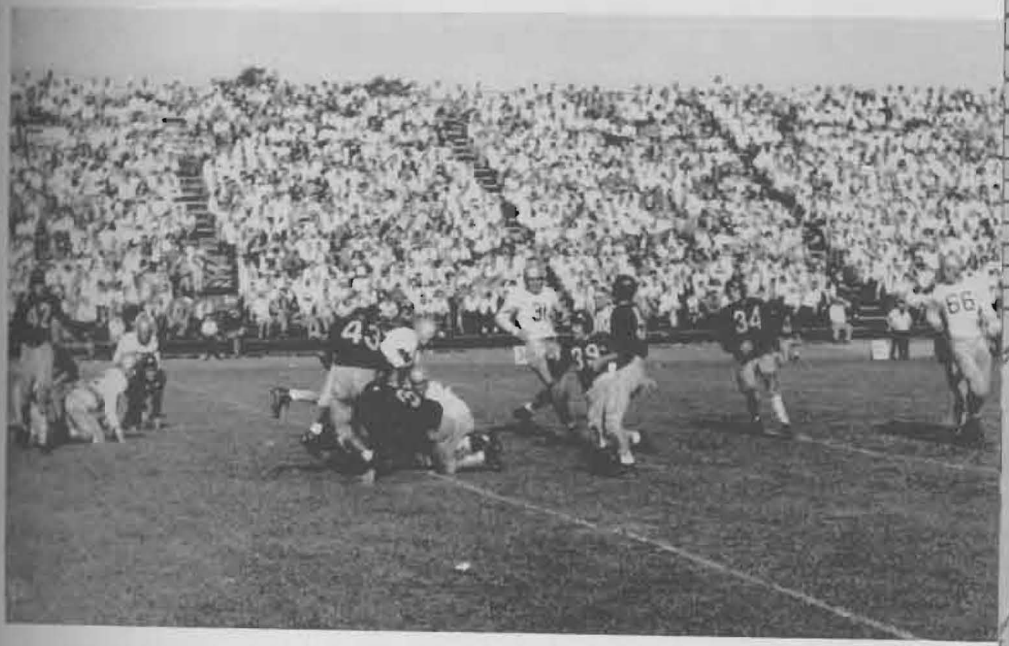
Page 248: for "June 8, 1950" read "June 8, 1951"

FORMS OF BEQUEST

I give and bequeath to The Youngstown College, Youngstown, Ohio, the sum of $.....to be used by the Board of Trustees of said college for such purpose or purposes as they may deem appropriate.

I give and bequeath to The Youngstown College, Youngstown, Ohio, the sum of $.....to be used by the Board of Trustees of said college, the income therefrom to be used for the following purposes:

A Big Game



The Marching Band