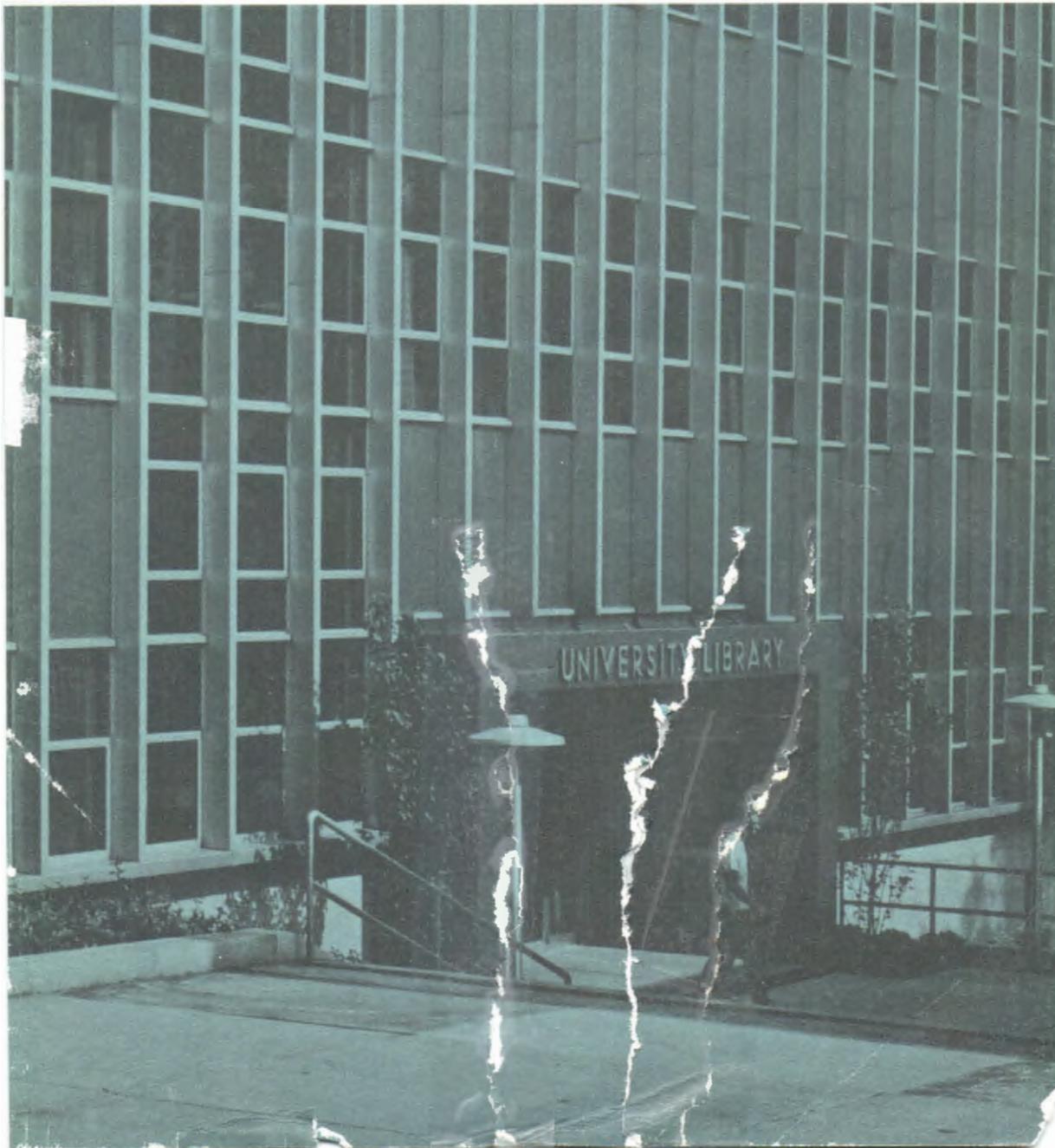


The University of Akron Bulletin

GENERAL BULLETIN 1966-1967 ♦ October Issue



*a descriptive bulletin with
explanations of courses and colleges*
at The University of **Akron**

THE UNIVERSITY OF AKRON BULLETIN

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TABLE
OF
CONTENTS

THUMB INDEX	Page
UNIVERSITY OF AKRON	5
STUDENT ACTIVITIES AND SERVICES	27
ADMISSIONS, GRADES, RULES, FEES AND FINANCIAL AIDS	39
ACADEMIC PROGRAMS	75
COMMUNITY AND TECHNICAL COLLEGE	81
GENERAL COLLEGE	93
BUCHTEL COLLEGE OF LIBERAL ARTS	97
COLLEGE OF ENGINEERING	109
COLLEGE OF EDUCATION	119
COLLEGE OF BUSINESS ADMINISTRATION	131
GRADUATE PROGRAMS	147
COLLEGE OF LAW	
PUBLIC SERVICE PROGRAMS	185
COURSE DESCRIPTIONS	199
DIRECTORIES	303





I

The University of Akron:

The University of Akron is a leader in the area of educational planning as demonstrated by its rapid but orderly growth to date. This has been accomplished through years of study and preparation and by directing the institution's total resources into the fulfillment of the established University aims and objectives. As an institution of higher education supported in part by taxes, the University plans its educational services especially to serve the people of the Akron area, Northeastern Ohio and the state of Ohio.



Objectives

The University of Akron, in fulfilling its role as an institution of higher education, expects students who qualify for admission to achieve the following objectives:

To acquire knowledge of man's social being and history, of his physical and biological nature and environment, of his cultural situation, and of the processes that make for personal and group fulfillment through the development of his personality and character. To develop and strengthen the ability to use in qualitative and quantitative ways the English language.

To be intellectually curious and eager for scholarly growth.

To think logically and critically and make sound judgments.

To appreciate beauty in all its forms.

To understand people and their differences.

To develop an independent spirit and a personal sense of values with the proper regard for the rights of others and to assume a commitment to a free society and the social and civic responsibility as a participant in the world community.

To maintain physical health and vigor and comprehend the importance of appropriate leisure time activities.

To determine their future occupations and interests.

To prepare for greater social and individual effectiveness in public service, the professions, business and industry, labor, and the fine arts as set forth in the objectives of the various colleges, divisions, and departments of the University.

The University of Akron, in order to provide students the opportunity to achieve these objectives:

Strives to create an appropriate and adequate educational climate by offering courses and curricula in various fields of knowledge.

Utilizes faculty and facilities effectively in instruction.

Conducts research activities directed to the advancement of

knowledge.

Provides expert advice and assistance to industrial, civic, and educational agencies.

Offers programs for continuing education and dissemination of knowledge and culture through various media to the community beyond the University.

The degree programs are established in various fields in the colleges as determined by the adequacy of their resources and facilities to meet the foregoing objectives.

The University recognizes a student's level of accomplishment in these programs by awarding, where appropriate, associate, baccalaureate, master's or doctor's degrees.

Accreditation . . . The University's Standing

Any educational institution is as strong as the level of excellence which it demands of itself, as well as of its faculty and students.

The University of Akron has set high standards for itself which result in its being accredited and approved by the following organizations and associations:

The North Central Association of Colleges and Secondary Schools, Ohio College Association, American Medical Association, American Chemical Society, the Engineers' Council for Professional Development and National Council for Accreditation of Teacher Education.

The University of Akron is a member of the following organizations:

American Council on Education, Association of American Colleges, Association of Urban Universities, American Society for Engineering Education, Ohio College Association, the American Association of Colleges for Teacher Education, and it holds associate membership in the International Council on Education for Teaching.

The College of Law has membership in the League of Ohio Law Schools and is fully approved by the American Bar Association. The College of Business Administration is a member of the American Association of Collegiate Schools of Business.

The University is also a member of the Association of University ~~Evening~~ Colleges. In addition to this, it is an

accredited member of the North Central Conference on Summer Schools.

Women graduates of the University with approved baccalaureate degrees (requiring at least two years or a minimum of 60 credits of non-professional, non-technical work credited toward a B.A. degree) are eligible to membership in the American Association of University Women.

Accreditation assures a student that he is enrolled at a university which is recognized and approved by select regional and national educational associations, societies and councils.

A student has the security of knowing that credits earned at his university have transfer value to comparable institutions of learning, just as incoming transfer students learn by checking this list that The University of

Akron can be expected to honor most of their credits earned at a similarly accredited college or university.

For the student taking pre-professional courses in order to enroll eventually for subsequent study in advanced fields such as medicine, dentistry, law or theology, there is the assurance that courses taken at The University of Akron will prepare him to be accepted by a graduate or professional school where he can specialize further.

For the student who intends to meet the University requirements for a Bachelor's Degree or Associate Degree and then enter his chosen profession or vocation, there is the satisfaction of knowing that this degree will be respected whenever he presents his credentials to a prospective employer.



History

The University of Akron traces its origin to 1870 with the establishment of Buchtel College by the Ohio Universalist Convention. The College took its name from its most generous benefactor, the Hon. John R. Buchtel, and, in turn, gave his name to the first building for which construction began in 1871.

In 1888 a new building, Crouse Gymnasium, was erected east of the main building and three years later an athletic field, located four blocks away, was purchased and given the name of Buchtel Field.

The orderly growth of the young College ran into disaster in 1899 when Buchtel Hall was destroyed by fire, but the College and the community met the challenge by using Crouse Gym and neighboring rooms to continue classes. Funds were raised for a new structure and a second Buchtel Hall was in use by 1901 on the site of the burned out remains. The new building, still in use as the major Administration Building has in its vestibule the cornerstone of the original 1871 structure.

In 1913, plagued with financial problems but still dedicated to educating the young people of its day, Buchtel College and its plant and endowment were turned over to the citizens of the City of Akron to become the nucleus of the non-sectarian Municipal University of Akron. The following year, with the addition of an

Engineering College, the institution's name was changed to The University of Akron and the original name of Buchtel College was perpetuated in the Buchtel College of Liberal Arts.

Since that time, the University has made several important strides:

- 1915 Evening Sessions were begun.
- 1921 The College of Education was established.
- 1935 The General College was established.
- 1953 The College of Business Administration was established.
- 1959 The College of Law was established.
- 1959 The Ph.D. was conferred for the first time.
- 1964 The Community and Technical College was established.

Will the decade of the 1960's provide other milestones? The answer is a firm YES. This is an era of building and planning, improving and growing at The University of Akron. The demand for higher educational facilities has increased rapidly and the University intends to answer this call.

By retaining respect for the past but at the same time, turning enthusiastic minds and hearts toward a hopeful future, the citizens of Ohio and the students of the University will be part of an exciting drama of progress in the world of tomorrow.



One hundred thousand piece Italian glass mural depicting University history—Student Center

Designed and executed by Dr. Emily H. Davis,
Head of the Art Department, and Assistant
Professor of Art, Malcolm J. Dashiell.

Academic Offerings

The University of Akron's academic offerings cover the complete educational spectrum from two-year Associate degree programs, through four-year baccalaureate programs, to Master's degree programs as well as programs of study leading to the Doctor's degree.

The first and second year student may be enrolled in the General College, obtaining the background in General Studies required for entering one of the University's upper colleges. Or he may be enrolled in the Community and Technical College, taking courses that will earn him an Associ-

ate degree at the end of two years in such vocations as chemical technology, electronic technology, mechanical design, sales and merchandising, industrial technology, commerce, transportation, or secretarial science.

By the time a student who is aiming toward a baccalaureate degree reaches his third year, he has usually completed many of the General Studies courses and is ready to become a part of an Upper College. It is in the Upper College of his choice that he begins devoting more and more of his time and attention to a specific area of study.

The student may also be one of the hundreds of graduate students working toward a master's degree in any of 18 fields. Or, he may have completed the earlier programs and be engaged in the scholarly study and research essential to preparation for a doctor's degree in chemistry, polymer science, industrial psychology, or education.

ASSOCIATE PROGRAMS

In this fast-paced age of technological development, a need has grown for persons trained specifically for work in the semi-professional, technical and highly skilled classifications. Most critically needed are lab technicians, engineering assistants, industrial sales people, supervisors, secretaries and management assistants.

Community and Technical College

The University of Akron began offering programs aimed toward helping industry meet such needs in 1937 when it introduced its Community College program. Initially offering only non-credit studies, the Community College expanded rapidly and in 1959 the University began offering Associate degree programs through its General College in a variety of fields.

The demand for such training has continued to grow. As a result in 1964, the Associate degree program was separated from the General College and the Community and Technical College was established.

The Community and Technical College offers credit courses leading to

an Associate degree at the end of a two-year program of study in the areas of industrial technology, electronic technology, mechanical design, transportation, chemical technology, sales and merchandising, commerce, arts, commercial art, surveying and construction technology and secretarial science. Included in the latter are courses aimed specifically toward preparing graduates to qualify as executive, international, legal, technical and medical and dental secretaries.

BACCALAUREATE PROGRAMS

In 1935 The University of Akron pioneered a concept in general education in the belief that all college students should have mastered general courses in the humanities and the social and physical sciences. Students, even those aiming toward careers in such vocationally-directed fields as engineering, chemistry or business administration, benefit from these "know-why" courses.

General College

As a result, students seeking a baccalaureate degree who are enrolling in the University with less than 64 credits, study in the General College before "graduating" to an upper college. Here they develop the ability to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. They learn the responsibilities of an educated member of society, as well as learning to understand themselves and their individual abilities.

After completing their courses of study in the General College, students seeking a baccalaureate degree enter one of the following upper colleges:

Buchtel College of Liberal Arts—

is organized in divisions of the humanities, natural sciences and social sciences, and furnishes a broad, thorough liberal education as well as preparation necessary for the medical, dental and legal professions. Baccalaureate degrees conferred in the liberal arts area are the Bachelor of Arts, Bachelor of Music, Bachelor of Science, Bachelor of Science in Labor Relations, and Bachelor of Science in Medical Technology.

College of Engineering—

offers a five-year program of courses leading to a Bachelor of Science degree in chemical, civil, electrical and mechanical engineering, arranged on the highly successful cooperative work-study plan that bridges the gap between academic college training and practical industrial experience.

College of Education—

furnishes the necessary preparation for prospective teachers, counselors and administrators for primary, elementary and secondary schools, and in nursing, health and physical education. All courses comply with State certification requirements and degrees of Bachelor of Science in Education or Bachelor of Arts in Education are offered.

College of Business

Administration—

programs feature professional education and training for careers in general business, accounting, commerce and industry. Degrees offered are the Bachelor of Science in Business Administration and the Bachelor of Science in Industrial Management.

ADVANCED STUDY

After earning a baccalaureate degree, students desiring still further education may embark on programs in either of the following:

College of Law—

provides legal education leading to the Juris Doctor degree in either day or evening classes. For admission an applicant must have an undergraduate degree from an accredited college or university in an appropriate field of study.

Graduate Division—

offers advanced courses leading to the Doctor of Philosophy degree in chemistry, polymer science, industrial psychology, education, to the Doctor of Education degree in school administration; and to the Master's degree in accounting, biology, business administration, chemistry, economics, education, e n g i n e e r i n g , English, French, history, industrial management, mathematics, philosophy, physics, political science, psychology, sociology and speech.



Evening College

Education is a year-long, round-the-clock endeavor at The University of Akron. To provide educational opportunities for those who must earn their livelihood at daytime jobs, the University operates an Evening College. The courses offered in the Evening College are fully accredited, and many of the faculty members teach both day and evening courses. As a result, more than 5,000 of the University's student enrollment attend evening courses in their quest for baccalaureate and advanced degrees or for added education in their chosen professions.

Summer Sessions

For more than 40 years, the University has also offered both daytime and evening classes during summer months. Specific goals of the Summer Sessions are to permit University students to accelerate their academic

progress; to help teachers work toward additional or advanced degrees or toward certification during summer vacations; to permit regular engineering students to continue their studies on schedule while working in the cooperative program; for transient students from other universities who wish to work toward their degrees during the vacation; and for high school graduates who may wish to enter the University immediately after their graduation in June.

Students

A composite picture of an Akron student would be hard to sketch. But if one limits his attentions to the typical undergraduate, the following comments will draw a true picture of the students at The University of Akron:

Akron Students show by appearance and action that they attend a university which is in a forward-thinking, prosperous community. The Students

are abreast of trends and clearly a part of national collegiate interests, both curricular and extracurricular.

Akron Students enjoy the security of knowing that if they wish to do so, they can anticipate a future life in the Akron area, since there are many opportunities for employment in industrial and professional fields which are close to the campus.

Many Akron Students have the unique advantage of living with their families and yet adding to their cosmopolitan circle of acquaintances. Akron, as "the rubber capital," attracts many campus visitors and increasing numbers of foreign Students. New dormitory facilities make it possible for nonresident students to add a valuable ingredient to the atmosphere of the University scene.

Akron Students live in an area of the United States which is on the "culture trail." This means that they have frequent access to plays, lectures and professional performances either in or near Akron. The Metropolitan Opera Studio group has presented workshop productions of operas in capsule on The University of Akron campus.

Faculty

At The University of Akron, there is no "typical teacher." Each professor functions as an important part of an organized directed group. But he exerts his skills in his own individual manner. Although he is part of a close-knit campus community, he is not part of a cloistered, segregated Ivory Tower clique.



Even his living conditions reflect the heterogeneous aspect of the Faculty. There is no fenced-in compound where faculty families live together. There is no in-bred social or professional attitude—but instead, the strongly personal, deeply America-flavored uniqueness of the individual.

Many Akron professors have studied at institutions whose reputations are recognized all over the world. A few of them are: California, Carnegie Tech, Chicago, Cincinnati, Colorado, Columbia, Cornell, Harvard, Indiana, Iowa, Johns Hopkins, Michigan, Minnesota, North Carolina, Northwestern, N.Y.U., Ohio State, Princeton, Purdue, Syracuse, Temple, Utah, Wisconsin, Wooster and Yale. Outside of the U.S.: The Universities of

Bolivia, Frankfurt, Halifax, Jadvpur, London, M a n i t o b a , McGill, San Francisco Xavier de Chuquisaca, Tübingen and The Sorbonne. This variety of background of educational training is part of the University's richness.

Akron professors have academic records which show that they are equipped with a depth and breadth of scholarship. More than half of the Faculty group have earned their Doctor's degrees.

Administration

The public responsibility for educational advancement at the University is delegated to specific individuals. In accordance with Ohio law, the University is governed by a Board of Directors, consisting of nine citizens who are appointed by the Mayor for overlapping terms of six years.

This Board functions as the legal and policy-making body of the University while the University Council functions as the faculty legislative group.

On campus, providing the necessary link between the public and its University, are a number of people who function as part of the Administration. This includes a President, three Vice Presidents, ten Deans, a Business Manager and an Auditor, Controller, Registrar, Librarian, Director of Purchasing, Director of University Relations, Director of Alumni Relations, Director of the Institute for Civic Education and Superintendent of Buildings and Grounds.

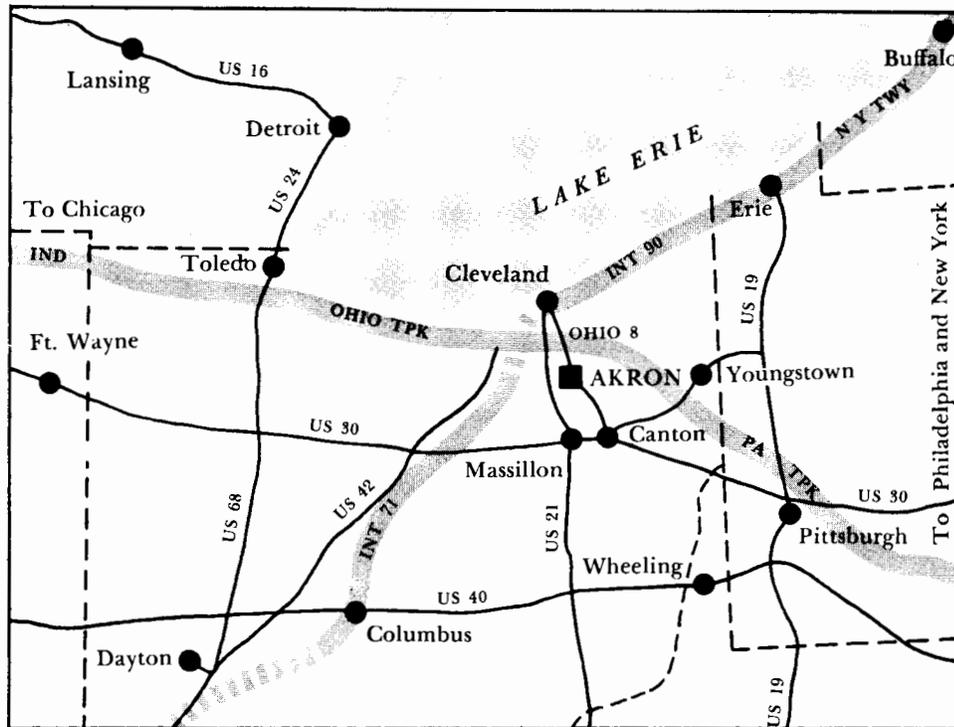
The Advisers of Men, Advisers of Women, Testing and Counseling Bureau, Director of Housing and the Admissions Officer, also part of the administrative table of organization, devote most of their attention directly toward the students.

When an academic step affecting students is to be considered, members of this administrative group must lead the way in deciding *if . . . when . . .* and *how* something should be done.



Location

Strategically located in the industrial heartland of America, and situated in the central part of a major metropolitan area, the University is uniquely qualified to help men and women seek the enlightening adventure of college education. Its location provides an easily accessible center of learning while permitting the student to examine the many vocational opportunities of a wide variety of business and industrial institutions. And, by offering fully-accredited courses



throughout the year, both during daytime hours and at night, it also permits the student to work in one of the area's many industries, thus combining a collegiate education with experience.

The area surrounding The University of Akron also offers unusual cultural opportunities. Living in an area of the United States called the "culture trail," students have frequent access to plays, lectures and professional performances, either within Akron or in the surrounding area, which includes Warren and Canal Fulton with their famous summer stock theaters.

How to get there

The location of The University of Akron is ideal from a traveling standpoint. Automobile travelers find Akron but a short drive south of the Ohio Turnpike that ties together the whole eastern half of the nation. The city's suburbs touch on the new interstate north-south Highway 71 that stretches from Lake Erie to the Gulf Coast and Interstate 90 that ties in with the New York Thruway. Bus travelers will find the Greyhound station but a short walk from the campus as will patrons of the B & O, Pennsylvania and Erie-Lackawanna

railroads. And airline passengers will find Akron the terminal of limousine service from both the Cleveland-Hopkins and the Akron-Canton airports.

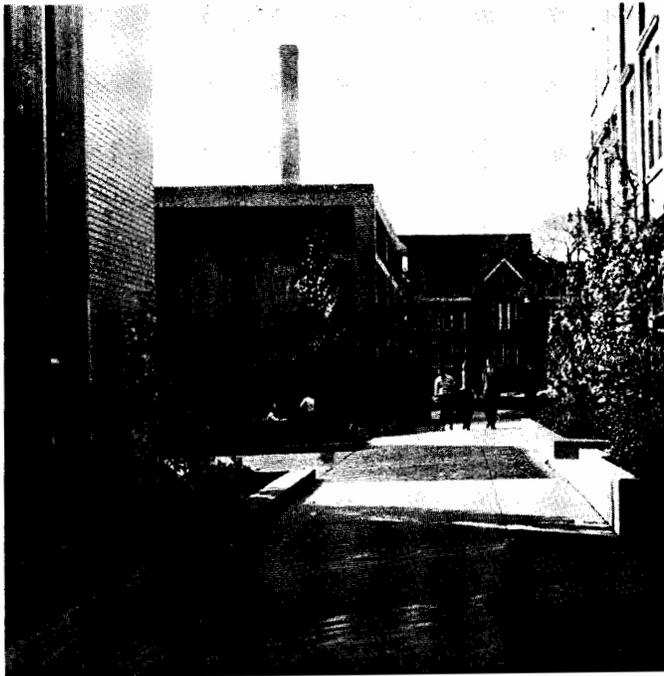
Growth

Growth in size and facilities is part of the story of any dynamic institution and The University of Akron is no exception. In 1951 the student body numbered only 3,673 and the University's thirteen acres of ground encompassed only ten buildings. Since then, however, the student body has more than doubled, reaching in the 1965-66 academic year, a record high of more than 12,000. The campus has also grown, covering fifty-two acres with twenty-one buildings.

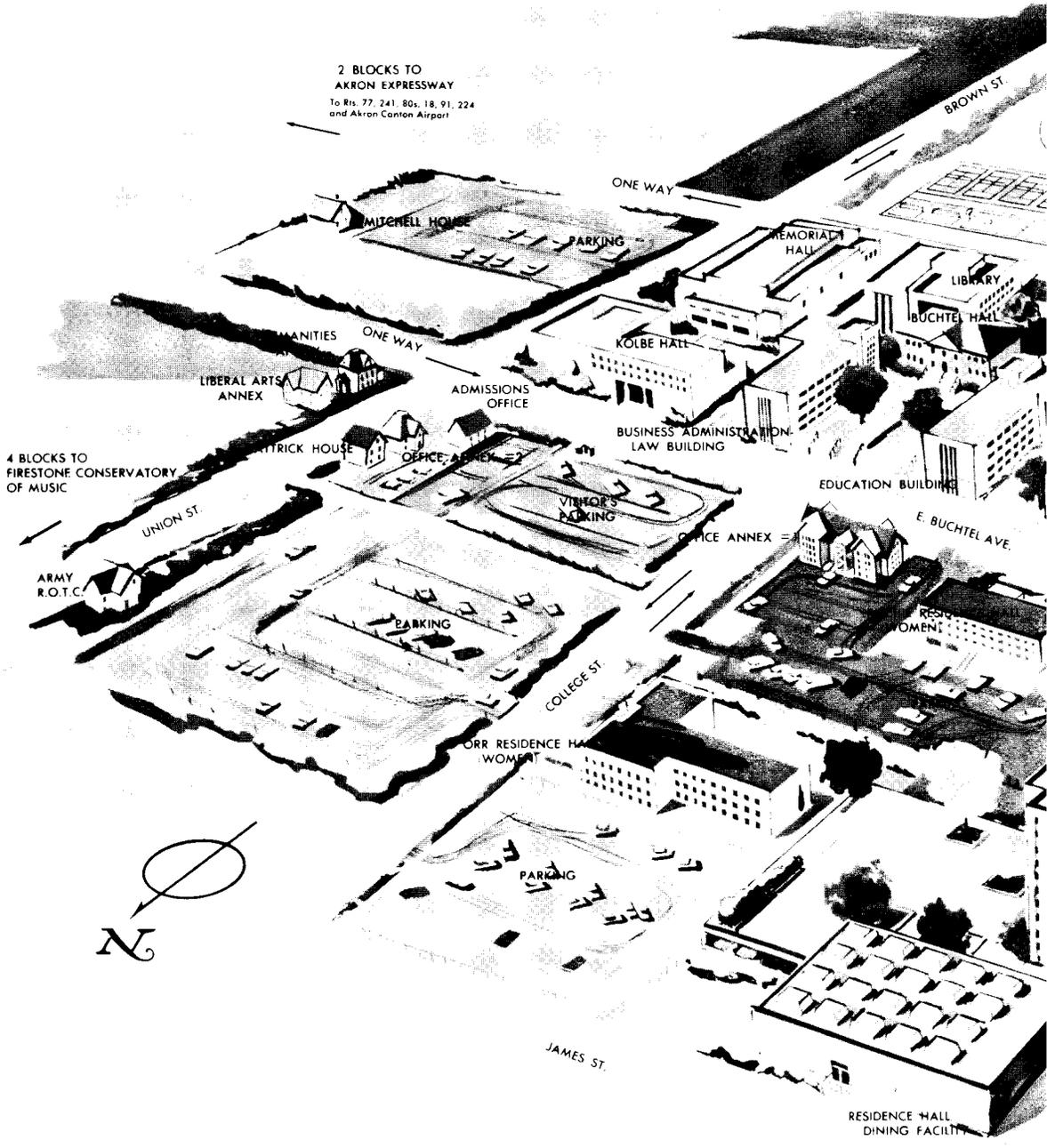
Nor is the end in sight. As rapidly as the need for an increasing number of educated minds has grown, the University has expanded. One building project has just been completed to provide a high-rise dormitory; the Norman P. Auburn Science and En-

gineering Center is under construction and ground has been broken for Southwest Hall, the new home for the Community and Technical College. The twenty-three acre Lee R. Jackson Athletic Field is scheduled for completion by the end of 1966 as is an addition to the Student Center which will more than double the space available in that hub of student activities.

Thus, although situated on valuable land within easy walking distance from the heart of Akron's downtown business district, The University of Akron continues to grow. New buildings, modern equipment, expanding campus area, adequate parking facilities, comfortable residence halls and many other necessities of modern education are rapidly being added to provide the students of today and tomorrow with all the facilities required to meet the University's continuing high standards of excellence as an institution of higher learning.



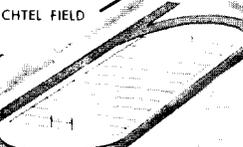
2 BLOCKS TO
AKRON EXPRESSWAY
To Rts. 77, 241, 80s, 18, 91, 224
and Akron Canton Airport



4 BLOCKS TO
FIRESTONE CONSERVATORY
OF MUSIC

RESIDENCE HALL
DINING FACILITY

CKS



LEE R. JACKSON FIELD

E. EXCHANGE ST

HOME ECONOMICS ANNEX

SUMNER ST

SHERMAN ST

SOUTHWEST HALL (UNDER CONSTRUCTION)

STUDENT CENTER (UNDER CONSTRUCTION)

ONE WAY

E. CARROLL ST

HEATING PLANT

SIMMONS HALL

AYER HALL

BOURN SCIENCE AND ENGINEERING CENTER (UNDER CONSTRUCTION)

ONE WAY

ONE WAY

INSTITUTE FOR CIVIC EDUCATION

PARKING

SISLER-McFAWN RESIDENCE HALL (OPEN)

UNIVERSITY SERVICE BUILDING #1

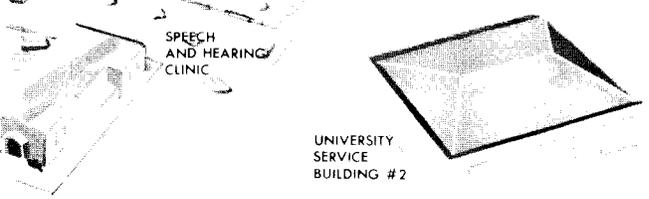
CENTER ST

RESIDENCE TOWER (MEN)

PARKING

SPEECH AND HEARING CLINIC

UNIVERSITY SERVICE BUILDING #2





Buchtel Hall



The Firestone Conservatory

Buildings

AYER HALL, on the northwest side of the campus, provides classrooms, laboratories and office space for the College of Engineering and testing laboratories. It is named for the first Dean of the College of Engineering, Frederic E. Ayer, the developer of The University of Akron cooperative work study plan.

BUCHTEL HALL, in the center of the main campus, is the Administration center of the University. It contains offices of the President, the Vice President and Dean of Administration, the Financial Vice President, the Vice President for Development, the Dean of the Evening College and the Dean of the General College. Also, it houses the Office of Student Services and is headquarters for the Auditor, the Controller, the Coordinator of Research, the Business Manager, and the Registrar. It is named for the institution's first benefactor, John R. Buchtel.

BUSINESS ADMINISTRATION AND LAW BUILDING houses the Colleges of Business Administration and Law classrooms and offices plus the John S. Knight Auditorium and Blake McDowell Law Library in addition to lecture, laboratory and seminar rooms, and a practice courtroom.

CIVIC EDUCATION BUILDING, at 221 E. Center St., facing the campus, is the location of the Institute for Civic Education and headquarters of the Testing and Counseling Bureau.

EDUCATION BUILDING, provides a lecture room that seats 260, 25 general classrooms, a handicrafts room, an auxiliary closed circuit television studio, a complete language laboratory, a teaching demonstration classroom and is headquarters for the Dean of the Graduate Division and the Dean of the College of Education and his staff.



Knight Hall



Kolbe Hall

FIRESTONE CONSERVATORY OF MUSIC, a gift of the Harvey S. Firestone family, includes two buildings located at East Market and Forge Streets. It provides classrooms, practice rooms and office space for the Department of Music and has a large auditorium for student recitals.

KNIGHT HALL is the location of the chemistry department, providing its classrooms, laboratories and office space, as well as rooms for lectures and research laboratories of the Institute of Polymer Science. It is named for C. M. Knight, head of the first Science Department and developer of the world's first rubber chemistry course.

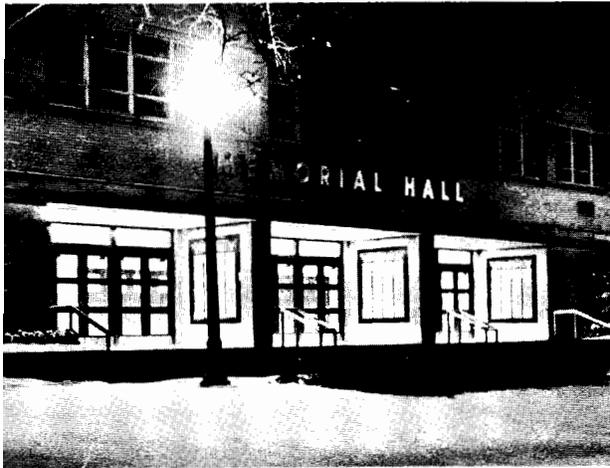
PARKE R. KOLBE HALL includes classrooms and offices of the Buchtel College of Liberal Arts, the University Theatre, the Speech and Hearing Clinic, the Audiology Laboratory, WAUP-FM radio station, and instruc-

tional television studios, as well as the English, speech and biology departments. It is named for the first president of the municipal University.

THE LIBRARY is air-conditioned and was recently enlarged to house 200,000 volumes.

It houses a General Circulation area, General Periodicals Room and General Reference Room, a Humanities Library and a Social Science Library with special collections for Business Administration and Education and provides spacious area for the Science and Technology Library, including the Rubber Division Library and the Rubber Science Hall of Fame, as well as volumes for the use of the College of Engineering. Unique features are the Herman Muehlstein Rare Book Room and the Charles E. and Mabel M. Ritchie Memorial Room.

The Art Department is on the thi



Memorial Hall

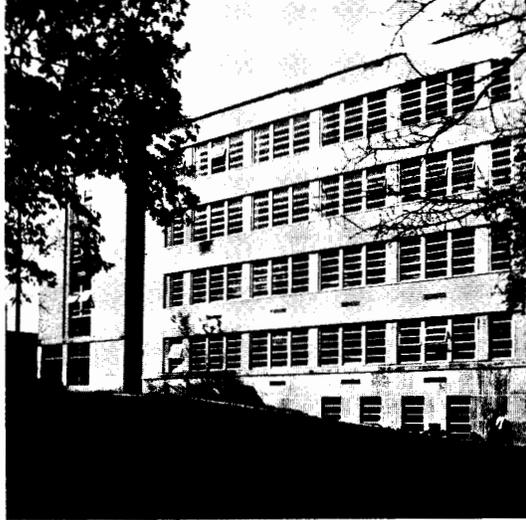
floor of the Library, with classrooms, studios and offices.

On the ground floor is the Audio-Visual Services office with a library of films and records for student and community use.

MEMORIAL HALL, is the recently constructed center of men's and women's physical education activities. It contains two large gymnasiums, swimming pool, classrooms and offices of the Athletic Department faculty and staff and houses the University Relations and Publications offices. It is dedicated to the memory of Summit County men and women who died in World War II.

ROTC offices are located in temporary offices at 142 South Union Street. Air Force ROTC offices are in a building on Buchtel Avenue, at the intersection of Center Street.

AUBURN SCIENCE AND ENGINEERING CENTER, now under construction immediately west of the main campus area, will be, as the name implies, the



College of Education

home of the four departments of the College of Engineering plus science and research laboratories and the departments of mathematics and biology. It will also house the scientific and engineering holdings of the University's library, the Institute of Polymer Science and the Office of the Coordinator of Research. The ground floors of the new structure will be devoted to vehicular parking for faculty and students.

SIMMONS HALL contains offices and classrooms of the Community and Technical College, the departments of Physics and Psychology, laboratories of the College of Engineering plus the University's Computer Center. It is named for the former University President, Hezleton E. Simmons.

SPICER SCHOOL, an elementary school under the jurisdiction of the Akron Board of Education, is located east of the campus at Carroll and Elwood Streets. This school is used by the College of Education for student teaching assignments.



Ritchie Hall for Men



Gertrude F. Orr Residence Hall for Women

Residence Halls

The University's Residence Halls complex is located on the North Campus adjacent to the Main Campus and within easy walking distance of downtown Akron. The complex contains four dormitory buildings capable of housing 660 students, Orr and Ritchie Halls, housing a total of 210 women and Ritchie Hall and the new Residence Tower which house 450 men.

All four of the modern buildings are fully air-conditioned and equipped with the finest built-in furniture and conveniences. Each building has its own lounges and recreation areas and all are equipped with laundry facilities and storage rooms.

The Residence Hall complex also contains a coed dining hall used exclusively by dorm students and a twelve-bed infirmary which also serves as the University's Health Center.

STUDENT CENTER is now being expanded to increase facilities for most of the student activities. When the expansion is completed early in 1967 the Center will house bowling alleys, music rooms, TV lounge, student activity offices and work rooms, game

and billiard room, book store, Alumni Office, Senior Placement Bureau, and cafeteria and dining facilities.

* * *

While construction of the Auburn Science and Engineering Center and Southwest Hall is underway, several of the University's offices and facilities are housed in temporary structures immediately adjacent to the campus. Offices for members of the College of Liberal Arts faculty and the Center for Information Services are located in four buildings at the corners of Union Street and Buchtel Avenue and the Army ROTC offices are located farther down Union Street. Until the new dormitory facilities are completed several students are being quartered in other buildings near the campus and the Admissions Center is located in a converted residence immediately across Buchtel Avenue from Kolbe Hall. Office Annex No. 1, located immediately across Buchtel Avenue from the campus, is being used for classrooms and faculty offices. Temporary Faculty offices are also located in the Home Economics Annex on East Exchange Street and the Speech and Hearing Clinic is on James Street.

Teaching Aids and Facilities

While the personal give-and-take relationship established through face-to-face contact between the teacher and student will always remain the keystone of the educational process, studies have shown that imparting knowledge through the use of certain modern teaching aids can often make the learning situation more meaningful to the student. Among more recent strides in that direction at The University of Akron are:

CLOSED CIRCUIT TELEVISION was begun in 1960-61 to utilize this modern communications medium as an effective teaching tool. Daily lectures originating in the University television studios are telecast on closed circuits to campus classrooms. This has proven to be

an efficient means of presenting educational material to an expanding number of students, maintaining the values of the traditional professor-to-student relationship and adding new values of its own.

An estimated 6,000 students receive part of their instruction by television. As the medium becomes increasingly flexible, it is expected that this number will increase. At the present time, more than 70 classrooms are equipped to receive the closed circuit lectures.

No courses are presented entirely by television. Each television lecture is presented to a class which meets periodically with its professor "in person."

AUDIO-VISUAL SERVICES date back to 1945 when film strips were purchased

Closed Circuit Television Studios



to supplement several University professors' lectures.

This teaching aid has increased in value and popularity in forward-thinking educational institutions, including The University of Akron. In 1961, the scope of audio-visual aids was conspicuously expanded when the new Library was completed because a major portion of the ground floor is designed to accommodate the Audio-Visual Center.

Some records can be taken out like library books for home use; others are used in soundproof listening booths in the Audio-Visual Services Center. Occasionally a student is assigned to tape his own voice and listen to himself so that he may develop a clearer understanding of his own speech characteristics.

The Audio-Visual Services prepare slides which can be used to add visual impact to a University lecture or a community meeting on campus. These same photographic darkroom facilities supply slides and film strips to be used on the University's closed circuit television system.

THE LANGUAGE LABORATORY, a specialized adjunct to each of the Modern Language areas of study, is an electronically-equipped room in the College of Education Building, with sound-booths and a monitor's console.

The Laboratory is expressly for the purpose of familiarizing language students with a foreign tongue, by exposing them to actual voices of that country, as "caught" by tapes and records.

Student booths have earphones, microphones with amplifiers, and in some cases, tape recorders. The in-



Individual Listening Room

structor's console has a microphone, tape-deck and turntable.

The Laboratory is also equipped for the use of film-strips and slides.

THE PHOTOGRAMMETRIC LABORATORY in Ayer Hall is a training facility for advanced Civil Engineering students. A wall model of geometric forms which simulates hilly terrain has been built, combining cones, cylinders, pyramids and cubes of various sizes. A Polaroid camera is mounted in front of this model so that a student may have the same vantage point over the simulated topographic conditions which he would have if he were in a plane making an aerial survey.

The geometric forms are painted in various colors which simulate terrain and soil colors, since aerial photographs register different colorations and afford part of the surveying information.

This is theoretical preparation, combined with practical experience, which can eventually lead to development of increasingly fast and inexpensive methods of drawing maps and making terrestrial measurements.



THE AUDIOLOGY LABORATORY, a specialized adjunct to the Speech and Hearing Clinic, is a new facility recently installed in Kolbe Hall to provide complete audio-logic diagnostic testing services. Consisting of sound-treated testing suites, the lab is capable of conducting such diagnostic procedures as EDR, Bekesy and SISI as well as standard tests of hearing function. Equipment includes pure tone audiometers, both manual and self-recording, speech audiometers and portable gear for research for hearing conservation programs in industry.

THE COMPUTER CENTER, a new adjunct to student and faculty facilities, is located in Rooms 155 and 157 of Simmons Hall.

The University obtained the IBM 1620 and the Burroughs 205 digital computers so that they could be used for instruction at both the graduate and undergraduate levels. In addition, they aid in developing many research programs of academic merit. It will be increasingly utilized in connection with problems in the natural and social sciences, and it will be used as a

teaching and research tool in almost all University academic areas.

Courses in computer operation and programming are offered to students; also, conferences and seminars related to the computer's use have been held.

CENTER FOR INFORMATION SERVICES, temporarily located in buildings on Union Street, is a new function established in 1965 for selecting and collecting research data in specific scientific fields. In the Center, trained personnel carefully screen scientific data and prepare abstracts of meaningful materials. Those abstracts are then stored on tape and, by use of computers, can be retrieved as required in response to individual queries or for publishing in combination with others. The Center provides information retrieval service for faculty members and researchers and is under contract to the Division of Rubber Chemistry of the American Chemical Society for the review and publication of monthly abstracts of papers of interest to technical personnel in the rubber industry along with an annual summary and bibliography of that material.



2

The University of Akron:

Student Activities and Services

Not all of life on a university campus is work. A significant portion of student development must come from outside the classroom. At The University of Akron each student has the opportunity to gain in poise and maturity, to improve in social graces, to learn the role of leadership, and to choose activities or develop new ones through a wide range of extracurricular activities.



Extracurricular Activities

Everyone at The University of Akron can be a member of some group, team, club or committee. A student can participate in songfests, Student Council elections, pledge weeks, rush parties, sorority teas, fraternity bull sessions, student meetings of professional societies, kaffee klatsches, University radio workshops, Town and Gown lectures, military balls, ox roasts, Father's Day festivities, intercollegiate sports, intramural sports, May Queen crownings, Forensic Union matches, University plays, Music Department concerts or recitals, Honors Convocations, recognition dinners, Evening College jazz sessions, Founders Day programs, homecoming dances, band practices, newspaper staff meetings, wrestling matches, swimming meets, soccer games, cross country running races.

An Extracurricular Activities Committee exercises control over most of the University groups. Its members represent the various colleges and study areas and also the students

themselves. At present there are eight faculty members in addition to the presidents of Student Councils, both daytime and Evening College, and head of the Women's League, serving as members of this committee.

There is a necessary limitation on the individual student so that he won't become involved in so many extracurricular activities that he slights his studies. For this reason, a standard of grades must be maintained before a student can enter some of the more time-demanding extracurricular fields. First semester students must be carrying at least 10 hours; other students must have completed 10 hours with an average grade of 2.0 (C).

If a student meets these requirements, he may be considered for appointment for activity in these campus groups:

The Buchtelite (University newspaper) staff; *Tel-Buch* (University yearbook) staff; music or speech productions; radio and television work-

shop staffs; Student Center managerial positions; Memorial Hall (physical education and health center) staffs; majorettes; cheerleaders; Homecoming Queen and Crowner; May Queen and Crowner; Commissioner of intramural sports.

Also, all student groups have faculty advisers. For instance, the student publications function with the assistance of a Publication Committee made up of The Dean of Student Services, The University controller, The Faculty advisers and editors of *The Buchtelite* and *Tel-Buch*, and presidents of both the Student Council and the Women's League. In addition, the Director of University Relations acts as Chairman of the Committee.

Musical Opportunities

There are many campus musical groups which perform for the large University functions and also present instrumental and vocal concerts and recitals.

Students may try out for places in the marching band, orchestra or brass choir, if they have talent in playing a musical instrument.

Vocalists may apply for member-

ship in the University Singers or the Madrigal Singers and may participate with the choral group of the Akron Symphony Orchestra.

About 20 recitals by individual music students and faculty members are presented each year in the Firestone Conservatory, which includes classrooms, an auditorium and several reception areas which are used by hospitality committees in connection with recitals.

Students with musical ability will find a wide variety of instruments including a three-manual classic-style Moller organ, a Neupert harpsichord, and a concert-style harp, owned by the University and offered to students for use in the instrumental groups or as adjuncts of private or group instrumental lessons.

Many off-campus groups avail themselves of the musically trained students and during the course of an academic year, about 50 performances will be presented by instrumental ensembles or singing groups.

Private lessons are offered to University students and also to non-campus musicians, with payments on a per-lesson plan, instead of the conventional semester arrangement as used for other courses of instruction.



Performing Arts

University students have ample opportunity to develop their abilities to face the public and talk "on their feet"—either to "live" audiences in plays, discussions or debates or to the unseen audiences who tune them in on their radio or TV sets.

The center of dramatic activities is in the University Theatre. This is located in Kolbe Hall which was built in 1955, honoring the former President, Dr. Parke R. Kolbe. Facilities are of the finest for both the on-stage actor and the backstage technician.

Each year, four or more major productions are presented. Open try-outs are held for students in all of the Colleges of the University.

There are outlets for those who aspire to write, produce or act in experimental theatre, also. A series of one-

act plays is presented annually with student directors, actors and crews.

Forensic and debate teams compete intercollegiately. In addition to this, the well-equipped Speech Therapy Center is in operation in Kolbe Hall.

For those who want to gain valuable experience in the mass media, the University has complete facilities for telecasting and broadcasting. It is in the University Television Studio that all Closed Circuit Television lectures originate. The Radio Workshop presents daily programs which are written and produced in the Speech Department and are broadcast to the public over WAUP-FM, the University's independent FM station.

Student Publications

THE BUCHELITE . . . a weekly newspaper with 28 issues in each academic year. This is the campus "voice" with straight news, columns, and photographs describing campus events. It is published tabloid-style on regular newsprint, distributed to students free of charge on newsstands located in various spots on campus. There is usually a staff of about 45 students working on this publication.

TEL-BUCH . . . a yearbook with a comprehensive editorial and photographic coverage of student life at the University. This is an impressive publication of about 300 pages. Its staff usually numbers about 20 students. At the beginning of each academic year, students may receive their editions of the annual, on presentation of their Student I.D. cards. The *Tel-Buch* is one of the favorite souvenirs of campus life at the University.





Nite-Life . . . a monthly publication with news of interest to students in the Evening College. Each year there are 10 issues. This, too, is distributed free to students on campus newsstands.

Scope . . . a literary magazine, published each semester by the Johnson Club, in which all copy consists of original writings by students.

Sports Activities

A wide program of sports for both intercollegiate and intramural participants is maintained at the University.

Competition is keen, especially in the intercollegiate athletic events, but it is stressed that proper focus is to be maintained at all times on principles of basic good health and hygiene; the

philosophy is for emphasizing qualities of honor and sportsmanship in all players.

Nine sports are arranged in accordance with the Ohio Athletic Conference. Intercollegiate games, meets and matches are scheduled annually with other members of this Conference for the following athletic teams: football, cross country, basketball, swimming, wrestling, baseball, track, golf and tennis.

Other Ohio Conference members are the following educational institutions: Oberlin, Otterbein, Muskingum, Kenyon, Hiram, Marietta, Heidelberg, Wittenberg, Mt. Union, Ohio Wesleyan, Wooster, Capital, Denison and Baldwin-Wallace. University teams also play teams that are not members of the Ohio Conference.

Intercollegiate competition is planned by the R.O.T.C. staffs for The University of Akron rifle team which is a member of the Lake Erie Conference.

Soccer is another intercollegiate sport and matches are held with other teams in the Midwest Conference.

Students desiring information about eligibility to participate should consult the Registrar.

All athletic contests are under the control of the Director of Athletics (offices in Memorial Hall) and the Faculty Committee on Athletics. This group sets the rules for awards, honors and appointments in accordance with the Ohio Athletic Conference.

Memorial Hall, built in 1954, honoring the war dead of Summit County, has two spacious gymnasiums and a regulation size (75'x35') swimming pool for the use of both men and women.

Members of the student body and alumni have pride in the Hall of Fame in Memorial Hall, honoring the "greats" in Akron sports history.

Fraternities and Sororities

There are ten national sororities for women and nine national fraternities and one local fraternity for men on the University campus. Although these are University-supervised and faculty guests attend their major social events, the selection of membership and government of each organization is the responsibility of each individual group in accordance with rules of the Panhellenic Council and the Interfraternity Council.



Each sorority and fraternity schedules about five major social events during an academic year, many of them taking place in their own houses and some of them utilizing the facilities of the main campus. Proms are often held in Memorial Hall and big-name bands are frequently brought in for these events.

Members of sororities have limited residence facilities in their houses while most of the fraternities have housing for men. Appointment of housemothers or housefathers is by the organization itself. All fraternities and sororities have faculty members or faculty wives as advisers or honorary members.

Fraternal organizations contribute to the "campus color" at the University, conducting a "Greek Week" and constructing elaborate floats for special parades. During the year there are several competitive events such as

the Interfraternity-Panhellenic Songfest.

Independent students are active in many of these collegiate activities, as well as the men and women who are fraternity and sorority members. An active organization of non-affiliated students numbers about 30 to 100 persons each year.

Also, on campus are 29 honorary organizations which are classified as honor societies, recognition societies or professional fraternities. These cover each of the academic areas, as well as the military and air force groups. National senior men and women's honoraries are ODK and Mortar Board.

All-Campus Meetings

There are four special convocations at which attendance is requested of the student body. These are annual events, scheduled about the same time each year and planned by a faculty Assembly Committee.

The convocations are: the President's Convocation in the early part of the Fall semester; Founders Day Convocation in December honoring John R. Buchtel, first benefactor, and Dr. Parke R. Kolbe, first president of the municipal University; Spring Convocation, usually near Holy Week, with a religious emphasis; Honors Convocation, near the end of the Spring term, honoring outstanding students.

During the academic year there are occasionally other assemblies, usually held in Memorial Hall, when the entire campus population is expected to attend. Assemblies for specialized,

smaller groups are frequently held in the University Theatre in Kolbe Hall or in the John S. Knight Auditorium in the building for the Colleges of Business Administration and Law.

During Summer Sessions, a series of art films is offered to students. These and other motion picture presentations are usually in the University Theatre.

In addition, students are invited to attend Town and Gown performances.

Cultural Offerings

Each year there are abundant opportunities for the students and townspeople alike to enjoy special cultural events on campus.

The Institute for Civic Education arranges a yearly "Town and Gown" series which are free to students and are available to townspeople who purchase tickets.

One of the cultural highlights at The University of Akron is the annual Fine Arts Festival. This is offered without admission charge to the public and is usually scheduled on a May weekend.

The Fine Arts Festival offers a richly varied selection of programs related to music, art and theatre. In 1963, Heidi Krall was featured with the University Singers and in 1964 the Festival presented such artists as pianist Leon Fleisher, art expert Dr. Henry R. Hope and folk singer Len Chandler. In 1965 the guest soloist was Miss Frances Yeend and last year, Grant Johannsen. The Akron Symphony Orchestra participated each year.



At all times, the cultural schedule is kept as flexible as possible, with constant possibility of enlargement. In keeping with the times, discussion groups and field trips are encouraged so that students may develop their abilities to become responsible, effective citizens.

Wherever possible, students are integrated with off-campus individuals who come to the University to increase their own knowledge and reciprocally, to serve as direct sources of information to the students. For instance, before elections, the candidates themselves are frequent visitors to the University. In fact, during the most recent presidential campaign, The University of Akron was the only campus in the country to host both presidential candidates.

Student Housing

Demand for campus housing is on the rise as nonresident students enroll at the University with increasing frequency.

Regulation of student housing centers in the Office of Student Services. Its basic rules are as follows:

Unmarried women students under 21 years of age are required to live with their parents, legal guardians or in University Residence Halls.

Unmarried first year male students under 21 years of age are required to live with their parents, legal guardians or in University Residence Halls.

Unmarried male students under 21 years of age beyond their first year of study are required to live with their parents, legal guardians or in University Residence Halls or other University-approved housing.

The University provides four new Residence Halls for non-commuting students: two for men and two for women. Comfortable double room accommodations are thereby provided for 210 women and 450 men. Each room has ample space for books and clothing. The furniture and decor are attractive and modern. Sun bathing areas and outdoor basketball areas are provided for all residents. The University swimming pool is open to Residence Hall students on Sunday afternoon.

For the annual rate of \$900, the student receives living accommodations, bed linen and 20 nourishing meals a week.

Student Services

Facilities to keep a student healthy, happy and well adjusted are part of the services offered through the office of Student Services to those who en-

roll at the University. At all times, a student has access to the guidance of trained counselors in the Counseling and Advising Division of the Office of Student Services. It is here that his test records are kept and where he can get good advice for personal or academic problems which may arise.

Occasionally, a student's choice of career or an adjustment to a social situation can be hastened or made easier if he is referred to the Testing and Counseling Bureau, located in the Civic Education Building at 221 E. Center St., opposite the campus.

These offices are open to both daytime and Evening College students and the services are free.

Aptitude tests and diagnostic interviews are handled by the Bureau which is also a Division of the Office of Student Services. Arrangements for further professional help, from trained people off-campus, can be taken care of when necessary.



Outside Work

It is the responsibility of each student who holds a job while attending the University to report to his Dean and to the Office of Student Services, the number of hours he is employed. Whenever there are significant changes made in the number of hours of employment, the student is expected to keep the information up-to-date in the Dean's office. Disciplinary action may be taken by a Dean if a student neglects to comply with these procedures.

Placement Service

Student placement aids are available in the Placement office, which is to be located in the expanded Student Center, for those who want either full or part-time jobs in non-teaching positions. Prospective teachers receive their aid from the College of Education. (About 90% of the Education graduates are hired in the Akron area.)

For the graduating student ready to establish himself in his chosen profession, there are many opportunities on campus for being interviewed by representatives of prominent businesses, industries and branches of the military services.

About 200 interviewers come to the University each Spring to talk with graduating students, to distribute informative literature and explain the vocational possibilities of their firms.

For the undergraduate, many part-time job opportunities are also available both on campus and in the community.

Student Services counselors in the

Student Financial Aids office arrange interviews for student applicants for University positions and in addition, keep a list of current job-openings in many local businesses.

Student Health Care

The University constructs every facility with high safety standards and carries out this principle of maintaining physical security for its students by following stringent accident prevention measures. However, The University of Akron assumes no responsibility for student accidents incurred while attending or participating in classroom, gymnasium or laboratory work.

First aid services are available at the University Health Service Center readily accessible to the entire campus; Red Cross lifesaving classes are an integral part of the health and physical education programs, but the University assumes no legal responsibility or obligations for the expense of treating injuries received by athletes while training for or participating in intramural or intercollegiate sports.

Complete physical records of the men and women on campus are kept in the University Health Service Center offices. A physician and a registered nurse are on duty regularly.

Increased numbers of University students have brought about expanded Health Service facilities immediately adjacent to the Residence Halls. An infirmary area is provided for 12 in-patients, with facilities for intermediate care when hospital treatment is required.

Residence Hall students receive bed care for up to 72 hours, without charge. Those students receiving bed care for a greater period of time than 72 hours will be charged the daily rate which is currently charged by local hospitals for similar services.

The student who becomes ill on campus may have to be taken to a local hospital. If, in the opinion of the University physician, this is necessary, the student will be taken to the most convenient hospital. The University assumes no legal responsibility or obligation for the expenses of such transportation or for medical services at the hospital.

Student health and accident insurance designed specifically for students of The University of Akron is required of all residence hall students and all international students except those who present proof that they already have similar coverage. Other day students carrying nine or more credits may purchase this insurance at the same annual individual rate of \$22.50. The student insurance provides coverage for such items as hospitalization, surgical benefits, and in-hospital medical benefits.

Spiritual Guidance

Two chaplains are available to members of the student body and faculty, offering individual and group guidance services.

For Protestants and members of the Eastern Orthodox faith: A minister of a Protestant denomination has been appointed by the Akron Area Council of Churches to serve as a full-time spiritual adviser to the students

who have indicated affiliation with a Protestant church or membership in an Eastern Orthodox congregation.

The Protestant chaplain's office is located in the First Evangelical United Brethren Church adjacent to the campus at 164 South Union Street. He is available each weekday for consultation with individual students or student groups. He arranges for discussions and forums and serves as spiritual counselor for those facing individual problems.

For Catholics: A priest is in residence at Newman Hall, branch of the national Catholic club for college students, about one block from the main campus, at 143 South Union Street. He offers Mass each day at noon and conducts formal classes for Catholic students, supplying spiritual guidance to aid them in utilizing most effectively the temporal knowledge which they gain in their college years.

Newman Hall has an assembly room, library, kitchen and conference rooms where students may study or hold discussion groups. The doors are open from 7:30 a.m. to 10:30 p.m.

This center was established for the benefit of the Catholic students taking daytime courses at the University, authorized and supported by the offices of the Bishop of the Diocese of Cleveland.

Military Training

A course in either Army or Air Force ROTC is required of all male students at The University of Akron.

Students may indicate a preference for the branch of military training they prefer, subject to certain regulations.



During the basic courses extending over two years, they receive uniforms and equipment, for which they are responsible. These must be returned at the end of that year or upon leaving the program.

These are the only individuals exempted from this required training for Freshman and Sophomore men:

- 1) Aliens
- 2) Men physically disqualified, carrying less than eight hours, or with at least six months prior honorable military service.
- 3) Men above 23 years of age or enrolled in short professional or pre-professional courses not leading to degrees.
- 4) Men who have completed 48

semester hours at another accredited college or university.

- 5) Men who submit written declaration of valid religious or conscientious objections to military service.

Principal objectives of the training programs are to develop character and good moral habits and heighten each man's awareness of his responsibilities as a citizen. It is a goal that the Army and Air Force R.O.T.C. be integral and useful parts of the University and the community.

Advanced courses are available as well as Advanced Summer Camps for men in either of the military units; these are authorized subjects for each man fulfilling requirements for a commission as second lieutenant.

3



The University of Akron:

Admissions, Grades, Rules, Fees and Financial Aids*

A common malady of young men and women who are ambitious to go to college is "Pre-Admission Jitters." When they reach the age of 16, either at the advice of a parent or a high school counselor, they are told to plan for the future. This is a good idea. But sometimes in the process of planning, they put themselves on mailing lists of colleges and universities and begin to get catalogs, brochures and promotion pieces in the mail. They are bombarded with lists of entrance requirements. Courses sound difficult. Academic standards sound high. A college education sounds expensive. And in general, The College Door seems to be more often closed than open.

The spectre of a Closed College Door should rightfully "haunt" a prospective college or university student . . . but only so far as it causes him to flex his intellectual muscles, crack the books harder and determine to make himself eligible to enter when the time comes.

* The University of Akron reserves the right to change without notice any of the information, requirements, regulations, or fee structure, published in this Bulletin. The Bulletin is *not* regarded as a contract.



Admissions Advice

The University of Akron suggests that these following steps may be helpful in bringing peace of mind to the prospective student of a college or university:

- 1) Visit the campus where you hope to enroll. You will get a more valuable impression from the first-hand view than any you could gain from a printed page.
- 2) Be sure that your high school studies constitute an acceptable college preparatory course for the college or university you hope to enter.
- 3) Familiarize yourself with the University's methods of grading and its general academic procedures and requirements.
- 4) Study the listed fees and expenses at the campus of your choice. The specific statement of fees gives you an accurate picture so that you can begin to make financial plans.

Types of Students

A municipal university with an enrollment exceeding 10,000 students, The University of Akron has several different classifications of students, each seeking an education according to his own needs and abilities. Categories include:

REGULAR STUDENT—one who meets the Admissions requirements and follows a regular schedule which usually includes an academic load of 16 credits. Permission to be other than a regular student must be especially granted by University authorities.

UNDERGRADUATE STUDENT—one who has not attained any academic degree and is enrolled in credit courses.

GRADUATE STUDENT—one who holds a Bachelor's degree from an accredited institution and is enrolled in one or more courses on the graduate level.

POSTGRADUATE STUDENT—one who holds a Bachelor's degree from an accredited institution and is enrolled in credit courses on the undergraduate level.

TRANSIENT STUDENT—one who is a regularly enrolled student at another institution who is eligible to return to that institution and has permission from that institution to enroll at The University of Akron as a transient student for specific courses. A transient student may not, as a general rule, take more than 16 credits and is subject to the same rules and requirements as regularly enrolled University students.

AUDITING STUDENT OR AUDITOR—one who enrolls in a course, with the permission of his Dean, but does not receive a grade on his official record. Permission to audit a course is granted if a student has a record of good scholarship or if he has taken and passed the particular course previously or if his individual experience qualifies him to take the course. A student must indicate that he is an auditor when he registers for that course.

Required College Preparatory Course for University of Akron Students

4 units of English	1 unit of natural science
1 unit of mathematics	1 additional unit from any of these
3 units of social studies (including American History)	

Additional subject requirements for students planning to major in:

SCIENCE, PREMEDICAL OR PREDENTAL

1½ units of high school algebra

1 unit of plane geometry

ENGINEERING

- 1½ units of high school algebra
- 1 unit of plane geometry
- ½ unit of solid geometry or
- ½ unit of trigonometry
- 1 unit of physics or chemistry

INDUSTRIAL MANAGEMENT

- 1½ units of high school algebra

The above courses are required of applicants who have not previously attended an institution of higher learning. If a prospective student completes the courses as specified above, has been graduated from a regionally accredited Ohio secondary school and takes one of the college entrance tests, he is classified as eligible to enroll. An applicant may submit scores from either the American College Testing Program (ACT) or from the Standard Achievement Test (SAT) of the College Entrance Examination Board. Out-of-state applicants for admission may be admitted upon the basis of the quality of their secondary school work and their standing in the entrance tests.

Students applying for admission when they have formerly attended other institutions of higher learning are eligible to transfer to the University if they present satisfactory scholastic records as judged by The University of Akron officials and if the students should be eligible to re-enter the institution from which they desire to transfer. Students who present fewer than 30 semester credits or their equivalent of accredited transfer work will be required to take either the ACT or the SAT test. If it appears necessary to validate the transfer credits of students with more than 30 semester hours, the appropriate admitting officer may require the ACT battery for these persons also.

Admission is necessarily limited by the University's capacity to provide for students' educational objectives. The University reserves the right to approve admission only to those individuals whose ability, attitude and character promise satisfactory achievement of University objectives.

Here is a Step-by-Step Way to Gain Admission to The University of Akron:

1) Get an Application Form from The Admissions Office. If your request is by mail, use this address: ADMISSIONS OFFICE, The University of Akron, Akron, Ohio 44304. FILL IT OUT AND RETURN as soon as possible. If you are applying for admission to the University in order to take regular *daytime* courses, include an application fee payment of \$15 which is non-refundable. If admission is denied \$15 is refunded. Should you decide not to attend the University after being accepted, the fee is forfeited.

August 15 is the final date for submitting your application.

2) Ask an official of your high school to send your transcript to the Admissions Office. This record of your secondary school standing must be received at least two weeks before the beginning of the semester in which you choose to enter the University.

3) TAKE ENTRANCE AND COUNSELING TESTS. You can make arrangements through your local high school to take the ACT or SAT. (The University of Akron's Testing and Counseling Bureau serves as a testing center for both of these nationally recognized tests.) These test scores are needed before an applicant is formally admitted to the University.

In addition, special counseling tests administered only at the University are required of all applicants. Generally these tests may be taken at the University on the same day as the ACT or the SAT. They may also be taken during Orientation Week.

4) IF YOU ARE A TRANSFER APPLICANT request registrars of all institutions previously attended to send complete and official transcripts to the Admissions Office.

5) A HEALTH RECORD will be sent from the Admissions Office after you have applied for admission. Take it to your family physician and after he has filled it out, return the form to the University. You should mail this form to the Admissions Office by September 1.

6) After you have been notified of your acceptance to the University, YOU WILL BE ASKED TO REPORT FOR COUNSELING in the Office of Student Services. At this time, your suitable courses of study will be chosen and you will sign up for these classes. Also, at this time, you will be told the amount of fees you will be expected to pay to the University.

(All checks should be made payable to: The University of Akron. All checks should specify *what fees* and for *which student* payment is being made.)

7) FOLLOW THE ORIENTATION COURSE AS ARRANGED BY THE OFFICE OF STUDENT SERVICES. The week before the formal meeting of classes each semester is Orientation Week for new students. During this time, you will learn about the University and the services it offers as well as about the faculty and students.



Grades

Grades are the most personal academic responsibility of each individual student. He may decide with his family what type of education to seek. He may be accepted by a Dean of the college which offers the curriculum he needs. Subsequently he follows an adviser's or an instructor's advice as to which courses to take. But the exact level of his own academic excellence in every subject of instruction is up to the student himself—and nobody else.

At specified hours in their designated classrooms, students hear lectures, listen to regular assignments, study in their own fashion and apply themselves to lecture notes and textbook information. The quality of their concentration and attention is put to the test by periodic measurement. This oral and written testing results in a mathematical number called a grade.

The grade which every student achieves in each of his scheduled courses is of prime significance. A grade has a quality point value. It becomes part of a permanent academic record which becomes a major credential for the student throughout the balance of his life, a yardstick by which future employers and others will measure his ability to work, to study, to perform.

Students at the University receive grades on classroom response and on written examinations during the progress of most courses. Mid-semester specific grades (called "mid-terms") are made available to the student by the Registrar. At the end of the semester, the Registrar's office mails the semester grade reports to students at their home addresses or may distribute grades, on campus, at a designated time and place.

Individual tests throughout the course are usually graded with percentage or letter marks. But permanent records are maintained with a quality point system indicating a student's academic level of achievement.

This method of recording grades is explained as follows:

THE GRADING SYSTEM

<i>Percentage</i>	<i>Grade</i>	<i>Quality Points per Credit</i>
93-100 inclusive	A	4
85-92 inclusive	B	3
77-84 inclusive	C	2
70-76 inclusive	D	1
Conditioned*	E	0
Below 70	F	0
Incomplete**	I	

* "Conditioned" means that although the semester's work is not of passing grade the deficiency may be made up without repeating the course in class. Failure to remove the deficiency satisfactorily by the close of the student's next semester in the University converts the grade to F. No higher grade than D is given for the removal of a "Condition."

The grade "Conditioned" may be given only for the first semester's work in a subject continuing through two or more semesters, such as first-year chemistry or first-year foreign language.

** "Incomplete" means that the student has done passing work in the course, but some part, for good reason, has not been completed. FAILURE TO MAKE UP THE OMITTED WORK SATISFACTORILY WITHIN THE FIRST HALF OF THE FOLLOWING SEMESTER CONVERTS THE GRADE TO F. A fee of \$2 per course is charged each student for the removal of an "Incomplete."

A student's grades affect his academic progress in the following ways:

- 1) A student must present a record of his prior academic achievements in secondary school in order to be admitted to the University.
- 2) According to the quality point value of each grade for each course which he has completed, a student becomes either eligible or ineligible to remain at the University.
- 3) Of those who are eligible to remain, the students who maintain specified levels of scholastic achievement receive privileges to participate in extra-curricular activities.
- 4) Also, on the basis of grades, students receive priority at registration time and receive opportunities to take additional courses which will accelerate their academic progress.
- 5) A student must complete approximately 64 hours of study and maintain a quality point average of at least 2.0 (C) to be eligible to be promoted to an Upper College from the General College. His acceptance is dependent on the approval of the Dean of the Upper College which he has chosen to enter and depends on his academic showing to date.

- 6) To complete Upper College requirements and receive a baccalaureate degree, each student must have attained a quality point average of at least 2.0.
- 7) At Commencement time, students receiving their initial degree whose academic averages are between 3.25 (B plus) and 3.49 are graduated "cum laude"; between 3.50 and 3.74 are graduated "magna cum laude"; between 3.75 and 4.00 are graduated "summa cum laude."
- 8) For persons planning to go on into graduate work top grades are essential.





Rules and Procedures

At the University, many services are offered to help each student enroll in courses which are appropriate to the student's own ability. Extensive testing of enrollees helps their advisers know what subjects will afford proper, highly valuable education for the individual student. It is the aim of the University to offer higher education opportunities to as many people as possible. This automatically includes the University's responsibility of guiding each individual into his most remunerative areas of study so that he assimilates knowledge to enrich his mind and equip himself to be a productive person, valuable in his chosen profession.

This basic endeavor to guide students is essential to the University's philosophy. Properly oriented students, enrolled in courses which utilize their native intellectual abilities, have the best chance of succeeding, not only during their college years, but also in the important years of the future.

To help the student make the most of his college years, the University has established certain procedures for determining what curriculum to follow, which courses to choose and what kind of requirements must be met to prove satisfactory achievement.

ORIENTATION

The first major contact a new student has with the University after having been admitted comes during an Orientation period held prior to the beginning of each semester. During Orientation, new students learn a great deal about the University and about what it expects from students. They meet many of the University's administrative officers and faculty members and discuss their problems and questions with upper college students. In this way, new students have an opportunity to become acquainted with their chosen University and clear up many of the questions that always arise when embarking on a new enterprise.

COUNSELING

During Orientation, and each semester thereafter, each student sits down with a counselor to discuss his progress to date and the next logical steps toward completion of his academic program. During that session, the counselor and student together review the areas of success and of problems that the student has encountered in previous semesters and determine what courses the student's academic record calls for in future semesters. During that session the two then work out a list of courses to be taken during the following semester.

REGISTRATION

Registration is the formal function of signing up for specific courses, instructors and classes and for payment of fees. As a rule, registration closes on Friday with classes beginning the following Monday. In emergencies it is possible to register after the registration period but students doing so must present good reasons and must pay a non-refundable Late Registration fee of \$10.

MODIFICATION OF STUDENT SCHEDULES

A student must enter a course before the end of the first week of the semester. A student may alter his schedule of courses for which he is registered only with the permission of his instructor and Dean.

WITHDRAWAL

The decision to permit a student to withdraw or not to withdraw from a course is a responsibility of the student's Academic Dean. After the mid-point of a semester or session, however, the Academic Dean does not take action upon a student's request for withdrawal until the student (or his Dean) has conferred with the instructor concerning the matter, nor until the instructor has had an opportunity to present his recommendations to the Dean charged with the decision. This latter requirement need not be met when the student is requesting *complete* withdrawal from the University because of illness or other personal circumstances beyond his control.

If a student withdraws from a course with permission of his instructor and Dean, no record of failure appears on his record.

If a student leaves a course (i.e. "drops" a course) without the permission of his instructor and Dean or is dropped from any course by his Dean, he is given a failing grade in the course.

TRANSFER FROM NON-BACCALAUREATE PROGRAMS

The records of incoming transfer students from accredited or "Class A" non-baccalaureate oriented programs elsewhere, and of students in non-baccalaureate programs in the University's Community and Technical College who plan a change in objective, are evaluated both in terms of the General Studies program and in terms of major requirements. Since these students will, almost without exception, enter the General College, the Dean of the General College consults with the appropriate Upper College Dean or his designated representative, in order to obtain the major program requirements. The substituting of courses taken in a non-baccalaureate program for electives or for required courses in the baccalaureate program are decided on an individual basis by the Upper College Dean in consultation with the appropriate department head. These requirements along with the General Studies requirements are transmitted to the student in his letter granting admission or transfer.

ATTENDANCE

Students are expected to attend all class meetings for which they are registered. They may be dropped from a course by the Dean if they are repeatedly absent and the instructor recommends this action. Students can gain readmission only with the permission of the instructor and the Dean.

PROBATION, DISMISSAL

A student who fails to maintain a quality point average of 2.0 (C) is placed on academic probation and may be subject to a change of courses, suspension or some other form of discipline. Academic discipline is determined by the Dean of the college in which the student is enrolled. Reinstatement of a student is also determined by the Dean of the college.

Students who have been dismissed from the University are not eligible to register for credit courses in daytime courses, Evening College or Summer Sessions.

A student who is dropped from Army or Air Force R.O.T.C. for unsatisfactory work during a semester shall be dropped from the University with failing grades in those subjects which he is failing and withdrawn from those subjects in which he is passing.

RE-EXAMINATION

A student does not have the privilege of requesting re-examination in order to raise a grade.

Students who have had difficulty in meeting specific course requirements will find that these following procedures can sometimes help them to re-establish themselves academically:

REPEATING COURSES*

A student who has earned a failing grade may repeat a course once, subject to these conditions:

- a) A student who has attempted not more than 40 semester credit hours may repeat a course in which he has failed if he enrolls when advised and has permission of his Dean. If he passes the course with a grade of D or better on the second attempt, only the second grade earned will count. If he fails the course on the second attempt, both grades of F will count.
- b) A student enrolled at the University must repeat a failed course in the next semester it is offered.
- c) A student must repeat the exact course which he has failed and must take this course at The University of Akron.

DISCIPLINE

The University reserves the right to penalize any student whose conduct at any time is in its judgment detrimental to the institution.

UNIVERSITY REQUIREMENTS FOR BACCALAUREATE DEGREE

A candidate for a baccalaureate degree at The University of Akron is required to file an application with the Registrar by November 1 of his final academic year.

A candidate for the baccalaureate degree must earn a minimum 2.0** quality point ratio, as computed by The University of Akron:

- 1) For all collegiate work attempted, including work taken at other accredited institutions; and
- 2) For all work attempted at The University of Akron; and
- 3) For all work attempted in the major field, including work taken at other accredited institutions; and
- 4) For all work attempted in the major field at The University of Akron.

* These procedures do not apply to students in the College of Law.

**The College of Education at The University of Akron requires a minimum 2.5 quality point ratio in the major field.

He must also meet all the requirements for degree in his elected major and college and obtain approval by appropriate college faculty, University Council, and Board of Directors.

A candidate for a baccalaureate degree must spend his last year in residence (earning a minimum of 32 credit hours) at the University unless excused by the Dean of his college.

A student must obtain permission of the Dean of his college before taking work simultaneously in another institution if he wants that work credited towards a degree at The University of Akron.

A degree candidate is required to participate in Commencement exercises in order to receive his degree (unless excused by the University).

A degree candidate is required to take the Graduate Record Examination and discharge all other individual obligations (financial, academic, etc.) to the University before being considered eligible to receive a degree.

A student is expected to complete requirements for a Bachelor's degree within a reasonable period from the date of his beginning the first semester of his education at the University.

A degree candidate is expected to meet all requirements which were in effect at the time of his admission to the University.

A student who expects to receive a second Bachelor's degree must earn a minimum of 32 credit hours in residence which have not counted towards his first Bachelor's degree.

REQUIREMENTS FOR ASSOCIATE DEGREE

A student in Community and Technical College must complete 64 or more hours, satisfy all the requirements in a specific program, and attain a quality point average of at least 2.0 (C) in order to graduate with the Associate Degree.

CREDIT BY EXAMINATION

A student interested in earning credits by special examination may do so with the permission of the Dean of his college and the Dean of the college in which a particular course is offered. The grade obtained in such an examination is recorded on the student's permanent academic record. The fee for a special examination is \$8.00 per credit hour. Credit by examination is not permitted in the semester before graduation.

GRADUATION WITH HONORS

If he has earned 60 or more credits at the University, a student receiving his initial baccalaureate degree will be graduated "summa cum laude" if he has an overall quality point average of 3.75 or higher; "magna cum laude" if his overall average is between 3.50 and 3.74; and "cum laude" if it is between 3.25 (B plus) and 3.49.



CREDIT AND QUALITY POINT REQUIREMENTS FOR GRADUATION

<i>College</i>	<i>Degrees granted</i>	<i>Minimum Credit hours required</i>	<i>Qual. Pt. Average Required</i>
Liberal Arts			
Humanities:	Bachelor of Arts	128	2.0
	Bachelor of Music	128	2.0
Social Sciences:	Bachelor of Science	128	2.0
	Bachelor of Science in Labor Relations	128	2.0
Natural Sciences:	Bachelor of Science	128	2.0
	Bachelor of Science in Medical Technology	128	2.0
Engineering	Bachelor of Science in Chemical Engineering	148	2.0
	Bachelor of Science in Civil Engineering	150	2.0
	Bachelor of Science in Electrical Engineering	147	2.0
	Bachelor of Science in Mechanical Engineering	148	2.0
Education	Bachelor of Arts in Education	128	2.0*
	Bachelor of Science in Education	128	2.0*
	Bachelor of Science in Nursing	128	2.0*
Business Administration	Bachelor of Science in Business Administration	128	2.0
	Bachelor of Science in Industrial Management	128	2.0
Community and Technical College	Associate Degree in:		
	Electronics Technology	69	2.0
	Mechanical Design	68	2.0
	Chemical Technology	65	2.0
	Transportation	64	2.0
	Arts	65	2.0
	Sales and Merchandising	64	2.0
	Secretarial Science	64-69	2.0
	Industrial Technology	64	2.0
	Commerce	64	2.0
	Commercial Art	65	2.0
	Survey and Construction Technology	66	2.0

* Quality point average of 2.5 in major field is required.



Fees*

Despite willingness of Akron taxpayers and generous friends of the University to help support higher education, some portion of his total expense must be borne by the student. Typical costs for one year (September through June) based on an average academic load of 32 credits for the two semesters are:

	Residents Of Akron	Other Ohio Residents	Non-Ohio Residents
Undergraduate fee for regular load	\$416	\$ 832	\$ 960
General Service Fee	40	40	40
Books (average)	100	100	100
Food and Housing in Residence Halls	—	900	900
TOTAL	\$556	\$1872	\$2000

* Fees subject to change without notice.

Following are comprehensively outlined fees for students at the University who are studying for credit and noncredit in all areas of instruction. Included also are the additional expenses required for special academic services available to students such as private music lessons, thesis-binding, etc.

It is the responsibility of the student to know the correct amount of his fees and tuition.

In any question concerning fees, tuition, or residence, it is the responsibility of the student, his parents, or court appointed guardian, to furnish such proof as may be required by The University of Akron. Students who are in doubt about their status should consult with the Registrar, if in day classes, or with the Dean of the Evening College, if in evening classes.

It is the responsibility of the Controller to assess fees and tuition at the time of registration; information given by the student at that time is used in the assessment. Each registration is later audited by the University Auditor, and appropriate additional charges or refunds will be made.

All fees and tuition are due at the time of registration. The status of the student as of the opening day of the semester or session for which he is registering, will determine the final, correct, amount of fees and tuition.

APPLICATION FEE—A check, money order or cash in the amount of \$15 which must accompany a new student's application for admission at the University. This non-refundable application fee is in effect only for the semester for which the student applies.

GENERAL SERVICE FEE—All students pay a General Service Fee each semester in the amount of \$20 for those enrolled for nine credits or more or \$5 for undergraduate students enrolled for less than nine hours, postgraduate students and summer students.

MAINTENANCE—For each undergraduate credit, paid by both resident and nonresident student \$13.00

TUITION—For each undergraduate credit, paid by nonresidents of Akron living elsewhere in Ohio* \$13.00
By nonresidents of Ohio \$17.00

Explanation: In addition to the Maintenance Fee paid by all students, nonresidents pay varying amounts for tuition to make up for tax support the University receives from residents of the City of Akron and of the State of Ohio. The University receives a subvention from the State for each Ohio freshman and sophomore and additional funds from taxpayers in the City of Akron.

ROOM AND BOARD

On the Boarding Plan at the University, young men and women living in the residence halls obtain both board and room for a yearly total of \$900. Payment plans can be arranged with the Director of Housing.

*Subject to change in July 1967.

GRADUATE FEES

Fee for Akron residents per credit per semester	\$26.00
Fee for nonresidents per credit per semester	\$32.00

COLLEGE OF LAW FEES

Fee for Akron residents per credit per semester	\$30.00
Fee for nonresidents per credit per semester	35.00

LATE REGISTRATION FEE

Fees are due at the beginning of each semester, payable in the Controller's office. Students should pay at the time of registration. An additional \$10.00 is charged each student who has not completed registration and payment of fees before the closing time of registration in the session in which he is to be enrolled.

VETERANS' EXPENSES

Disabled veterans who are eligible for admission to the University may register for courses without payment of fees, if they are certified by the Veterans' Administration.

Full payment of fees is required if the veteran does not have his Certificate of Eligibility at the time of registration. The cash payment will be refunded when the veteran presents his Certificate of Eligibility.

Non-disabled veterans must pay their fees at the time they register. They will receive specified allowances under Public Law 89-358.

Sons and daughters of deceased veterans covered under Public Law 634, must pay their fees at the time of registration. They will receive specified allowances under Public Law 634.

MUSIC FEES

For students enrolled for credit in these courses:

Band, Band Instruments, Chorus, Orchestra, Organ, Piano, University Singers, Violin, Voice	No Maintenance Fees or Tuition	
For private lessons in Band Instruments, Organ, Piano, Violin, Voice:	<i>Undergraduate</i>	<i>Graduate</i>
Two individual half-hour lessons per week—(4 cr. hrs.)	\$120.00	\$180.00
One individual half-hour lesson per week—(2 cr. hrs.)	60.00	90.00
One hour practice per week on pipe organ	10.00	10.00

THESIS AND BINDING

For candidates for advanced degrees (Payable at time of application for degree).

Binding fee, per volume	\$ 5.00
Microfilming fee (for Ph.D. degrees only)	\$20.00

Two volumes must be deposited in the University Library.

GRADUATION FEE

Each Degree	\$10.00
In Absentia (additional)	10.00

AUDITORS

The fees for an auditor in any course or group of courses are the same as if taken for credit.

DEPARTMENT OF SPECIAL PROGRAMS

A fee of \$16.00 is charged for each Department of Special Programs course unless otherwise noted in the circular printed each semester which describe the courses.

STUDENT HEALTH AND ACCIDENT INSURANCE

Student health and accident insurance designed specifically for students of The University of Akron is required of all residence hall students and all international students except those who present proof that they already have similar coverage. Other day students carrying nine or more credits may purchase this insurance at the same annual individual rate of \$22.50.

MISCELLANEOUS

One free transcript of record is furnished a student. A fee of \$1.00 is charged for each additional copy.

A fee of \$8.00 per credit is charged for each examination in college work not taken in course.

A change of schedule fee of \$1.00 per course is charged each student who, after completing registration, enrolls for an additional or substitute course or section except when such change is made at the request of the dean having jurisdiction over the student.

In addition to regular credit hour costs, a fee of \$25 is charged students enrolled in course 27:202 (Student Teaching).

A fee of \$1.00 per test is charged each student who is given a make-up test after having been absent from an announced, full-period examination.

A fee of \$2.00 per course is charged each student for the removal of an "Incomplete."

A rental fee of \$2.00 per year plus a deposit of \$1.00 is charged each student who engages a locker on campus. The deposit is refundable.

A towel rental fee of \$3.00 per semester is charged each student in Physical Education who uses locker room facilities in Memorial Hall.

PARKING FEES

Day students—enrolled for 7 or more credit hours	\$15.00 (Per Semester)
enrolled for 6½ or less credit hours	7.50 (Per Semester)
Engineering Co-op Students—enrolled in day classes only	7.50 (Per Period)
enrolled in evening classes only	5.00 (Per Semester)
Evening College students	5.00 (Per Session)
Summer Sessions students	7.50 (Per Session)
Department of Special Programs	3.00 (Per Semester)

(All fees are subject to change without notice.)

RULES GOVERNING NONRESIDENT TUITION

A student is required to pay a nonresident tuition fee unless he qualifies as a bona fide resident. The Board of Directors has adopted a regulation that does these things: (a) Defines the qualifications for residence status; (b) places on the student the burden of proving that he qualifies as a bona fide resident by clear and convincing evidence; (c) assumes that once the student has been properly classified as a nonresident student, this status continues, but provides him with the opportunity to prove by clear and convincing evidence that his status has changed; (d) provides an orderly procedure to permit the student to appeal if he believes his status has been wrongly determined; (e) penalizes false claims or presentation of false evidence in support of a claim (the student's application may be denied, or he may be suspended, expelled, or otherwise disciplined, and he may be fined \$25.00 for each offense). The student may get the full text of this regulation from the Office of the Registrar or the Dean of the Evening College.

"For purposes of assessing fees and tuition, the Board of Directors of The University of Akron defines a 'bona fide resident legally domiciled within the City of Akron, Ohio' as a person who has in good faith established a dwelling place or abode in the City of Akron, Ohio with the intent to make the City of Akron, Ohio, his permanent home for purposes other than attending The University of Akron, for at least twelve consecutive months prior to the date of the beginning of a semester or term for which a person seeks to enroll as a bona fide resident. A fraternity house or University residence hall shall be presumed not to be a permanent home or abode for the purpose of this regulation."

If the student properly qualifies under one of the following rules, he is a bona fide resident; if he fails to so qualify, he is a nonresident:

1. If the student is under 21 years of age, never married, and his natural father (guardian) is a bona fide resident. If his father is no longer his natural guardian, the next rule applies.
2. If the student is under 21 years of age, never married, and a person other than his natural father is his natural or legal guardian, and the guardian is a bona fide resident. This person may be his widowed mother, a grandparent who acts as his parent because his father and mother are dead, his legal guardian, the parents who adopted him, his foster parents if he is the ward of a court, his mother who has been awarded his custody by court action, or other person who under the laws of Ohio is a natural guardian.
3. If the student is married, and her husband is a bona fide resident. Her age is immaterial. (If she is legally separated from her husband, this rule does not apply.)
4. If the student is under 21 years of age, a male student who is, or has been, married, and he is a bona fide resident. (He may be married, divorced, separated, or a widower.)
5. If the student is 21 years of age or older, a male student, and he is a bona fide resident. (His marital status is not relevant.) A student who did not qualify as a bona fide resident on his 21st birthday does not qualify until the expiration of at least one year as a bona fide resident.
6. If the student is an unmarried female student, 21 years of age or older, and she is a bona fide resident. A student who did not qualify as a bona fide resident on her 21st birthday does not qualify until the expiration of at least one year as a bona fide resident.
7. If the student is a widow who has not remarried, or a divorcee who has not remarried, and she is a bona fide resident. (Her age is immaterial.)
8. If the student is legally separated from her husband, and she is a bona fide resident. (Her age is immaterial.)
9. Notwithstanding the foregoing tests of residency, the Residency Committee may determine in proper cases that a minor is a bona fide resident. In addition to facts relating to the establishment of a bona fide dwelling place or abode within the City of Akron and the intent for the requisite period of time to make the City of Akron a permanent home for purposes other than attending The University of Akron, the Residency Committee shall consider the presence or absence of prior military service, the source and extent of the minor's support, the nature and degree of control by the parent or guardian, the existence or nonexistence of consent by the parent or guardian to the minor's establishing a separate domicile, whether or not the minor has been abandoned by his parent or guardian, and other relevant facts.

If the student is a married female student (whatever her age) whose personal situation is not covered by one of the foregoing rules, her residence status is assumed to be that of her husband.

If the student is in doubt about his proper status, he should consult the Registrar if he is a day student, or the Dean of the Evening College if he is an evening student. If the student wishes to appeal from a classification as a nonresident, he may obtain the appropriate form (Application for Residence Status) from the Registrar or the Dean of the Evening College.

REGULATIONS REGARDING REFUNDS

Registration does not automatically carry with it the right of a refund or reduction of indebtedness in cases of withdrawal, and failure or inability to attend class. The student assumes the risk of all changes in business or personal affairs.

FEES SUBJECT TO REFUND ARE DESCRIBED BELOW:

- | | |
|--|---|
| 1. Undergraduate and postgraduate
(Maintenance and tuition) | 5. General Service |
| 2. Graduate | 6. Special Programs (Informal Courses) |
| 3. College of Law (including Library) | 7. Parking (Only if permit is returned) |
| 4. Music | 8. Application for Admission |
| | 9. Student Teaching |

AMOUNT OF REFUND:

A. In full

1. If the University cancels the course.
2. If the University does not permit the student to enroll or continue, except that a student dismissed or suspended by the University for disciplinary reasons will receive no refund.
3. If the student is drafted into military service by the United States and presents his Notice of Induction. Students who enlist voluntarily, see D below.

B. In full less \$10.00

1. Upon written request of the student enrolled in courses other than in the Department of Special Programs, who is officially withdrawn before the first day of the term for which enrolled.

C. In full less \$4.00

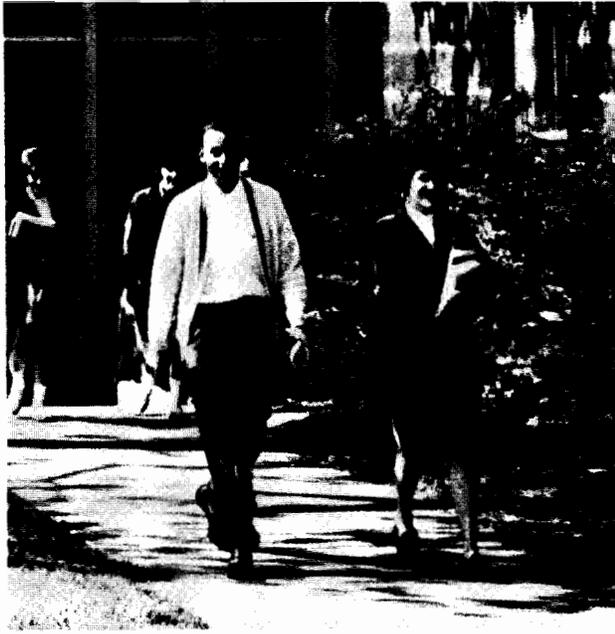
1. Upon written request of the student enrolled in the Department of Special Programs who is officially withdrawn before the first day of the term for which enrolled.

D. In part according to the following percentages upon written request of the student who is officially withdrawn on or after the first day of the term for which enrolled.

	Fall and Spring College Credit Courses	Department of Special Programs	Summer Sessions
First Week	80%	75%	60%
Second Week	60%	25%	20%
Third Week	40%	0	0
Fourth Week	20%	0	0
Thereafter	0	0	0

Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond control of the student prevented the filing of the formal withdrawal earlier in which case the refund will be determined as of the date of last attendance in class. Refunds will be mailed within 30 days after date of withdrawal.





Financial Aids

An entering freshman or an enrolled student at the University in undergraduate, graduate or postgraduate courses has several possibilities of receiving financial aid which can facilitate his earning a college degree. A student transferring from another institution must complete a regular semester at the University before he is considered for scholarship assistance.

Students who are intellectually capable of completing University courses and have indication of this on their academic records are eligible for consideration as recipients of a fellowship, scholarship, award, loan, or employment opportunity. Applicants wishing to be considered on the basis of need must submit a Parents' Confidential Statement to the College Scholarship Service at Princeton, New Jersey.

Definition of terms:

FELLOWSHIP—an endowment or sum of money paid for the support of a graduate or postgraduate student.

SCHOLARSHIP—an endowment or sum of money paid for the support of a student, usually undergraduate, while he is studying at the University.

AWARD—a sum of money given to a University student as special recognition of an achievement, to aid him in continuing his higher education.

LOAN—an amount of money which a student may borrow, with a planned schedule of repayment.

Information and application forms for fellowships can be obtained from the Office of the Dean of Graduate Study. Information and application forms for scholarships, awards and loans are available in the Student Financial Aid Office.

Currently offered fellowships, scholarships and awards, as well as sources of money which can be loaned to worthy students are listed as follows:

ACME-ZIP FUND SCHOLARSHIPS

This scholarship fund has been established from the proceeds of the Acme-Zip football games. Scholarships will be awarded to worthy students by the University Scholarship Committee, with an equal amount going to the University General Fund. Special consideration will be given to requests from students enrolled in the Colleges of Business Administration and Engineering.

AKRON AREA PLUMBERS AND PIPEFITTERS INDUSTRY SCHOLARSHIP FUND

These scholarships are designed to provide educational opportunities for students interested in careers in fields related to the Akron Area Plumbers and Pipefitters Industry, such as public health, sanitation, community planning, mechanical and civil engineering. First preference will be given to children of journeyman plumbers and contractor members of the organization who are pursuing programs in civil engineering, mechanical engineering, business administration or nursing at The University of Akron.

THE AKRON BAR ASSOCIATION AUXILIARY SCHOLARSHIP

This fund, established by the Akron Bar Association Auxiliary, provides an annual scholarship from principal and income not to exceed \$1,000 to an entering student in a full-time program of law study. The University Scholarship Committee, on the basis of scholarship, legal aptitude, character and need, and with the advice of the Dean of the College of Law shall make the selection, giving first preference to a resident of Summit County, Ohio. A recipient may apply for an annual renewal of the scholarship.

AKRON DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS SCHOLARSHIP

A scholarship in the amount of \$250 a year for a junior or senior engineering student.

THE AKRON JUNIOR CHAMBER OF COMMERCE SCHOLARSHIP

This scholarship is awarded to a continuing male student residing in Akron. The scholastic average should be at least 3.0 with outstanding performance in extracurricular activities. (Sports may be included, but should not be the only activity.)

AKRON-SUMMIT COUNTY FEDERATION OF WOMEN'S CLUBS FINE ARTS AWARD

An award of \$50 is made to an outstanding art student.

AKRON-SUMMIT COUNTY FEDERATION OF WOMEN'S CLUBS SPEECH AWARD

An award of \$100 is made to an outstanding senior woman in speech.

AKRON EDUCATION ASSOCIATION SCHOLARSHIP

A scholarship, sponsored jointly by The University of Akron, the Akron Board of Education and the Akron Education Association to cover maintenance fees. The scholarship will be awarded to a student planning to enter the teaching profession. The award will be granted by the University Scholarship Committee upon recommendation of a committee of the Akron Education Association. First preference will be given to a son, daughter, niece, nephew, brother, sister or spouse of certificated employees of the Akron Board of Education who is enrolled in the College of Education as a full-time student.

AKRON RUBBER GROUP SCHOLARSHIPS IN CHEMISTRY

An award of \$200 a semester is available for entering students and undergraduate students majoring, or intending to major, in chemistry. Outstanding ability in science and chemistry will be given primary emphasis in the awarding of these scholarships. The award for the second semester and renewal of the scholarship for succeeding years is contingent upon satisfactory scholarship.

AKRON SECTION OF THE AMERICAN CHEMICAL SOCIETY AWARD

The award of student memberships and subscriptions to two of the Society's official publications is made to two chemistry major students of junior rank on the basis of scholarship.

AKRON SOAP BOX DERBY SCHOLARSHIP

An award of \$500 to the winner of the Akron Soap Box Derby is made by the Chevrolet Dealers of the Akron area. The scholarship is payable at the time the winner becomes enrolled as a full-time student at The University of Akron.

AKRON UNIVERSITY ALUMNI FUND SCHOLARSHIPS

Akron University alumni designated the total amount of their 1959 annual fund drive for scholarships for young men or women of excellent scholastic accomplishment in high school work. It is the intention that these scholarships be four-year awards, subject to review of the University Scholarship Committee each semester. There are no geographical restrictions.

AKRON UNIVERSITY ASSOCIATES SCHOLARSHIPS

The purpose of these scholarships is to assist well-qualified students who are in need of financial aid to attend The University of Akron. The scholarships will be administered by the University Scholarship Committee. Scholarships can be applied toward maintenance fees only and may be renewed each semester contingent upon high scholastic achievement.

AKRON UNIVERSITY AWARDS

Upon recommendation of the University Scholarship Committee, students who possess talent in athletics, the dramatic arts, journalism, music or fine arts and an over-all academic record of acceptable quality, The University of Akron provides an award to the student according to the University Scholarship Committee estimate of need. Such awards are subject to review each semester.

ALPHA KAPPA ALPHA SCHOLARSHIP

The purpose of this scholarship is to encourage high scholastic attainment among Negro college women. The recipient must be a second semester sophomore, a junior or a first semester senior with a cumulative average of three point.

ALPHA LAMBDA DELTA AWARD

The National Chapter of Alpha Lambda Delta, scholastic honorary for women, awards a book to the graduating senior member with the highest scholastic average.

AMERICAN CYANAMID COMPANY GRANT

This grant is to be used by the Department of Chemistry in its graduate training and research program.

AMERICAN INSTITUTE OF CHEMISTS AWARD

A student membership in the American Institute of Chemists and a medal are given to an outstanding student majoring in chemistry. This award is granted upon the recommendation of the head of the department.

AMERICAN LAW BOOK COMPANY AWARD

An annual award of selected titles of *Corpus Juris Secundum* to be made at the discretion of the Dean of the College of Law for high scholarship and leadership in student affairs, in each of the four classes.

AMERICAN MARKETING ASSOCIATION AWARD

An award is made to the outstanding Senior Marketing Student by the Akron-Canton Chapter of the American Marketing Association.

AMERICAN SOCIETY OF CIVIL ENGINEERS MEMORIAL AWARD

The purpose of this fund is to honor the memory of members of American Society of Civil Engineers who have made outstanding contributions to the civil engineering profession. The fund will pay one year's dues in the Society to a graduating member of The University of Akron Student Chapter of American Society of Civil Engineers. The student is to be selected by the Dean of the Engineering College as representing the best qualities of a civil engineer.

W. H. ANDERSON COMPANY AWARD

An award of law books made annually to two graduating seniors displaying scholarship in the study of the law of Corporations and Wills.

ASHTON PRIZES

A fund of \$3,000 was established in 1887 by Oliver C. Ashton of Bryan, Ohio, endowing the O. C. Ashton Prizes for excellence in reading and speaking. Three contests are held during the year, one in original oratory, one in interpretative reading and one in extemporaneous speaking. The amounts of the prizes awarded at each contest vary from \$5 to \$30.

THE EDWARD SPENCER BABCOX SCHOLARSHIP FUND

This endowed fund was established by the Babcox Business Publications in honor of the company founder, Mr. Edward Spencer Babcox. One half of the income will be used for scholarship assistance as determined by the University Scholarship Committee and the remaining half will go into the University's current operating fund. Students in the field of rubber chemistry will be given preference.

THE SUMMERFIELD BALDWIN III SCHOLARSHIP

This fund was established by the family of Summerfield Baldwin III. The income is to be used to assist a student in the junior class who is majoring in the field of history and who scholastically and intellectually proves that he or she intends to pursue studies in this field, preferably to the graduate level. All awards will be made by the University Scholarship Committee.

MARY LOUISE BEVERLY SCHOLARSHIP

A fund established in 1965 by Mr. Robert F. Harris, Class of 1928, in memory of his sister, Mrs. Mary Louise Beverly, Class of 1940, who was for many years principal of Spicer School and more recently Director of Elementary Education in the Akron Public Schools. The income will be used to assist worthy students in the College of Education. Memorial contributions are still being accepted as additions to this fund.

BOTZUM BROTHERS COMPANY SCHOLARSHIP

This fund has been established by The Botzum Brothers Company for the purpose of making awards to students who are in need of financial assistance and who have demonstrated satisfactory scholarship. Selection is made by the University Scholarship Committee.

BREWSTER SCHOLARSHIP

A fund established by Mr. and Mrs. Evan B. Brewster (Margaret Zink '25) to provide scholarship assistance to upper-class students in the amount of \$175 a year.

BREWSTER AWARD

A fund established by Mr. and Mrs. Evan B. Brewster (Margaret Zink '25) in the amount of \$100 a year to aid under-class students who are affiliates of Lone Star and/or Phi Delta Theta and/or Kappa Kappa Gamma.

BREWSTER LAWBOOK AWARD

An annual award established by Mr. and Mrs. Evan B. Brewster (Margaret Zink '25) in the sum of \$125, half of which is to assist a deserving law student who ranks in the upper half of his class to obtain the use of assigned case and text books, and half for the expansion of the Law Library Collection.

MILDRED HETER BUCKINGHAM MEMORIAL SCHOLARSHIP

The Mildred Heter Buckingham Memorial Scholarship Fund was established in 1954 by Mr. Lisle M. Buckingham in memory of his wife, Mildred Heter Buckingham. The income from this fund shall be used to assist any full-time student at the University who shows promise in the field of applied music and who is recommended for the scholarship by the Music Department. Music majors are to receive preference if equally well qualified. Final approval will rest with the University Scholarship Committee.

BUILDERS EXCHANGE SCHOLARSHIP

A fund established by the Builders Exchange of Akron and Vicinity for the purpose of granting financial assistance to worthy students attending The University of Akron. Preference will be given to students whose families are members of the Exchange, employees of members, contributors to the Construction Advancement Program and/or students whose fathers are members of a building trades union affiliated with the Tri-County Building Trades Council. The University Scholarship Committee selects the recipients.

THE BUREAU OF NATIONAL AFFAIRS, INC.

This award, a year's complimentary subscription to *Law Week*, is given to the graduating senior law student who, in the judgment of the faculty, has made the most satisfactory progress in his final year.

CABOT FELLOWSHIP

This award is provided by the Cabot Corporation to a graduate student in polymer science.

HOMER C. CAMPBELL FUND

A fund established under the will of the late Homer C. Campbell provides for assistance by loan or gift from its income to needy students dependent on their own resources. Preference is given to young men who have been newsboys in Akron.

HERVEY E. CHAMBERS SCHOLARSHIP

The trust agreement of Hervey E. Chambers provides scholarship assistance not to exceed \$500 per year to a worthy and deserving person attending The University of Akron. The recipients and the amount of scholarship to be determined by the University Scholarship Committee.

COLLEGE CLUB OF AKRON SCHOLARSHIP

This scholarship is offered by the College Club of Akron and is awarded to an outstanding entering freshman girl at The University of Akron. It is a one year only, maintenance fee and general service fee, scholarship.

COLUMBIAN CARBON RESEARCH FELLOWSHIP

This award is provided by the Columbian Carbon Company to a graduate student in rubber and polymer chemistry.

COPPERWELD STEEL COMPANY'S WARREN EMPLOYEE'S TRUST SCHOLARSHIP

The Aristoloy Steel Division of the Copperweld Steel Company provides scholarship assistance to worthy students attending The University of Akron. Preference is given to students who are Copperweld Steel Company employees or dependents of employees, retirees, or former employees who became deceased while still associated with the firm. Recipients must meet the qualifications prescribed by the University Scholarship Committee.

ELIZABETH C. DELLENBERGER AWARD

This fund has been established by Mrs. Elizabeth C. Dellenberger for the purpose of making awards to students who are in need of financial assistance and who have demonstrated satisfactory scholarship. Selection is made by the University Scholarship Committee.

DELTA GAMMA—RUTH K. BILLOW MEMORIAL SCHOLARSHIP

Established by Akron Alumnae Chapter of Delta Gamma, this scholarship will provide assistance on the basis of need, to a visually handicapped undergraduate or graduate student who is a resident of Summit County. The applicant need not be a full-time student, but must be approved by the University and the Akron Delta Gamma Alumnae Scholarship Committees.

DELTA GAMMA FOUNDATION SCHOLARSHIPS

Scholarships in varying amounts are awarded by the Delta Gamma Foundation to women in universities in the United States and Canada. Students apply directly to the Delta Gamma Foundation.

DELTA KAPPA GAMMA SCHOLARSHIP

This scholarship is offered by the Delta Kappa Gamma Society. An award of \$200 annually is granted to a woman in her junior or senior year who expects to enter the field of teaching. The University Scholarship Committee will make the award upon the recommendation of the Scholarship Committees of the Delta Kappa Gamma Society.

DELTA PI IOTA SORORITY SCHOLARSHIP

This scholarship of \$200 a year is available to full-time women students. Either entering or continuing students are eligible. The candidate must have a satisfactory scholastic record, and evidence of need, good character, and leadership will be considered. A committee of Delta Pi Iota shall nominate a list of candidates for this annual award with the cooperation of the Scholarship Committee of the University.

BETTY DOBKIN NURSING SCHOLARSHIPS

Two \$400 awards made annually by the Women's Auxiliary to the Summit County Medical Society to girls entering nursing in an Akron Hospital. \$200 given the first year, \$100 the second and \$100 the third year, contingent on satisfactory performance and scholarship. The award is a gift if the girl graduates from the Akron school of her choice. If she does not graduate, the money must be repaid to the scholarship fund.

RUTH DUGAN AERONAUTIC SCHOLARSHIP

This scholarship is offered by the Akron Women's Chapter of the National Aeronautics Association. A sum, not less than \$100 a year, may be awarded to an undergraduate or graduate student who is a resident of Summit County, Ohio. Upon recommendation of the Scholarship Committee of the Chapter, the University Scholarship Committee will make the award. The scholarship is to assist a student who is primarily interested in studying some phase of aeronautics in an accredited university for a period of one year, and, with the supplementary recommendation and approval, for an additional period of one year.

EAST AKRON BOARD OF TRADE SCHOLARSHIP

A scholarship in the amount of \$200 a semester for a graduate from one of the East Akron high schools, including East, Ellet, Springfield or Hoban High (the graduate from Hoban must be a resident of East Akron). Scholarship recipient will be judged on scholarship, need, and leadership.

ELLET WOMEN'S CLUB SCHOLARSHIPS

Scholarships in the amount of \$150 each to graduates of Ellet High School who are financially deserving and who wish to attend The University of Akron as full-time students. Recipients must have maintained a 3.0 average in high school.

ESSO RESEARCH AND ENGINEERING GRANT

This grant to be used by the Department of Chemistry to further excellence in its graduate training and research or in its undergraduate teaching.

THE EVANS FOUNDATION SCHOLARSHIP

The Evans Foundation Scholarship in the amount of \$500 a year is open to full-time students enrolled at The University of Akron who have demonstrated scholastic ability, possess high qualities of citizenship, promise and leadership, and who have financial need. For equally qualified students, preference shall be given to those enrolled in the College of Business Administration.

**FELLOWS OF THE OHIO STATE BAR ASSOCIATION
FOUNDATION AWARD**

Two annual awards have been established by the Fellows of The Ohio State Bar Association Foundation. One award is to a sophomore law student with the highest academic average for the first third of his law school work, and the second is to a junior law student with the highest academic average for the second third of his law school work.

THE FIRESTONE TIRE AND RUBBER COMPANY FELLOWSHIP

The Firestone Tire and Rubber Company Fellowship in Chemistry is in the value of \$2100 per annum if single and \$2300 per annum if married, and pays fees and tuition for the Fellowship Recipient.

DR. E. B. FOLTZ PRE-MEDICAL PRIZE

Under the provisions of the will of the late Dr. E. B. Foltz a fund was established to provide for a pre-medical prize of \$100, which is awarded each year to that member of the graduating class who makes the highest average grade in all work taken in the four-year pre-medical course and who plans to enter medical college the following year. The name of the winner is announced at Commencement, but the actual award is not made until the winner has enrolled in medical college.

ARTHUR L. FOSTER SCHOLARSHIPS

Awards of \$200 a semester in the freshman year are made to graduates of Akron high schools. Awards are based on scholastic achievement, citizenship, promise and leadership.

IRL A. FREDERICK SCHOLARSHIPS

An endowment fund established under the will of the late Irl A. Frederick, Class of 1909, provides scholarship assistance to worthy students wishing to continue their education. The recipients and the amount of scholarships to be determined by the University Scholarship Committee.

ERVIN D. FRITCH AND ADA B. FRITCH SCHOLARSHIPS

Scholarships in varying amounts are awarded to worthy and capable young women and men selected by the University Scholarship Committee on the basis of scholarship, financial need, moral character and ability.

GENERAL ELECTRIC FELLOWSHIP

This award is provided by the General Electric Foundation in support of a graduate research and study grant in chemistry.

THE GENERAL TIRE & RUBBER COMPANY RESEARCH FELLOWSHIP

This fellowship is given to a graduate student in the Department of Chemistry who is interested in working in the field of polymer chemistry.

THE GOODYEAR SERVICE PIN ASSOCIATION SCHOLARSHIP

This scholarship is in the amount of \$400 per academic year for a maximum of four years. It was established by the Goodyear Service Pin Association for students whose parents are employees with five or more years of service with the Goodyear Tire & Rubber Company or one of its domestic subsidiaries. Scholarships will be awarded each year to a freshman, a sophomore, a junior, and a senior. Selection of the recipients will be made by the University Scholarship Committee.

THE WITCO CHEMICAL COMPANY FELLOWSHIP

The Witco Chemical Company Fellowship in Chemistry awards \$2500 to a qualified graduate student in the Department of Chemistry for an academic year.

GRAND LODGE OF FREE AND ACCEPTED MASONS OF OHIO SCHOLARSHIP

One \$400 scholarship for 1966-67 to a deserving student meeting the scholarship requirements.

CARLOTTA C. GREER SCHOLARSHIP

An undergraduate scholarship in the Department of Home Economics, established 1962-63 by Miss Carlotta C. Greer, Class of 1903.

M. M. HARRISON MEMORIAL CHEMISTRY SCHOLARSHIPS

The income from this fund is to provide an annual scholarship for male chemistry students, Sophomore or above. Recommendation is made by the head of the Chemistry Department.

THE OTIS C. HATTON SCHOLARSHIP

A four-year scholarship in the amount of \$150 per semester is awarded for the purpose of aiding a graduate of an Akron public high school who is planning to enter the educational profession. Preference will be given to well-qualified male students. Candidate must be in upper third of high school graduating class. The scholarship was established by the Akron Council of Parent Teachers Association in honor of Otis C. Hatton, former Superintendent of Schools.

WALTER & MARY EFFIE HERBERICH SCHOLARSHIP

Established in 1965 by Mrs. Walter Herberich with income from endowment used to provide scholarship assistance as determined by the University Scholarship Committee. First consideration shall be to a blind student in the Department of Music, or if not applicable, to a meritorious student in the Department of Music as recommended by the Head of the Department. If no student in the Music Department is eligible, the scholarship shall be awarded by the University Scholarship Committee in accordance with normal scholastic requirements.

MR. & MRS. JOHN S. HEUSS SCHOLARSHIP

This fund has been established by Mr. & Mrs. John S. Heuss for the purpose of making awards to students who are in need of financial assistance and who have demonstrated satisfactory scholarship. Selection is made by the University Scholarship Committee.

FRED F. AND BESSE WILLETT HOUSEHOLDER
MEMORIAL SCHOLARSHIPS

A fund established under the will of the late Fred F. Householder, Professor Emeritus of Physics, provides scholarships to students in the Physics Department.

CLARENCE L. HYDE MEMORIAL SCHOLARSHIP

The Clarence L. Hyde Memorial Scholarship was created in 1946 by Mrs. Harriet Williams and Mrs. E. B. Perrin. The scholarship shall be a living memorial to Dr. Hyde and his service to humanity. The sum of \$150 is to be awarded each year to a senior student residing in Akron, and shall be determined by scholarship and by need on the part of the student; race, color, creed, or sex shall not be considered.

INSIDE ADVERTISING WEEK AWARD

This award, consisting of a week's trip to New York City for the purpose of interviewing and observing advertising agencies, is made to the senior student excelling in the field of Advertising by the Akron Advertising Club.

INTERFRATERNITY—PANHELLENIC COUNCIL SCHOLARSHIPS

These scholarships are not to exceed \$150 per semester and are available to one fraternity man and one sorority woman, funds permitting, who have completed not less than 60 and not more than 96 semester hours of credit with a minimum accumulative grade point average of 2.5. Recipients must have participated in extracurricular activities at The University of Akron. Funds are provided by the Interfraternity and Panhellenic Council.

JUNIOR WOMEN'S CIVIC CLUB SCHOLARSHIP

An annual scholarship covering tuition, fees and book expenses is awarded to a deserving student. Recommendations are made by the University Scholarship Committee with final approval by the Junior Women's Civic Club Scholarship Committee.

KAUFMAN FOUNDATION SCHOLARSHIP

One half of the income derived from this fund, established by Jerome J. Kaufman, is to be used to assist worthy students in the form of scholarships with an equal amount being used for faculty salaries.

LAWYERS CO-OPERATIVE PUBLISHING COMPANY AND
BANCROFT-WHITNEY COMPANY AWARD

The Lawyers Co-operative Publishing Company and Bancroft-Whitney Company, joint publishers of *American Jurisprudence* award to top ranking students in about twenty courses a specially bound copy of the equivalent title from their multi-volume publication.

LAWYERS TITLE INSURANCE CORPORATION AWARD

An annual cash award and a certificate of merit to a graduating senior of the College of Law who, in the opinion of the Dean, has been most proficient in the study of Real Property Law (including Wills and Trusts).

ISAAC LIBERMAN MEMORIAL SCHOLARSHIP FUND

This scholarship was established by the Wooster Sheet Metal and Roofing Company in memory of Isaac Liberman, the founder of the company. It is a single scholarship in the amount of \$100 per semester. The recipient will be selected by the University Scholarship Committee on the basis of his ability, college potential, and financial need. If qualified candidates are available, family members of employees of the company will be given primary consideration.

THE BETTY JANE LICHTENWALTER SCHOLARSHIP

This scholarship was established from a special fund in the name of Betty Jane Lichtenwalter. The income from this account is to be awarded to worthy students with Music or Speech majors.

THE LOUIS LOCKSHIN SCHOLARSHIP

An award of \$175 a semester for a deserving freshman, established by the employees of the Workingmen's Overall Supply, Inc., in honor of Louis Lockshin. The applicant will be chosen on the basis of scholarship and need. Preference will be given to relatives of employees. Race, color, creed or sex shall not be considered.

LUBRIZOL SCHOLARSHIP

An award to a chemistry student, with no restriction as to year of study; \$200 a semester is awarded to the recipient, with a matching amount put into the General Fund.

GEORGE W. MATHEWS SCHOLARSHIP FUND

Established in 1964 by George W. Mathews with income used to provide scholarships to students demonstrating ability and potentiality and requiring financial help. The award to be made without regard to race, creed, color or national origin. The number of scholarships, recipients, and the amount of aid to be determined each year by the University Scholarship Committee, with an equal amount going to the University's current operating fund.

C. BLAKE McDOWELL SCHOLARSHIPS

The proceeds from this fund will be used for the benefit of any person attending The University of Akron. The recipient of this assistance will be selected by the University Scholarship Committee.

THE McNEIL CORPORATION SCHOLARSHIPS

Four-year scholarships have been established by the McNeil Corporation in the amount of \$1,700 each, with an equal amount going to the University General Fund. A scholarship will be renewable each semester contingent upon the student's satisfactory scholastic progress. The scholarships will be awarded primarily to students enrolling in the College of Engineering with preference for those in the field of mechanical engineering although a deserving student in mathematics, chemistry or business may be considered.

MERCATOR CLUBS OF AMERICA SCHOLARSHIP

The Mercator Club of Akron in cooperation with the Mercator Clubs of America have established scholarships in the amount of \$400 a year to students in their junior or senior years. These scholarships are awarded on the basis of financial need and academic achievement. Applicants are recommended by the University Scholarship Committee with final approval resting with the Mercator Clubs of America Scholarship Committee.

MERCK AWARD

An award from Merck & Company, Inc., of a complimentary copy of *The Merck Index of Chemicals and Drugs* to the outstanding senior of the year in the Chemistry Department.

MOBAY CHEMICAL COMPANY RESEARCH FELLOWSHIP

This fellowship is awarded to a graduate student in the Institute of Rubber Research who is working in the field of urethane polymers.

LEON F. MOLDAVSKY SCHOLARSHIP

This scholarship, in the amount of \$250 a year, will be awarded to an outstanding sophomore student majoring in the biological sciences. Candidates will make application to the University Scholarship Committee, and must have at least a 3.0 point average for all work taken in the freshman year. In addition to scholarship, the student must have demonstrated high quality of citizenship, good moral character and high aptitude and motivation in his major field. Financial need also will be considered.

VICTOR I. MONTENYOHL SCHOLARSHIP

The Victor I. Montenyohl Scholarship Fund for advanced study was established in 1946 by Mrs. Elizabeth Montenyohl, his wife, and his son and daughter, Victor and Patricia, in memory of Victor I. Montenyohl, in recognition of Mr. Montenyohl's devotion to the rubber industry, and his belief that The University of Akron offered a unique opportunity for rubber research. It is considered appropriate that the income from this fund be made available whenever possible to a student well qualified and interested in the field of rubber chemistry.

HERMAN MUEHLSTEIN FUND FOR SCHOLARSHIP AID

Earnings on a \$100,000 grant from the Herman Muehlstein Foundation of New York will provide scholarships for qualified men students at The University of Akron who come from the New York City area, with a matching amount for the University. The first awards were made for the fall semester 1964.

JULIUS MUEHLSTEIN SCHOLARSHIPS

These scholarships amount to \$300 a year and are given to help promising students continue their education in the field of rubber chemistry on the basis of need and satisfactory work. The committee shall make no discriminations as to race, color, or creed.

NATIONAL ASSOCIATION OF ACCOUNTANTS AWARD

An award made annually by the Akron-Canton Chapter of the National Association of Accountants to the outstanding senior student in the Accounting Department of the College of Business Administration.

NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP

In 1951, Tire Town Chapter of the National Secretaries Association established an annual scholarship in the amount of maintenance fees and books for an outstanding woman in Secretarial Science to defray normal collegiate expenses. The student is selected on the basis of criteria mutually acceptable to the University and to Tire Town Chapter, N. S. A. This scholarship is known as the Louise Gamble Memorial Scholarship.

NEW YORK RUBBER GROUP SCHOLARSHIP

A scholarship in the amount of \$500 a year is available for a student entering his junior year intending to seek a graduate degree in rubber and polymer chemistry. The recipient must be a citizen of the United States living within 250 miles of New York City. The same recipient may continue this scholarship through his senior year providing he maintains scholastic standards.

NRM CORPORATION SCHOLARSHIP

An annual scholarship of \$500 has been established by the NRM Corporation, with a matching amount going to the University General Fund. Recipient must be an entering freshman planning to enter the field of mechanical or electrical engineering. The University Scholarship Committee shall select one who appears to be best qualified, for approval by the NRM Corporation.

OHIO STATE UNIVERSITY GRADUATE SCHOLARSHIP

In the Spring of 1935 a number of graduate scholarships were established by The Ohio State University, one to be assigned to each of the Ohio colleges fully accredited by the North Central Association of Colleges and Secondary Schools. The scholarship entitles the student to the exemption of tuition and fees of all kinds except a matriculation fee. Selection is left to the individual colleges.

EUGENE O'NEIL SCHOLARSHIP

Proceeds from an endowment fund established at The University of Akron by Eugene O'Neil, Class of 1936, will provide a scholarship for a qualified student, preferably from the New England area.

HUGH MICHAEL O'NEIL SCHOLARSHIP

Originally established in 1959 as the Ferdinand A. and Lorry Brubaker Scholarship Fund, this fund now honors Hugh Michael O'Neil who lost his life in the heroic attempt to save the lives of others in July of 1964. It is hoped that this fund will grow through contributions of others. The income will be used to render financial assistance to students selected by the University Scholarship Committee.

M. O'NEIL COMPANY SCHOLARSHIPS

The M. O'Neil Company has established scholarships to be awarded to students from the junior class and students from the senior class who are preparing to enter the field of general business. The scholarships are renewable each semester upon satisfactory performance, scholarship and the student's continued preparation for a career in retail business. Students selected shall have a minimum of a 2.5 quality point ratio for all previous college work. Achievement, citizenship, leadership and promise of success in the business field will be used as a basis for making the awards.

DOWNTOWN OPTIMIST CLUB OF AKRON SCHOLARSHIP

A scholarship in the amount of \$200 a year was established with the purpose of encouraging talented young people to enroll in the University and pursue a career of benefit to themselves and society.

DOWNTOWN AND WEST HILL OPTIMIST CLUBS SCHOLARSHIP

A scholarship in the amount of \$175 a semester is sponsored jointly by the Optimist Club of Downtown Akron and the West Hill Branch.

PANHELLENIC COUNCIL SCHOLARSHIP

The Panhellenic Council of The University of Akron has established a scholarship of \$125 a semester for a woman student, to be applied entirely on the payment of fees. This scholarship shall be awarded by the University Scholarship Committee to a full-time student irrespective of race, religion, creed, field of study, or sorority membership, after completion of at least one semester's work (12 or more credits) at The University of Akron, and shall be on the basis of scholarship and need. A ratio of at least 3 point in the major and 2.5 in over-all scholarship is required.

JUDGE AND MRS. W. E. PARDEE MEMORIAL SCHOLARSHIP

Established in 1965, in memory of Judge and Mrs. W. E. Pardee, this scholarship, maximum amount of \$500 per year, will be awarded to a full-time student in The University of Akron College of Law day program.

JUDGE W. E. PARDEE MEMORIAL AWARD

The Judge W. E. Pardee Memorial Award of \$150 (established 1963-64) presented annually to a participant or team of participants in Bracton's Inn (the Case Club of the College of Law) who best displays advocacy skill and professional decorum.

THE PHILADELPHIA RUBBER GROUP SCHOLARSHIP

The Philadelphia Rubber Group offers an annual scholarship of \$500, tenable at The University of Akron, subject to the following restrictions: (1) the holder of the scholarship must be a full-time graduate student in the field of rubber and polymer chemistry, (2) he must have attended a high school, preparatory school, or college in the states of Pennsylvania, New Jersey, Delaware or Maryland, (3) if no applicant has the qualifications set forth in provision 2, the scholarship may be awarded to some other qualified candidate.

PHILLIPS PETROLEUM COMPANY RESEARCH FELLOWSHIP

This award is provided by the Phillips Petroleum Company to a graduate in polymer chemistry.

PHI SIGMA AWARD

An annual award by the National Phi Sigma Society to an outstanding student in the biological sciences.

PHI SIGMA ALPHA JUNIOR PRIZE

The Phi Sigma Alpha Junior Prize of \$50, first awarded in spring 1961, to the student in Buchtel College of Liberal Arts having the highest average for 80-96 hours in residence.

PHI SIGMA ALPHA SCHOLARSHIP

This scholarship is awarded to a full-time Buchtel College of Liberal Arts junior or senior with at least a 3.0 cumulative average. The grant is in the amount of \$200 for each semester of the academic year.

PHI SIGMA ALPHA SOPHOMORE PRIZE

The Phi Sigma Alpha Sophomore Prize of \$50, first awarded in spring 1961, to the student in the General College having the highest average for 48-64 hours in residence.

PIERIAN CHAPTER OF MORTAR BOARD SCHOLARSHIP

This scholarship is awarded to a full-time woman student at the University, in the amount of \$150 a semester for two consecutive semesters. She must have a 3.0 or better over-all average, and will be chosen on the basis of leadership, scholarship, activities, democratic ideals and personality. Recommendations will be made by Pierian.

PIXLEY SCHOLARSHIPS

In accordance with the will of Isabel McRoy Pixley, wife of Frank Pixley, class of 1887, a fund of \$50,000 was established in 1931. Awards are made each semester to students of outstanding ability and promise in the fields of literature, music and speech. To be eligible for one of these awards the student must be enrolled in an upper college or qualified to enter an upper college and must be a major in the department in which the scholarship is awarded, or a divisional major in the humanities division. The awarding of these scholarships is made by a University committee. To be eligible for a Pixley Scholarship, a student must have a quality point ratio of at least 2 in all work taken; in the field of the award the quality of scholarship is expected to be much higher.

A. POLSKY COMPANY SCHOLARSHIPS

The A. Polsky Company has established four scholarships in the amount of \$300 a year each to be awarded to students who are preparing to enter the field of business. A minimum 2.5 point average for all previous college work is required, and also achievement, citizenship, leadership, and promise of success in the business field will be used as a basis for making the awards.

RADNEY CIGARETTE SERVICE SCHOLARSHIP

This scholarship is open to any student enrolled at The University of Akron who has demonstrated ability to do college work. Scholastic achievement, citizenship, leadership and need are qualities used as a basis for making this award. The amount of this scholarship is \$300 a year, payable \$150 a semester upon satisfactory scholastic progress.

WILLIAM S. RICHARDSON FELLOWSHIP

This is an annual fellowship in the amount of \$1,200 for a student who will serve as a graduate assistant in the undergraduate teaching program while pursuing graduate work in the Department of Chemistry.

MERLE DAVID RIEDINGER SCHOLARSHIP

A scholarship in the amount of \$150 per semester is awarded to a student from the Akron area. Although unrestricted as to field of study, students in retail merchandising will be given preference, all other qualifications being equal. Candidates will be chosen on the basis of scholarship, character and need.

WILLIAM EBER ROBINSON SCHOLARSHIP

A scholarship in the amount of \$400 per year from The Robinson Clay Product Company Fund. Scholarships awarded on the basis of scholarship and need with preference given to a son or daughter of a Robinson Clay Product employee. An amount equal to the scholarship is given annually to the University General Operating Fund.

CLETUS G. AND CLARA E. ROETZEL SCHOLARSHIP FUND

An endowment fund with earnings to be used to provide a scholarship or scholarships to worthy students and a matching amount to be used for the general operating expenses of the University.

RUBBER AGE AWARD

An award of \$100 each to the students writing the best master's thesis and the best doctoral thesis on some aspect of rubber chemistry or technology.

MORRIS SACKS SCHOLARSHIP

Mr. and Mrs. Alex Schulman established this scholarship in memory of Morris Sacks. The income from this fund is to be used annually for scholarships, with matching amount to be used for current operating expenses. It is to be awarded to a worthy student.

ALEX SCHULMAN SCHOLARSHIPS

The income from the Alex Schulman Endowment Fund is to be used to provide scholarships to worthy students with matching amounts to be used for current operating expenses. (1963-64)

SENIOR ALUMNI PRIZE

A fund has been established by the Alumni Association for the purpose of awarding an annual cash prize of \$50 to that senior student who has completed the regular undergraduate curriculum with the highest average grade for the work taken, having carried an average load of 12 credits per semester.

THE H. E. SIMMONS MEMORIAL SCHOLARSHIP

The H. E. Simmons Memorial Scholarship was established in memory of President Emeritus H. E. Simmons. The earnings from this endowed scholarship will be awarded to a freshman student or students interested in chemistry. The University Scholarship Committee will determine the amount of the awards and make the selection of the scholarship recipients.

SIMON PERKINS JR. HIGH SCHOOL PTA SCHOLARSHIP

Established by the Simon Perkins Jr. High School Parent-Teacher Association in the amount of \$300 annually to be administered by the University Scholarship Committee with no restrictions except that first preference be granted to Simon Perkins graduates.

SOCIETY FOR ADVANCEMENT OF MANAGEMENT AWARD

This award is made by The University of Akron Chapter of the Society for Advancement of Management to the outstanding senior in the Department of Industrial Management.

SOUTH AKRON BOARD OF TRADE SCHOLARSHIPS

The South Akron Board of Trade has established four scholarships to be awarded to an outstanding graduate from Coventry, South, Garfield, and St. Mary's High Schools in the amount of \$150 per year, payable at \$75 a semester. The award for the second semester is contingent upon satisfactory scholarship for the first semester. The principal of each high school may submit the names of three scholarship candidates for the Freshman year at the University.

The candidate must be in the upper third of his graduating class and must become a full-time University student. Scholastic achievement, citizenship, promise and leadership are the qualities used as the basis for the awards.

JASON AND CORINNE SUMNER SCHOLARSHIP

Established by Mrs. Beatrice S. Williamson, Class of 1908, in memory of her father and mother, Jason and Corinne Sumner, this fund provides financial assistance to worthy students attending The University of Akron. Recipients are selected by the University Scholarship Committee.

TOUCHDOWN CLUB AWARDS

Touchdown Club awards vary in amounts and periods of coverage. Scholastic achievement, citizenship, athletic ability, need and leadership will be used as a basis for making these awards.

UNION CARBIDE CORPORATION RESEARCH FELLOWSHIP

This award is provided by the Union Carbide Corporation to a graduate student in polymer chemistry.

THE UNIVERSITY OF AKRON NATIONAL MERIT SCHOLARSHIP

Through an arrangement with the National Merit Scholarship Corporation, The University of Akron is sponsoring one National Merit Scholarship beginning with the fall semester 1964. Only National Merit finalists are eligible. The recipient will be a man in the New York City area. The amount of the award will be a minimum of \$100 and a maximum of \$1,500 depending upon the student's needs as estimated by the National Merit Scholarship Corporation. The award is made possible by a \$100,000 grant from the Herman Muehlstein Foundation of New York City through its Herman Muehlstein Fund for Student Aid. Additional scholarships will be awarded in subsequent years.

THE UNIVERSITY OF AKRON PRE-MEDICAL SCHOLARSHIP FUND

This scholarship of \$500 per year is awarded to a worthy Freshman student who intends to pursue the study of medicine. The Sacks Electric Supply Company established the scholarship but the selection of the candidate is made by the University Scholarship Committee.

DR. GEORGE VAN BUREN PRE-MEDICAL PRIZES

Prizes totaling \$100 to be awarded to an outstanding student, or students, in the biological sciences, and to be used to support research projects. First presented in 1962-63 by Dr. Van Buren, who received his pre-medical training at The University of Akron, Class of 1935.

EDWARD AND ELEANOR VOKE FAMILY SCHOLARSHIP

This scholarship is available to full-time and part-time students enrolled at the University who have demonstrated scholastic ability, possess high quality of citizenship, promise and leadership and who have financial need.

LYNN F. (PINDY) WAGNER SCHOLARSHIPS

These scholarships amount to \$416 a year each and are awarded to high school senior men and women who are candidates for admission to The University of Akron. They extend over two school years.

To qualify the individual must be a member of the Akron Junior Bowling Congress and must be a high school student in his final semester. For each later semester the award is contingent upon satisfactory performance in college. The applicant must be of good repute and recommended by his high school. The applicant must be in the upper half of his class and accepted for admission to The University of Akron. He must enroll as a full-time student. Decision as to the winner is made jointly by a committee of the Akron Junior Bowling Congress and the University Scholarship Committee.

The award will be made regardless of race, creed, color, national origin, or course of study and will be made jointly by the above awards committee each Spring.

WALL STREET JOURNAL AWARD

This award is made annually to the senior student in the field of finance for academic achievement.

MR. AND MRS. E. D. WARNER SCHOLARSHIP

This fund has been established by Mr. and Mrs. E. D. Warner for the purpose of making awards to students who are in need of financial assistance and who have demonstrated satisfactory scholarship. Selection is made by the University Scholarship Committee.

WEST PUBLISHING COMPANY AWARDS

The West Publishing Company annually awards suitable law books to students with the highest first year average, highest second year average, highest third year average and to a student who has displayed leadership and scholarship.

WESTERN ELECTRIC FUND SCHOLARSHIP

This fund provides an annual scholarship for a student in engineering. Amounts will vary, but in no case will exceed tuition and fees, for a first or second year student in an engineering curriculum. The recipient shall be a citizen of the United States and shall be chosen without regard to color, creed, or national origin.

GOODYEAR TIRE AND RUBBER COMPANY FELLOWSHIP

The Goodyear Research Fellowship in Chemistry is in the value of \$2100 per annum if single and \$2300 per annum if married, and pays fees and tuition for the Fellowship Recipient. To be eligible for this Fellowship, a candidate must be a United States citizen, be working toward a Ph.D. degree with a major in Chemistry, and have a desire to enter industry upon graduation.

WOMEN'S AUXILIARY OF THE AKRON DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS SCHOLARSHIP

An award of \$300 a year is made to a sophomore in the College of Engineering who has acquired a minimum of 28 credits at The University of Akron. The student selected must be enrolled as a full-time student and will be selected on the basis of scholarship, leadership, and need. The second semester award is contingent upon satisfactory achievement in the first semester. The award will be made by the University Scholarship Committee upon recommendation of the Dean of the College of Engineering.

MR. AND MRS. WILLIAM D. ZAHRT SCHOLARSHIPS

This scholarship was established by Mr. and Mrs. William D. Zahrt for high scholarship students. The scholarship is in the amount of \$500 a year for two students upon scholarship performance. The University Scholarship Committee will make the selection.

ZETA TAU ALPHA FOUNDATION AWARD

These awards are made available to women students on campuses throughout the country. The majority of these awards are \$200 grants made to undergraduate students. Recipients are recommended by the University Scholarship Committee with final selection resting with the Foundation Scholarship Committee.

THE EDUCATIONAL OPPORTUNITY GRANT PROGRAM

The Higher Education Act of 1965 provides gift assistance to students in the form of Educational Opportunity Grants. Grants to students will be made beginning in the 1966 Fall semester and will range from \$200 to \$800 per year. Preference will be given to entering freshmen. They are to be awarded to students who have demonstrated good academic achievement and come from *low-income families* and are to be part of a "package" type of assistance which will also include other scholarships, National Defense Student Loans, and/or wages from the student's employment—the total package designed to meet the educational costs that cannot be met through parental contributions.

THE COLLEGE WORK-STUDY PROGRAM

This program provides on-campus work opportunities at the prevailing campus wage rates to students from low-income families. Up to 15 hours of work per week is permitted while school is in session and 40 hours weekly during vacation periods. Every attempt will be made to place students in work related to their major field of interest. To be eligible a student must carry at least 12 semester credit hours, must be capable of maintaining a minimum of 2.0 or "C" grade average and must meet a financial means test based on family income. Generally speaking, any student who finds he must gain employment to meet educational expenses is eligible.

NATIONAL DEFENSE STUDENT LOAN FUND

The University administers these loans under the following provisions: the student must (a) be in need of the amount of the loan to pursue a course of study; (b) be capable of maintaining good standing in such course; and (c) have been accepted for enrollment as a more-than-half-time student, or, if already attending an institution, be in good standing and in full-time attendance as an undergraduate or graduate student with a more-than-half-time academic load. Repayment begins one year after a borrower ceases to pursue a full-time course of study at an institution of higher education, and ends 11 years thereafter. Interest rate is 3%. Up to one-half of any loan (plus interest) is canceled for service as a full-time teacher in a non-profit elementary or high school or a college.

OTHER STUDENT LOAN FUNDS

Akron Council of Parent-Teacher Associations Loan Fund	Indian Trail Chapter of Daughters of the American Colonists Loan Fund
Altrusa Loan Fund	Lodge No. 547 Independent Order of Odd Fellows Loan Fund
Maxwell P. Boggs Loan Fund	Lichter Foundation Loan Fund
Homer C. Campbell Fund	Litchfield-Thomas Fund
Stephen Richard Chesrown Loan Fund	Ellen Nadolski Loan Fund
Katherine Claypole Loan Fund	Jesse A. Riner and Blanche Pease Riner Fund
Cuyahoga Portage Chapter D.A.R. Loan Fund	Mabel Jane Rogers Memorial Fund
Evening College Loan Fund	Milo W. Sample Loan Fund
Harriet Hale Loan Fund	Philip H. Schneider Scholarship Loan Fund
Hermine Z. Hansen Loan Fund	May Steves Memorial Loan Fund
Jessie and William Hyde Memorial Fund	Richard J. Witner Memorial







4

The University of Akron:

Academic Programs

In many respects The University of Akron is a complex community within itself. It has more than 700 employees and is organized into several units, called colleges. In turn, those colleges are organized into academic departments, 46 in all, that teach a total of more than 1300 different courses. Because it is such a large and complex community, it is necessary for the student to adopt a whole new vocabulary, learning new terms and understanding the organization of the University.

Here are definitions and examples which help explain the academic organization at The University of Akron.

THE UNIVERSITY—the entire institution; an academic whole. *For example: The University of Akron*

A COLLEGE—a wide area of specialized higher learning within the framework of the University itself. *For example: The Buchtel College of Liberal Arts*

A DIVISION OF INSTRUCTION—a generic grouping within a college. *For example: The Buchtel College of Liberal Arts has three divisions: Humanities, Social Sciences and Natural Sciences.*

A DEPARTMENT OF INSTRUCTION—a closely defined area of specialization within a division. *For example: The Humanities Division within the Buchtel College of Liberal Arts has seven departments: Art, English, Classics, Modern Languages, Music, Philosophy, Speech.*

SUBJECTS OF INSTRUCTION—the most minutely specialized part within each department; the actual point of academic contact between faculty and student. *For example: The Speech Department has about 40 subjects of instruction.*

THE STUDENT—the individual receiver of all academically imparted information; the focal point of University instruction. Even this table of organization is described for the benefit of the student, that he may understand the channels of academic activity. The University's subdivisions of colleges, divisions and departments are basically designed so that students of similar interests and ambitions may study together and spend their college years most advantageously.

Two other terms it would be helpful to know right from the start are *Code Numbers* and *Course Numbers*. Because these terms are similar they are often confused.

Altogether, the University's 46 departments teach more than 1300 courses. Originally, each course was described in full, for example: *Mechanical Engineering: The Kinematic Design of Mechanisms*. However, as more and more departments were established, each teaching more and more courses, it became necessary to adopt some form of abbreviation. So, as has happened at most large universities, The University of Akron established a numbering system. As a result, the terminology used in describing the jawbreaker above is now 36:178.

Code Number	36:178	Course Number
(Mechanical Engineering)		(Kinematic Design of Mechanisms)

The first two digits of that number (36) are called the *Code Number*. These numbers refer only to the department in which the course is taught. In this case the number refers to the Mechanical Engineering Department of the College of Engineering.

The second set of digits (178), following the colon, make up the *Course Number*. These numbers pin down exactly which course in the Mechanical Engineering Department is being specified.

The Course Numbers also tell another story. In addition to pinpointing the precise course involved, they also tell at what level the course is being taught or at what point in his college career the student is ready to take the course. An explanation of that numbering system follows:

- 1-99 General and Community and Technical College Courses
- 100-199 Upper College (undergraduate)
- 200-299 Senior undergraduate courses, some of which may be taken for graduate credit* subject to the rules set forth in the Graduate Division section.
- 300-399 Graduate* courses for which a few undergraduates who have shown unusual ability may be accepted.
- 400-499 Graduate* courses for which the prerequisite is the completion of requirements for the bachelor's degree.
- 500-599 Numbers assigned to undergraduate courses numbered 200-299 which are being taken for graduate credit.*

Understanding some of the terms that are used, it now becomes easier to understand the organization of the University. The following table lists the various colleges, including their respective divisions and departments. The number in parentheses following department name is that department's *Code Number*, and is used as a prefix for all courses taught in that department.

THE UNIVERSITY OF AKRON

The General College

Department of General Studies (1:)

The Buchtel College of Liberal Arts

Humanities Division

Art (2:)	The Classics (15:)
English (7:)	Latin (16:)
French (8:)	Music (18:)
German (10:)	Philosophy (19:)
Greek (11:)	Spanish (23:)
Russian (14:)	Speech (24:)

Social Sciences Division

Economics (6:)	Sociology (22:)
History (12:)	Geography and Geology (28:)
Political Science (21:)	Psychology (30:)

* Students must apply for and be admitted to the Graduate Division to receive graduate credit for any of these courses.

Natural Sciences Division

Biology (3:)
Chemistry (5:)

Physics (20:)

Home Economics (13:)
Mathematics (17:)

College of Engineering

Civil Engineering (34:)
Electrical Engineering (35:)

Mechanical Engineering (36:)
Chemical Engineering (37:)

College of Education

Education (27:)

Nursing Education (31:)
Health and Physical Education (29)

College of Business Administration

Accounting (39:)

Marketing and Finance (40:)
Industrial Management (42:)

Reserve Officers Training Corps (ROTC)

Air ROTC Aerospace Studies (46:)

Army ROTC (47:)

College of Law

Law (50:)

Community and Technical College

Commercial Art (60:)

Electronic Technology (61:)

Mechanical Design (62:)

Chemical Technology (63:)

Transportation (64:)

Associate Studies (65:)

Sales and Merchandising (66:)

Secretarial Science (67:)

Industrial Technology (68:)

Surveying and Construction Technology (69:)

In the pages that follow, the curricula of the various colleges will be discussed along with the general requirements of each, the degrees offered and other information needed for fuller understanding of their programs. In addition, a complete list of the courses offered, detailing the Code and Course Number, course title, number of credits, prerequisites and general course description, may be found in a later chapter.



Associate Degree Programs

Specialized, vocationally oriented programs of study directly applicable to professions in technical and highly skilled fields are offered through the Community and Technical College. These programs, leading to the Associate degree, are provided for high school graduates who do not consider it desirable to pursue a baccalaureate program of study, but do have the conviction that education beyond the high school is necessary if they are to be self-supporting, useful, intelligent members of our modern, complex society. Associate programs require two years for their completion and are designed to give the graduating student the concepts and skills that are demanded in today's commercial and industrial world.

The Community and Technical College

WILLIAM M. PETRY, M.S.M.E., *Dean*

OBJECTIVES

The purpose of the Community and Technical College is to further the objectives of The University of Akron by providing a quality program of general and technical collegiate education and to pursue the following aims:

To offer specialized, vocationally oriented programs in the areas of Commerce, Technology, Nursing and Health.

To provide nonvocationally oriented students with a two year Associate Degree program in the liberal arts.

To counsel students with respect to their adjustment to the collegiate environment and to their academic, personal and vocational objectives.

To provide opportunities for interested persons to study in various specialized fields at the noncredit, nondegree level.

The College recommends each student for the appropriate associate degree or certificate in accordance with his level of accomplishment.

The College offers both pre-service and in-service training: pre-service for the recent High School graduate who can receive an Associate Degree upon the satisfactory completion of two years of full time studies and in-service training through the Evening College where employed persons may pursue the same degrees while working full time.

ASSOCIATE PROGRAMS

The Department of Associate Programs offers programs of study leading to the Associate Degree in:

ARTS
 CHEMICAL TECHNOLOGY
 COMMERCE
 COMMERCIAL ART
 ELECTRONIC TECHNOLOGY
 INDUSTRIAL TECHNOLOGY
 MECHANICAL DESIGN
 SALES AND MERCHANDISING
 SECRETARIAL SCIENCE
 Medical and Dental
 Technical
 Executive
 Legal
 International
 SURVEYING AND CONSTRUCTION TECHNOLOGY
 TRANSPORTATION

REQUIREMENTS FOR GRADUATION

Candidates for the Associate Degree must

- 1) Earn credit in all of the required courses listed in the program;
- 2) Accumulate a minimum of 64 credits;
- 3) Earn a minimum quality point ratio of 2.0 in all work attempted and;
- 4) be recommended by the faculty.
- 5) Spend his last semester in residence (earning a minimum of 16 credits) at the University unless excused by the Dean of the College.
- 6) Other requirements are set forth in the section on "Requirements for Graduation" in Chapter 3.

A student who expects to receive a second Associate Degree must earn a minimum of 16 credits in residence which have not counted toward his first degree.

ASSOCIATE PROGRAMS

ARTS

The Associate degree in this field includes specified General Studies courses as well as appropriate subjects in the College of Liberal Arts on the first two-year level.

61: ELECTRONIC TECHNOLOGY

First Year

First Semester		Credits	Second Semester		Credits
65:31	Mathematical Analysis	3	65:32	Mathematical Analysis	3
61:33	Electricity and Magnetism	3	61:22	Circuit Theory	3
20:25	Physics	4	61:23	Electronics	4
61:27	Electronic Drafting	3	61:26	Measurements	3
65:20	English	3	65:22	Technical Report Writing	3
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>18</u>			<u>18</u>

Second Year

First Semester		Credits	Second Semester		Credits
61:24	Electronics	4	61:45	Analog Computers	3
61:42	Machinery	3	61:49	Industrial Electronics	3
65:47	Survey of Basic Economics	3	61:50	Electronic Projects	2
65:33	Mathematical Analysis	3	61:51	Communications Systems	3
61:37	Digital Computers	3	65:40	Human Relations	3
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>17 1/2</u>			<u>15 1/2</u>

62: MECHANICAL DESIGN PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
20:25	Physics	4	65:32	Mathematical Analysis	3
65:31	Mathematical Analysis	3	65:53	Electricity and Magnetism	3
62:21	Technical Drawing I	3	62:22	Technical Drawing II	3
65:20	English	3	1:8	Effective Speaking	3
1:21	Physical Education	1/2	62:23	Statics & Dynamics	3
	ROTC or Elective	1 1/2	1:22	Physical Education	1/2
		<u>15</u>		ROTC or Elective	1 1/2
					<u>17</u>

Second Year

First Semester		Credits	Second Semester		Credits
65:33	Mathematical Analysis	3	62:44	Mechanical Design	4
62:41	Strength of Materials	3	62:46	Applied Thermal Energy	3
62:42	Design Materials	3	65:22	Technical Report Writing	3
62:43	Mechanical Design	4	62:47	Elementary Fluid Mechanics	3
62:45	Shop Methods and Practices	3	65:40	Human Relations	3
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>17 1/2</u>			<u>17 1/2</u>

63: CHEMICAL TECHNOLOGY

First Year

First Semester		Credits	Second Semester		Credits
65:31	Mathematical Analysis	3	65:32	Mathematical Analysis	3
65:20	English	3	1:8	Effective Speaking	3
62:21	Technical Drawing I	3	21:41	American Government	3
63:21	Basic Chemistry I (Inorganic)	4	63:22	Basic Chemistry II (Organic)	4
1:21	Physical Education	1/2	65:22	Technical Report Writing	3
	ROTC or Elective	1 1/2	1:22	Physical Education	1/2
				ROTC or Elective	1 1/2
		<hr/>			<hr/>
		15			18

Second Year

First Semester		Credits	Second Semester		Credits
20:25	Physics	4	65:53	Electricity and Magnetism	3
63:23	Basic Chemistry III (Analytical)	4	63:24	Basic Chemistry IV (Physical)	4
65:33	Mathematical Analysis	3	62:47	Elementary Fluid Mechanics	3
62:45	Shop Methods & Practice	3	63:41	Instrumental Methods	4
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		15 1/2			15 1/2

64: TRANSPORTATION PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	1:8	Effective Speaking	3
65:47	Survey of Basic Economics	3	67:35	Business English	2
67:21	Office Problems	3	65:40	Human Relations	3
64:20	Survey of Transportation	3	64:21	Elements of Transportation I	3
1:21	Physical Education	1/2	21:41	American Government	3
	ROTC or Elective	1 1/2	1:22	Physical Education	1/2
		<hr/>		ROTC or Elective	1 1/2
		14			16

Second Year

First Semester		Credits	Second Semester		Credits
67:11	Basic Accounting or		40:61	Business Organization	
	39:21 Accounting	3		and Management	3
67:93	Business Communications	2	64:23	Rate Making	3
64:22	Elements of Transportation II	3	64:43	Terminal Operation	3
64:41	Interstate Traffic Practices		64:42	Interstate Traffic Practices	
	and Procedures I	3		and Procedures II	3
66:20	Elements of Distribution	3	66:22	Personnel Practices	3
	Elective	2		ROTC or Elective	1 1/2
	ROTC or Elective	1 1/2			<hr/>
		<hr/>			16 1/2
		17 1/2			

66: SALES AND MERCHANDISING PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	1:8	Effective Speaking	3
66:20	Elements of Distribution	3	65:40	Human Relations	3
65:47	Survey of Basic Economics	3	66:22	Personnel Practices	3
67:70	Business Mathematics	3	66:21	Principles of Display and Advertising	3
2:21	Design	2	1:22	Physical Education	1/2
1:21	Physical Education	1/2		Elective	2
	ROTC or Elective	1/2		ROTC or Elective	1/2
		<hr/>			<hr/>
		16			16

Second Year

First Semester		Credits	Second Semester		Credits
67:35	Business English	2	40:61	Business Organization	3
67:11	Basic Accounting or 39:21 Accounting	3	21:41	American Government	3
13:21	Textiles or Elective	3	13:58	Selection of House Furnishings or Elective	3
66:81	Principles of Salesmanship	3	67:93	Business Communications	2
2:37	Design and Composition in Commercial Art	2	66:30	Retailing Problems	3
66:84	Public Relations	2		ROTC or Elective	1/2
	ROTC or Elective	1/2			<hr/>
		<hr/>			<hr/>
		16 1/2			15 1/2

67: SECRETARIAL SCIENCE

MEDICAL AND DENTAL SECRETARIAL PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	67:35	Business English	2
5:25	Chemistry	3	67:81	Office Nursing Techniques with Lab	4
67:53	Typewriting Principles (Beginning)	3	3:91	Introduction to Human Physiology	4
67:61	Shorthand Principles	4	67:54	Typewriting Projects	3
67:25	Business Machines	1	67:62	Shorthand and Transcription	4
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1/2		ROTC or Elective	1/2
		<hr/>			<hr/>
		16			19

Second Year

First Semester		Credits	Second Semester		Credits
67:21	Office Problems	3	67:82	Medical and Dental Machine Transcription	2
67:11	Basic Accounting or 39:21 Accounting	3	67:93	Business Communications	2
67:55	Secretarial Machines	3	65:40	Human Relations	3
67:70	Business Mathematics	3	21:41	American Government	3
1:8	Effective Speaking	3	66:22	Personnel Practices	3
	ROTC or Elective	1/2	67:80	Essentials of Law	3
		<hr/>		ROTC or Elective	1/2
		<hr/>			<hr/>
		16 1/2			17 1/2

EXECUTIVE SECRETARIAL PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
1:1	Written English	3	67:35	Business English	2
67:21	Office Problems	3	1:8	Effective Speaking	3
67:25	Business Machines	1	67:70	Business Mathematics	3
67:53	Typewriting Principles (Beginning)	3	67:54	Typewriting Projects	3
67:61	Shorthand Principles	4	67:62	Shorthand and Transcription	4
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		16			17

Second Year

First Semester		Credits	Second Semester		Credits
65:47	Survey of Basic Economics	3	67:80	Essentials of Law	3
67:11	Basic Accounting or 39:21 Accounting	3	66:22	Personnel Practices	3
67:93	Business Communications	2	21:41	American Government	3
67:55	Secretarial Machines	3	65:40	Human Relations	3
67:63	Advanced Dictation and Transcription	4	67:64	Executive Dictation and Transcription	4
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		16 1/2			17 1/2

TECHNICAL SECRETARIAL PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
1:1	Written English	3	67:35	Business English	2
67:21	Office Problems	3	1:8	Effective Speaking	3
67:25	Business Machines	1	67:70	Business Mathematics	3
67:53	Typewriting Principles (Beginning)	3	67:54	Typewriting Projects	3
67:61	Shorthand Principles	4	67:62	Shorthand and Transcription	4
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		16			17

Second Year

First Semester		Credits	Second Semester		Credits
65:47	Survey of Basic Economics	3	65:22	Technical Report Writing	3
67:11	Basic Accounting or 39:21 Accounting	3	67:93	Business Communications	2
5:25	Chemistry	3	65:40	Human Relations	3
67:55	Secretarial Machines	3	67:66	Technical Dictation and Transcription	4
67:63	Advanced Dictation and Transcription	4	21:41	American Government	3
	ROTC or Elective	2 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		17 1/2			16 1/2

LEGAL SECRETARIAL PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
1:1	Written English	3	67:35	Business English	2
67:21	Office Problems	3	1:8	Effective Speaking	3
67:25	Business Machines	1	67:70	Business Mathematics	3
67:53	Typewriting Principles (Beginning)	3	67:54	Typewriting Projects	3
67:61	Shorthand Principles	4	67:62	Shorthand and Transcription	4
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<hr/>			<hr/>
		16			17

Second Year

First Semester		Credits	Second Semester		Credits
65:47	Survey of Basic Economics	3	21:41	American Government	3
67:11	Basic Accounting or 39:21 Accounting	3	67:80	Essentials of Law	3
67:93	Business Communications	2	65:40	Human Relations	3
67:55	Secretarial Machines	3	67:65	Legal Dictation and Transcription	4
67:63	Advanced Dictation and Transcription	4		ROTC or Elective	1 1/2
	ROTC or Elective	1 1/2			<hr/>
		<hr/>			<hr/>
		16 1/2			14 1/2

INTERNATIONAL SECRETARIAL PROGRAM

Limited Admission: Approval of the Dean of the Community and Technical College or the Head of The Department of Associate Programs required.

First Semester		Credits	Second Semester		Credits
1:1	Written English	3	1:22	Physical Education	1/2
1:21	Physical Education	1/2	67:35	Business English	2
67:21	Office Problems	3	67:54	Typing Projects	3
67:25	Business Machines	1	67:62	Shorthand and Transcription	4
67:53	Typing Principles	3	67:70	Business Math	3
67:61	Shorthand Principles	4		Beginning Foreign Language*	4
	Beginning Foreign Language*	4			<hr/>
		<hr/>			<hr/>
		18 1/2			16 1/2

Third Semester		Credits	Fourth Semester		Credits
21:31	Principles of Government and Politics	3	12:46	Modern Europe Since 1815	3
67:55	Secretarial Machines	3	21:44	American Diplomacy	3
67:63	Advanced Dictation and Transcription	4	65:40	Human Relations	3
67:93	Business Communications	2	67:64	Executive Dictation or 67:65 Legal Dictation	4
	Intermediate Foreign Language*	3		Intermediate Foreign Language*	3
	Elective	3			<hr/>
		<hr/>			<hr/>
		18			16

INDUSTRIAL TECHNOLOGY

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	65:32	Math Analysis II*	3
65:31	Math Analysis I*	3	40:61	Bus. Organization & Management ..	3
67:25	Business Machines	1	65:40	Human Relations	3
65:47	Survey of Basic Economics	3	66:22	Personnel Practices	3
62:21	Technical Drawing	3	68:20	Work Measurement Proc.	3
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>15</u>			<u>17</u>

Second Year

First Semester		Credits	Second Semester		Credits
1:8	Effective Speaking	3	65:22	Tech. Report Writing	3
68:31	Factory Planning & Materials Handling	3	68:41	Safety Procedures	2
67:11	Basic Accounting or 39:21 Accounting	3	68:42	Production & Quality Control Procedures	4
68:32	Labor-Management Relations	3	21:41	American Government	3
62:45	Shop Methods & Practices**	3	68:45	Plants & Equipment Maintenance**	2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>16 1/2</u>			<u>15 1/2</u>

COMMERCE

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	67:35	Business English	2
65:47	Survey of Basic Economics	3	66:22	Personnel Practices	3
67:70	Business Math	3	65:40	Human Relations	3
67:25	Business Machines	1	40:61	Business Organization	3
66:20	Elements of Dist.	3	67:21	Office Problems	3
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>15</u>			<u>16</u>

Second Year

First Semester		Credits	Second Semester		Credits
67:11	Basic Accounting or 39:21 Accounting	3	66:84	Public Relations	2
1:8	Effective Speaking	3	67:80	Essentials of Law	3
21:41	American Government	3	67:93	Business Communications	2
64:20	Survey of Transportation	3	68:43	Fundamentals of Finance	3
68:32	Labor-Management Relations	3		Electives	5
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>16 1/2</u>			<u>16 1/2</u>

* 67:70 Business Math and 67:35 Business English may be substituted in lieu of Math Analysis 65:31 and 65:32, with permission of the Dean.

** 20:25 and 20:26 Physics may be substituted in lieu of 62:45 Shop Methods and Practices and 68:45 Plants and Equipment Maintenance, with permission of the Dean.

COMMERCIAL ART PROGRAM

First Year

First Semester		Credits	Second Semester		Credits
65:20	English	3	1:8	Eff. Speaking	3
66:21	Principles of Display and Advertising	3	2:35	Understanding of Art	3
62:21	Technical Drawing I	3	2:45	Drawing	2
60:20	Visual Fundamentals*	3	60:21	Photography I*	3
1:21	Physical Ed.	1/2	60:24	Commercial Art Studio Mechanics*	3
	ROTC or Elective	1 1/2	1:22	Physical Ed.	1/2
		<u>14</u>		ROTC or Elective	1 1/2
					<u>16</u>

Second Year

First Semester		Credits	Second Semester		Credits
65:47	Survey of Basic Economics	3	21:41	American Government	3
1:11	Numbers Communication	3	60:45	Design in Commercial Art*	3
2:69	Life Drawing	2	60:47	Packaging & Display Design*	3
60:40	Typography & Lettering*	3	60:43	Commercial Art Problems II*	3
60:22	Photography II*	3	60:48	Presentation Techniques*	3
60:42	Commercial Art Problems I*	3		ROTC or Elective	1 1/2
	ROTC or Elective	1 1/2			<u>16 1/2</u>
		<u>18 1/2</u>			

SURVEYING AND CONSTRUCTION TECHNOLOGY

First Year

First Semester		Credits	Second Semester		Credits
20:25	Physics	4	69:22	Basic Surveying	2
65:31	Math Analysis	3	62:22	Tech. Drawing II	3
62:21	Tech. Drawing I	3	65:32	Math Analysis	3
65:20	English	3	1:8	Eff. Speaking	3
1:21	Physical Ed.	1/2	62:23	Statics/Dynamics*	3
	ROTC or Elective	1 1/2	1:22	Physical Ed.	1/2
		<u>15</u>		ROTC or Elective	1 1/2
					<u>16</u>

Second Year

First Semester		Credits	Second Semester		Credits
69:32	Construction*	3	69:42	Soil Mechanics*	2
69:33	Construction Admin.*	2	69:43	Soils Laboratory*	2
69:35	Mat'l. Testing Lab*	2	69:23	Applied Surveying*	3
65:33	Math Analysis	3	65:22	Tech. Report Writing	3
62:41	Strength of Mat'l.*	3	62:47	Elem. of Fluid Mech.*	3
62:42	Design Mat'l.*	3	65:40	Human Relations	3
	ROTC or Elective	1 1/2		ROTC or Elective	1 1/2
		<u>17 1/2</u>			<u>17 1/2</u>

DIPLOMA NURSING PROGRAM

The University of Akron in cooperation with the following area hospital schools of nursing, Akron City, Akron General, St. Thomas in Akron and Massillon City in Massillon, provides a program of studies basic to a diploma in nursing.

Nursing students must meet the University entrance requirements and are regularly enrolled with college credit for the courses satisfactorily completed.

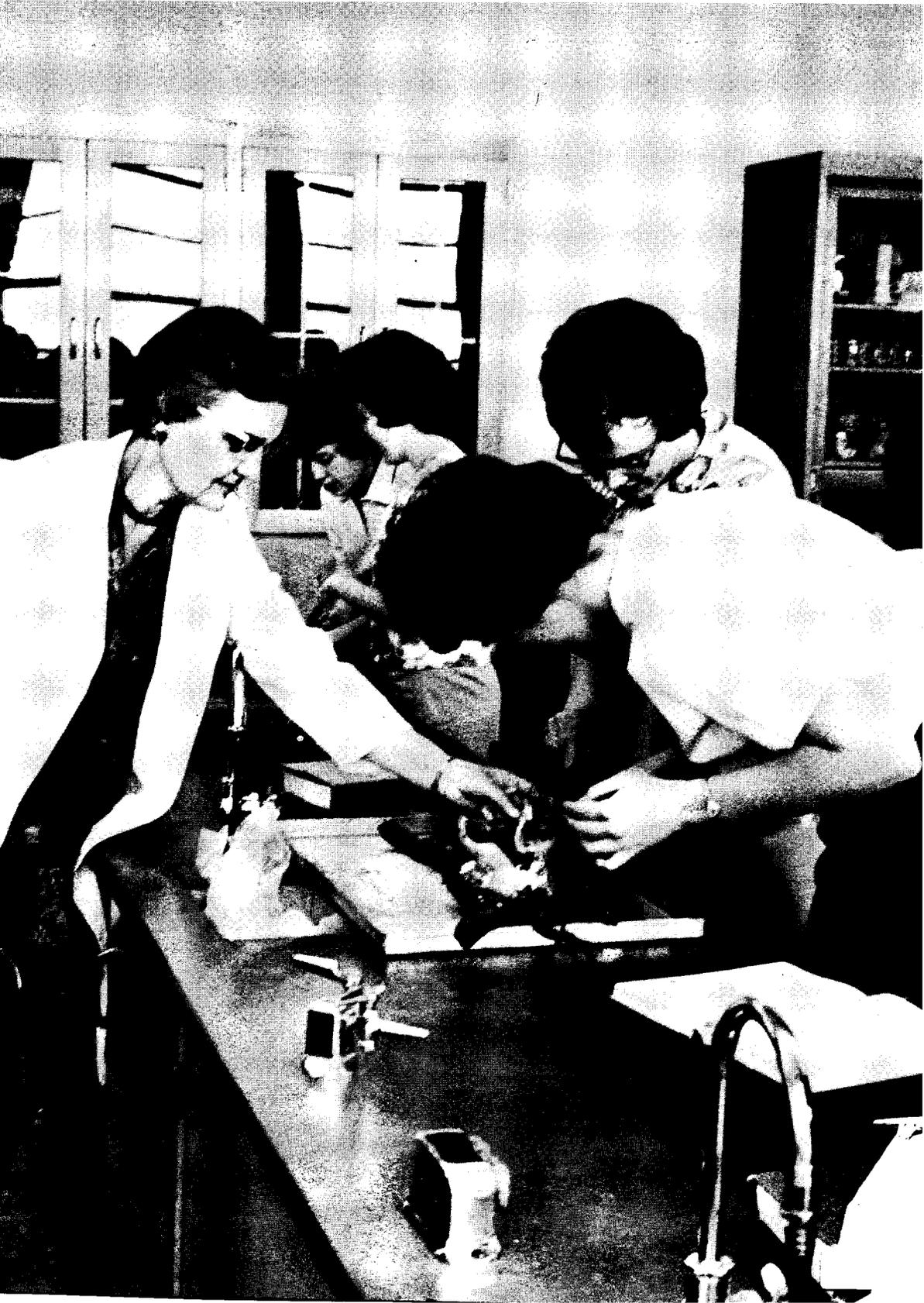
Applications for this program are handled through the hospital schools of nursing which award the diploma.

The programs planned for the four schools of nursing differ slightly in regard to courses taken and their sequence. The following courses are offered:

1:1	Written English	3	13:33	Principles of Nutrition	2
1:21-22	Physical Education	1	13:43	Foods & Nutrition	3
3:33	Microbiology	3	22:41	Sociology	3
3:47-48	Anatomy & Physiology	6	30:41	Psychology	3
5:25	Chemistry	3	30:51	Developmental Psychology	3
			31:59	History of Nursing	2

NURSING ADVISORY COMMITTEE

Mrs. Julia B. Fishbaugh, R.N., M.A.Ed., Director, Akron General Hospital School of Nursing; Mrs. Bernadette Griggy, R.N., B.S.N.E., Director, St. Thomas Hospital School of Nursing; Miss Mary J. Knapp, R.N., B.S.N., Executive Director, Visiting Nurse Service of Summit County; Miss Ella Mae Murdie, R.N., M.S., Director, Akron City Hospital School of Nursing; Miss Barbara C. Mertes, R.N., M.A., Director, Massillon City Hospital School of Nursing; Miss Dorothy Chambers, R.N., B.S.N.E., Director of Nursing, Summit County Receiving Hospital; Mr. James DeMarco, R.N., B.S.N., Director of Nursing, Children's Hospital.



Baccalaureate Degree Programs

Students wishing to earn a baccalaureate degree will find fully accredited courses offered in 37 areas of business, education, engineering, law and liberal arts. Students with less than 64 credits seeking the baccalaureate degree are enrolled in the General College where they are given the opportunity to learn to express ideas effectively and to grasp the processes involved in accurate, logical thinking. Successful completion of courses in the General College qualifies students for entrance into one of the Upper Colleges. At this point, students select a specific field of study in one of the colleges of the University and begin course work which directly applies toward that field of study.

The General College

THOMAS SUMNER, Ph.D., *Dean*

OBJECTIVES

The purpose of the General College is to further the objectives of The University of Akron by providing a quality program of general collegiate education and to pursue the following aims:

To offer all students a basic program of General Education through the curriculum of the General Studies and the pre-requisite courses for advancement to the degree-granting colleges.

To counsel students with respect to their adjustment to the collegiate environment and to their academic, personal, and occupational objectives.

To direct students to the proper curricula so that they will enter the degree-granting colleges prepared to undertake advanced work.

The College recommends students for advancement to the degree granting colleges upon satisfactory completion of the appropriate requirements.

I: DEPARTMENT OF GENERAL STUDIES

The Department of General Studies of the General College provides students with courses aimed at developing ability to understand and express ideas effectively, to comprehend the processes involved in accurate thinking and to learn the responsibilities of an educated member of society. Also, by taking courses in the General Studies department, students gain knowledge which helps them to develop intelligent behavior patterns and gain understanding of themselves and their own individual abilities.

The General Studies program is an outgrowth of the belief that a student's personal education is like a pyramid—that is, in order for him to develop his intellectual abilities to their cultural or professional height, he must first establish a wide foundation of general knowledge to serve as the structural basis.

Serving as the foundation of each University student's educational pyramid is the General College curriculum including Written English, Effective Speaking, Numbers Communication, Reasoning and Understanding in Science, Institutions in the United States, Western Cultural Traditions, Eastern Civilizations, Physical Education and the Senior Seminar. This well-balanced program of studies has been thoughtfully evolved by experts in academic research, representing many leading American educational institutions including The University of Akron. The General College program as it is now presented is the fruit of almost a half century of planning, revising and developing.

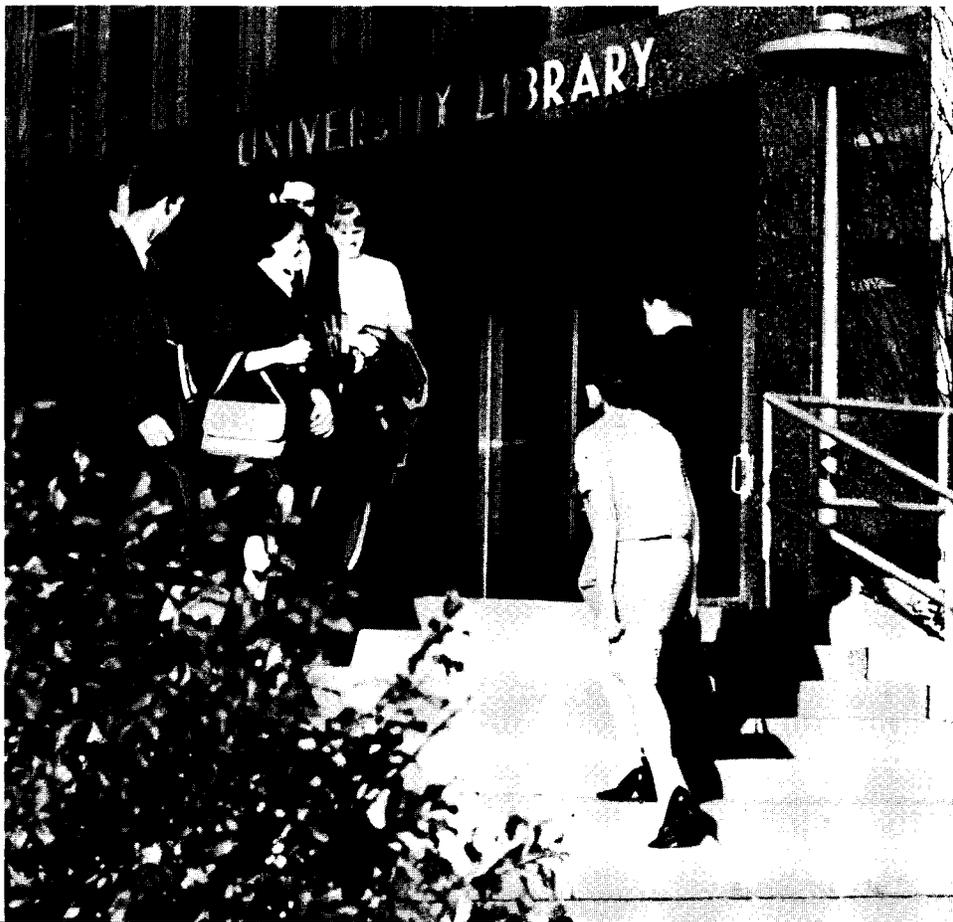
Students, well-grounded in the General Studies, are academically prepared to continue into realms of higher education; this curriculum has proved the most advantageous starting point for a student, no matter his eventual scholastic goal. It is valuable in equal measure to the enrollee who is indecisive about his professional future *and* to the enrollee who arrives at the University firmly convinced that he knows what he wants to become.

Students who complete the courses outlined in the General College curriculum, earning a total of approximately 64 credit hours (slightly more for Engineering) and achieving a quality point ratio of 2.0 (C) or better, are eligible for promotion to the Upper College of their choice.

Acceptance of a student in an Upper College is the responsibility of the respective academic Dean, in consultation with the Dean of the General College and heads of departments concerned.

These are the required courses in the
 DEPARTMENT OF GENERAL STUDIES

1:1-2 Written English	6 credits, first year
1:5 Written English	3 credits, before 64 credits
1:8 Effective Speaking	3 credits, before 64 credits
1:11 Numbers Communication	3 credits, before 64 credits
1:13-14 Reasoning and Understanding in Science	6 credits, second year
1:15-16 Institutions in the United States	6 credits, first year
1:17-18 Western Cultural Traditions	6 credits, before 96 credits
1:21-22 Physical Education	1 credit, first year
1:101 Senior Seminar	2 credits, final year, either semester
1:103 Eastern Civilizations	3 credits, after 64 credits





AN UPPER COLLEGE:

The Buchtel College of Liberal Arts

GEORGE W. KNEPPER, Ph.D., *Dean*

OBJECTIVES

The purpose of the Buchtel College of Liberal Arts is to further the objectives of The University of Akron by providing a quality program of undergraduate and graduate education in the humanities, the social sciences, and the natural sciences and to pursue the following aims:

To maintain departments of instruction for the preparation of student majors in various academic fields.

To prepare students for useful and rewarding careers in the professions, in industry, in the performing arts and for the graduate and professional education necessary for the attainment of professional competence.

To provide appropriate instruction for the General Studies program.

To provide a wide range of elective courses available to students who wish to enrich or diversify their academic programs.

To offer courses designed to meet the curricular needs in Engineering, Education, Business Administration and in the Community and Technical College.

The College recommends each student for the appropriate bachelor's, master's or doctor's degree in accordance with his level of accomplishment.

The Buchtel College of Liberal Arts is one of four Upper Colleges at The University of Akron. Its name truthfully implies that its traditions date back farther than the other three undergraduate colleges, since the University itself is an outgrowth of Buchtel College, a liberal arts institution founded in 1870.

When Buchtel College became a Municipal University, the original name was retained in its College of Liberal Arts. Then, and now, the liberal arts goal has been to offer broad training to the college student so that he can prosper in life and sustain a creative appreciation of the arts.

The breadth of liberal arts education at the University is most readily explained by describing its three administrative divisions. They are as follows:

I. **THE HUMANITIES DIVISION**—stresses cultural development and teaches an awareness of art, classics, languages, music, philosophy and the spoken and written word. Creative ability is encouraged.

Among the countless careers which graduates of this division enter are: designing, writing, painting, radio and television acting and directing, teaching and lecturing. Also, Humanities Division graduates have excellent preparation for the specialized fields of speech, speech therapy, language, music and library science.

II. **THE SOCIAL SCIENCES DIVISION**—stresses intelligent participation in community affairs through education in such fields as history, economics, geography-geology, political science, psychology and sociology.

Graduates in the Social Sciences Division often become teachers, businessmen, public administrators, social workers and politicians. Also, they are prepared for graduate study in business, law, psychology, sociology, social work, geography and public administration.

III. **THE NATURAL SCIENCES DIVISION**—is the most professionally-oriented division in this college, with the highest number of graduates continuing their education in specific areas of advanced study. In undergraduate years, a Natural Sciences student has a course of study with a strong emphasis on such subjects as biology, chemistry, mathematics, physics or home economics.

A graduate of this division reaches an excellent point of departure for entering such areas of specialization as medicine or dentistry. Biology majors may go on to become parasitologists, entomologists, embryologists or botanists; chemistry majors usually continue into fields of organic, inorganic, physical or polymer chemistry; physics majors proceed to become specialists in fields such as atomic, nuclear or theoretical physics.

Even with no further study after receiving their Bachelor's degree, graduates in this division are equipped to become, for example, computer programmers, professional scientists or mathematicians. Home economics majors are equipped to fulfill careers as dieticians or as wives and mothers in their own homes.

REQUIREMENTS FOR ADMISSION

To be admitted to the Buchtel College of Liberal Arts the student must have completed satisfactorily at least 64 credits of work with at least a 2.0 ratio; have completed the required General Studies courses; have completed the departmental or divisional prerequisites and have the approval of the Dean of the college.

REQUIREMENTS FOR BACCALAUREATE DEGREES

1. Electives included in the 128 credits of total work required for the degree may consist of any courses offered for credit in the University's four-year degree programs, provided that the prerequisites as set forth in the bulletin are met and further provided that not more than two credits of physical education activities, eight of applied music, four of music organizations and six of courses coded in the 60's are included. (Credit limitations on applied music and music organizations do not apply to the Bachelor of Music degree.)
2. The recommendations of the student's major professor (i.e., Head of his major department).
3. Except in the labor economics and medical technology curriculum, completion of second year foreign language on the university level (i.e., Russian, French, German, Greek, Spanish or Latin).
4. Other requirements are set forth in the section on "Requirements for Graduation" in Chapter 3 and on the following pages.

DEGREES

The following baccalaureate degrees are granted in the divisions:

The Humanities: Bachelor of Arts, Bachelor of Music.

The Social Sciences: Bachelor of Arts; Bachelor of Science in Labor Economics.

The Natural Sciences: Bachelor of Science; Bachelor of Science in Medical Technology. (At the discretion of the Deán, students majoring in mathematics or biology may be granted the Bachelor of Arts degree if much of their work is in the humanities or social sciences. Students majoring in Geology will receive the Bachelor of Science degree.)

THE MAJOR FIELD

To qualify for graduation a student must concentrate or major in the work of either a department or a division of the college. The major will consist of from 24 to 64 credits in addition to the required General Studies and foreign language courses. Part or all of these credits may be taken in specifically required courses depending upon the major chosen. The longer and more professionally-oriented majors should be started during the first or second year when the student is still under the guidance of the Office of Student Services. The shorter Liberal Arts majors need not be declared before the end of the second year when the student is ready for promotion to Buchtel College.

Ordinarily a student will select a department in which to major. The exact requirements for each such major will be found on the following pages in the section headed "Departments of Instruction." Some departments offer more than one type of major. No minor is required, but in some cases the major includes certain courses in other departments. As soon as the student is promoted to the College, the head of his major department becomes his academic adviser.

Students who desire a broader education than the departmental major offers may elect a divisional major and qualify in the general area of the humanities, the social sciences or the natural sciences. Such students meet only the requirements of the chosen divisional major as described on the following pages in the section headed "Divisions of Instruction." As soon as the student contemplating a divisional major is promoted to the College, the chairman of his major division becomes his academic adviser.

PREPARATION FOR HIGH SCHOOL TEACHING

Students interested in a teaching career on the high school level may qualify for certification by the State Department of Education while enrolled in the Buchtel College of Liberal Arts. Generally the Liberal Arts major subject will also constitute a teaching major. The education and psychology courses required for the secondary school teaching certificate may be taken as electives toward the Liberal Arts degree. Additional elective credits will generally enable the student to qualify in a second teaching field, which facilitates teacher placement, without exceeding the 128 credits necessary for graduation from the Buchtel College of Liberal Arts. Such a program is particularly recommended for students who, as part of their preparation for teaching, plan to go to graduate school and earn an advanced degree through specialization in their field of major interest.

The number of credits in a teaching field required for certification may be determined by reference to the table entitled "Statement of Number of Hours Required For Certification in Various Teaching Fields" located in the College of Education section of this Bulletin. The major field must include 6 credits more than the number shown in the table except where that number is 30 or more. A second teaching field must include the number of credits shown in the table.

The professional courses in education and psychology required for certification are listed in the table below, which shows how they may be scheduled over a two-year period. They may be spread over three years or taken in two semesters and two Summer Sessions.

		<i>Third Year</i>			
	First Semester	Credits		Second Semester	Credits
30:41	General Psychology	3	27:57	Human Dev. and Learning	3
			27:56	Educ. in American Society	2
		<i>Fourth Year</i>			
27:113	Principles and Practices in Secondary Education	3	27:202	Student Teaching and Seminar	8*
			27:201	Problems in Education	3

Buchtel College of Liberal Arts students preparing for high school teaching must signify their intention in conference with the Dean of the College of Education near the end of the sophomore year.

* If taken during the Summer Session, 27:202 becomes a six credit course.

DIVISIONS OF INSTRUCTION

HUMANITIES

The Humanities Division consists of the Departments of Art, Classics, English, Modern Languages, Music, Philosophy and Speech. The divisional major must include the following, in addition to the General Studies and the second year of a foreign language:

- a. At least 48 credits in the division, at least 24 credits of which must be in courses on the Upper College level. The minimum of 48 credits must include at least six credits in each of any five of the following: English, Philosophy, Speech, Music, Art, French, German, Spanish, Russian, Latin, Greek, and the Classics.
- b. At least six credits in the Department of History.

SOCIAL SCIENCES

The Social Sciences Division consists of the Departments of Economics, Geography-Geology, History, Political Science, Psychology and Sociology. The divisional major must include the following, in addition to the General Studies and the second year of a foreign language:

- a. At least 54 credits in the division.
- b. At least 18 credits and not more than 21 credits in each of two of the six departments. No credits in excess of 21 in any department will be accepted unless the student meets the major requirements of such department for graduation.
- c. At least nine credits in each of two other departments, or 18 credits in one other department.
- d. At least 24 credits of divisional courses on the Upper College level.
- e. At least 24 credits outside the division.
- f. In some instances, passage of a general final examination in the second semester of the senior year.

NATURAL SCIENCES

The Natural Sciences Division consists of the Departments of Biology, Chemistry, Home Economics, Mathematics, and Physics. The divisional major must include the following, in addition to the General Studies and the second year of a foreign language:

- a. At least 54 credits in the division.
- b. At least 12 credits each in Biology, Chemistry, Mathematics, and Physics.
- c. At least six other credits on the Upper College level in the division.

DEPARTMENTS OF INSTRUCTION

2: ART

Requirements for a major in Art are:

General Studies and second year of language (French recommended).

Art courses: 2:21, 35, 43, 45, 57, 59, 60, 69, 80, 81, 90, 102, 105, 115, 116, 131, 132, either 151-152 or 171-172, 209, three additional credits of Art History and eight credits of Art electives.

Engineering Graphics, 36:23 or Technical Drawing I, 62:21.

3: BIOLOGY

In addition to the General Studies and the second year of a foreign language, Biology major students must obtain 36 credits in biology to qualify for the Bachelor of Science degree. A greater total may be necessary to meet all preparatory requirements of graduate departments of botany, zoology, and some others. Major students must take 3:21-22 in their first or second year.

Upper College courses may be:

- (1) General Biological, which may include any combination of Upper College biology courses, but must include 3:265.
- (2) Zoological, which must include 3:146, 265, and as many of the following as feasible: 3:135-136, 141, 144, 248, 255, 256.
- (3) Botanical, which must include 3:113-114, 146, 215-216, 217, 265, or at least one semester of 3:207-208.

Biological Problems 3:267-268 is open to seniors, and in exceptional cases to juniors who desire to work on some definite problems.

Required work in other departments: Chemistry 5:31-32 or 5:23-24 (for some biological work organic chemistry is also essential); and Psychology 30:41. At the discretion of the Dean, the Bachelor of Arts degree may be conferred upon students who have met General Studies requirements, completed the second year of a foreign language, and have at least 24 hours in courses approved by the Head of the Department of Biology together with the appropriate courses from the Humanities Division. Philosophy of Science, 19:241, 3 credits, is recommended for this degree.

PRE-MEDICAL AND PRE-DENTAL**

<i>First Year</i>					
First Semester		Credits	Second Semester		Credits
1:1	Written English	3	1:2	Written English	3
1:15	Institutions in U.S.	3	1:16	Institutions in U.S.	3
1:21	Physical Education	1/2	1:22	Physical Education	1/2
	ROTC 11 or 13*	1 1/2		ROTC 12 or 14*	1 1/2
5:31	Principles of Chemistry	4	5:32	Principles of Chemistry and	
17:25	Elementary Functions	4		Qualitative Analysis	5
				Elective	2
<i>Second Year</i>					
First Semester		Credits	Second Semester		Credits
1:5	English or 1:8 Speech	3	1:5	English or 1:8 Speech	3
	ROTC 43 or 53*	1 1/2		ROTC 44 or 54*	1 1/2
5:63	Organic Chemistry Lecture	3	5:64	Organic Chemistry Lecture	3
5:65	Organic Chemistry Lab	2	5:66	Organic Chemistry Lab	2
10:21	German	4	10:22	German	4
3:21	Prin. Biology	4	3:22	Prin. Biology	4
<i>Third Year</i>					
First Semester		Credits	Second Semester		Credits
3:255	Anatomy	4	3:256	Embryology	4
20:27	Physics	4	20:28	Physics	4
10:43	German	3	10:44	German	3
5:123	Analytical Chemistry Lecture	3	1:103	East Civiliz. or 3:248 Genetics	3 or 2
5:125	Analytical Chemistry Lab	2		Elective	2

* Women majors will substitute six hours electives for ROTC. Men wishing to take advanced ROTC may be required to attend summer school to complete requirements.

** A pre-dental major program comprises the same courses as the first three years of the pre-medical major.

<i>Fourth Year</i>					
First Semester		Credits	Second Semester		Credits
3:235	Physiology	3	1:103	East Civiliz. or 3:248 Genetics	3 or 2
30:41	Psychology	3	1:101	Senior Seminar	2
1:17	Western Cult. Trad.	3	30:43	Applied Psychology	3
	Electives	6	1:18	Western Cult. Trad.	3
				Elective	3

MEDICAL TECHNOLOGY COURSE

Three years (96 credits) at The University of Akron

<i>First Year*</i>					
First Semester		Credits	Second Semester		Credits
1:1	Written English	3	1:2	Written English	3
1:15	Institutions in the U.S.	3	1:15	Institutions in U.S.	3
1:21	Physical Education	1/2	1:21	Physical Education	1/2
5:23	Inorganic Chemistry	3	5:24	Inorganic Chemistry	3
3:21	Prin. Biology	4	3:22	Prin. Biology	4
	Elective	3		Elective	3

<i>Second Year*</i>					
First Semester		Credits	Second Semester		Credits
1:5	English or 1:8 Speech	3	1:5	English or 1:8 Speech	3
3:91	Physiology	4	30:41	Psychology	3
3:127	Histol. Technique	2	3:128	Histology	3
5:55	Organic Chemistry	3	5:56	Physiological Chemistry	3
3:143	Parasitology	4	17:21	College Algebra	3
				or	
			17:25	Elementary Functions	4

<i>Third Year</i>					
First Semester		Credits	Second Semester		Credits
3:207	Bacteriology	4	3:208	Bacteriology	4
5:47	Analytical Chem.	4	5:48	Analytical Chem.	4
20:11	Physics or Elective	4	20:12	Physics or Elective	4
1:17	West. Cult. Trad.	3	1:18	Western Cult. Trad.	3
				Elective	3

PROFESSIONAL TRAINING

The three-year University curriculum is followed by 12 months of medical technology instruction in one of the five approved schools of medical technology in the Akron area: City Hospital, Akron General Hospital, St. Thomas Hospital, Children's Hospital, or Barberton Citizens Hospital.

The hospital period is completed by taking the examination of the Registry of Medical Technologists, which grants the certificate M.T. (A.S.C.P.). The University grants the B.S. in Medical Technology after receipt of evidence that the examination has been passed.

5: CHEMISTRY

Requirements for a major:

The General Studies and German 10:43-44.

Chemistry courses: 5:31-32, 63-64, 65-66, 113-114, 115-116, 123-124, 125-126, 163, 172.

Mathematics: Must complete 17:76.

Physics 20:27-28.

* Men will enroll in Basic ROTC for additional 1.5 credits per semester during the first and second years.

6: ECONOMICS

Requirements for a major:

The General Studies and (except in Labor Economics) the second year of a foreign language.

At least 24 credits in the department including courses 6:45-46 (which is prerequisite to all Upper College courses), Thesis, (two credits in either 6:295 or 6:296), and 40:147, Economic Statistics.

Requirements for a major in Labor Economics:

The General Studies.

Economics 6:45, 46, 146, 239, 260, 298, and nine additional credits of Upper College Economics.

Sociology 22:41

Political Science 21:41

Psychology 30:41

Business 40:147, 42:264

Accounting 39:121

At least six credits in Upper College Sociology, Psychology or Political Science.

7: ENGLISH

Requirements for a major:

The General Studies and the second year of a foreign language.

Twenty-six credits in the department including courses 7:46, 65-66, 7:31 and 7:36 count toward a major in English.

11:, 15:, 16: CLASSICS

Requirements for a major:

The General Studies.

Greek: At least 24 credits in the department including courses: 11:61, 113.

Latin: At least 24 credits in the department including courses: 16:43-44, 62, 114.

12: HISTORY

Requirements for a major:

The General Studies and the second year of a foreign language.

At least 24 credits in the department including courses 12:41-42, 45-46, or their equivalents, and 242.

A general final examination may be required.

13: HOME ECONOMICS

Requirements for all majors:

The General Studies, the second year of a foreign language, Home Economics courses 13:21, 23, 45, 46, 53, 65 and Economics 6:82. In addition, the following courses are required depending on the major selected.

Foods and Nutrition Major:

Chemistry 5:23, 24, 55, 56.

Biology 3:91, 207.

Accounting, 39:21-22 or 121.

Personnel Management, 46:162.

Home Economics 13:115, 118, 119, 120, 212, 216.

Textiles and Clothing Major:

Home Economics 13:58, 62, 105, 106, 107, 117.

General Home Economics Major:

Home Economics 13:58, 62, 105, 106, 118, 119, 215.

17: MATHEMATICS

Requirements for a major:

The General Studies and the second year of French, German or Russian.

The courses 17:74, 75, 76, 114, 202, 203, 222, 223 and a minimum of six additional credits of 200 level courses shall be required for all majors in mathematics.

The courses 17:21 and 25 and 1:11 do not meet major requirements.

8:, 10:, 14:, 23: MODERN LANGUAGES

Requirements for a major:

The General Studies.

Completion of 24 credits above the level of 44 in one of the languages, French, German, Russian or Spanish. A minimum of 12 of these 24 credits must be in literature courses.

Students who have completed two years in one of the languages in high school must take a placement test and have a conference with a member of the department before enrolling. Students with one year or less will enroll in 8:21, 10:21, 14:21 or 23:21, depending on his choice of majors.

Students planning to teach should have credit for the Conversation and Composition course in the language they wish to teach.

18: MUSIC

Requirements for a major leading to the Bachelor of Arts degree:

The General Studies and the second year of a foreign language.

At least 30 credits in the department including courses 18:43, 44, 45, 46, 71, 72, 101, 102, participation in a music organization for four semesters, study of piano until passage of jury examination in functional piano. Recommended but not required: 19:211 Aesthetics, 19:212 Philosophy of Art. Further courses in music may be taken as electives. However, no more than four credits in music organizations and no more than eight credits in applied music may be included in the minimum 128 credits required for the degree. It is recommended that students attend the weekly Student Recital, participate in music organizations and continue their private study of applied music beyond these minimum requirements.

The B.A. music major is intended as a cultural course or as preparation for graduate study but not as professional preparation for a musical or teaching career.

Requirements for a major leading to the Bachelor of Music degree:

The General Studies and the second year of a foreign language.

Thirty-two credits in applied music, eight credits in music organizations, four credits in 18:51, four credits in 43, 44, 45, 46, 71, 72, 101, 102, 110, 111, 114, 151, 201, 202, passage of an examination in General Musicianship, presentation of a senior recital. A junior recital is recommended but not required.

The B.M. program is available only to those students who upon entrance can demonstrate a satisfactory level of accomplishment in musical performance. Study of applied music will be directed according to the student's choice of medium and his career goal.

By extending either the B.A. or B.M. programs to five years, the student may, with careful planning, take the courses in education, psychology, and music education required for teaching certification. Both the B.A. and B.M. degrees may be earned in a combination five-year program.

The General Musicianship examination will be scheduled at the end of any semester by request of the student and will consist of satisfactory performance in the following areas:

1. Performance by the student of an easy piece for piano, selected not more than three weeks before the examination, and prepared by the student without aid from his teacher.
2. Sight-reading of easy accompaniments.
3. Harmonization at sight of easy melodies in familiar keys.
4. Performance of prepared accompaniments to school songs.
5. Playing by ear of familiar melodies.

19: PHILOSOPHY

Requirements for a major:

The General Studies and the second year of a foreign language.

At least 30 credits in the department to include 19:56, 57, 103, 104, 201 or 202. 290.

Electives planned in a selective concentration of 15 credits.

A comprehensive examination in the History of Philosophy and the defense of a thesis written in 19:290 may be required.

20: PHYSICS

Requirements for a major:

The General Studies and the second year of a foreign language, preferably German or Russian.

Physics courses: 20:27-28-29, 201, 202, 211-212, 217-218, 227, plus at least 9 additional hours of approved Physics electives. For students preparing for graduate study, courses 20:213-214, 261-262, and 203 are strongly recommended.

Mathematics courses: 17:74-75-76 and 114.

Courses 17:202-203 are also recommended but not required.

Chemistry courses: 5:27-28 or 5:31-32.

Courses 5:113-114 are also highly recommended, but not required.

21: POLITICAL SCIENCE

Requirements for a major:

The General Studies and the second year of a foreign language.

At least 24 credits in the department.

22: SOCIOLOGY

Requirements for a major:

The General Studies and the second year of a foreign language.

At least 24 credits in the department including 22:41, 101-102, 214 or 225.

A Social Work sequence shall consist of 22:107, 132, 207 and 27:210, in addition to the above requirements.

24: SPEECH

Requirements for all speech majors:

The General Studies and the second year of a foreign language.

For general speech majors:

Courses 24:31, 33, 35, 73 or 74. In addition, if planning to teach speech with Liberal Arts degree, required in English: 7:37, 38, 42, 65, and 66.

Upper College courses: 24:290, 297, and at least eight additional speech credits including a theatre course and a radio-TV course.

For speech correction majors:

Courses: 24:31, 33, 35, 73; Psychology 30:41. Biology 3:91.

Upper College courses: 24:74, 173, 270, 271, 272, 273, 274, 297. Psychology 30:107 and 30:204.

Students wishing to meet requirements for state certification in speech correction must take additional courses. For these courses consult the director of the Speech Clinic.

28: GEOGRAPHY AND GEOLOGY

Requirements for all majors:

The General Studies and the second year of a foreign language.

Requirements for Geography majors:

At least 24 credits in the department.

Successful completion of one of the following options:

Physical Geography—28:21, 33, 135 or 164, 233, 264.

Economic Geography—28:21, 43, 146, 245, 264.

Urban Geography—28:21, 45, 141, 241, 264.

Cartography—28:21, 55, 150, 250, 264.

Requirements for Geology majors:

At least 30 credits in the department, including 28:61, 62, 163, 164 and 165.

Chemistry, 5:31, 32, Mathematics 17:25, 17:74, Physics 20:27-28, Biology 3:21-22.

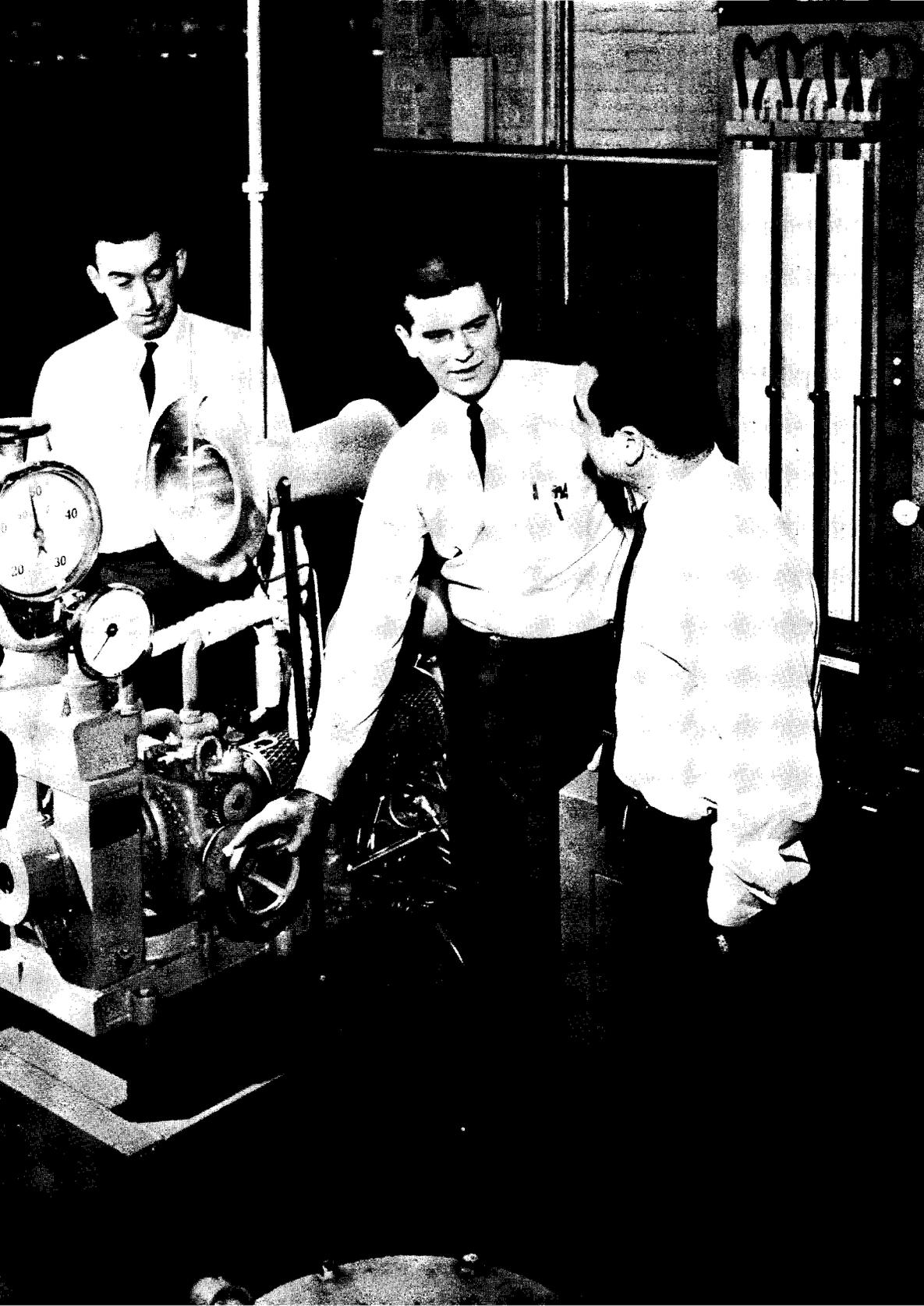
30: PSYCHOLOGY

Requirements for a major:

The General Studies and the second year of a foreign language.

At least 30 credits in the department including 30:41, 45, 47, 207, 212, 230.

Algebra 17:21 is recommended.



AN UPPER COLLEGE:

The College of Engineering

MICHAEL J. RZASA, Ph.D., *Dean*

OBJECTIVES

The purpose of the College of Engineering is to further the objectives of The University of Akron by providing a quality program of engineering education and to pursue the following aims:

To offer sound basic instruction in the engineering disciplines.

To develop in students the ability to apply engineering principles to the economic and technological progress of society.

To promote in students a high sense of ethics and professional responsibility.

To foster in students an appreciation of the need to further the role of the engineering profession in society.

The College recommends each student for the appropriate bachelor's or master's degree in accordance with his level of accomplishment.

The "heart" of the Engineering College is its five-year cooperative program which was begun in 1914, the same year that the college itself was established. This plan of alternating work with study begins in a student's third year when he is formally admitted to the College of Engineering, following his two years of fundamental training in the General College.

A graduate program was established in 1957 for students who study part-time in Evening College. A Master of Science in Engineering degree is awarded.

Complete curricula in Chemical, Civil, Electrical and Mechanical engineering are offered.

Although the College of Engineering emphasizes specific professional preparation, it nevertheless operates in accordance with the University policy of affording each student a grasp of the broad cultural phases of modern times. A graduate is expected to apply his technical knowledge with the constant awareness that his goal is to serve humanity. In order that these engineers serve humanity best, the University strives to educate them in the areas of art as well as science.

THE COOPERATIVE PLAN

The cooperative plan provides for a coordinated sequence of alternate periods of classroom instruction and industrial employment.

During the cooperative phase of the five-year course, the student attends classes during the Fall semester of the third or Pre-Junior year. During the Spring semester the student is employed in industry for his first work period. The schedule of alternation between semesters of classroom studies and industrial co-op employment continues during the Pre-Junior and Junior years. The complete schedule for the five-year course is shown in the table of "Engineering Schedule."

The cooperative plan provides simultaneously for the development of fundamental principles in the classroom and for their application in industrial practice. The cooperative student has the opportunity to find the type of work and industrial organization in which he can best apply his individual ability. He gains an appreciation of the problems of labor and management by first-hand experience. He develops mature judgment by coping with the everyday problems of the industrial world. The employer of cooperative students has the opportunity to select and train students whose abilities and aptitudes can be adapted to the needs of his technical staff requirements.

While students are at work, they are required to obey all rules and regulations prescribed by the employer. In addition, they are subject to all current labor laws and conditions.

The University does not guarantee employment, but makes every effort to place students to the best financial advantage that is consistent with the acquisition of sound sub-professional experience.

THE ENGINEERING SCHEDULE

	<i>Fall</i>	<i>Spring</i>	<i>Summer</i>
Freshman	School	School	Vacation
Sophomore	School	School	Sch./Vac.
Pre-Juniors	School	WORK 1 (18 weeks)	Sch./Vac.
Junior	WORK 2 (18 weeks)	School	WORK 3 (16 weeks)
Senior	School	School	

REQUIREMENTS FOR ADMISSION

In addition to the general requirements for admission to the University, students applying for admission in Engineering must present the following secondary school credits:

Algebra 1½ units Plane Geometry 1 unit
 Solid Geometry or Trigonometry ½ unit
 Chemistry or Physics 1 unit

It is strongly recommended that applicants in Engineering present additional credits in mathematics and physical science.

Since the Engineering curricula have been designed to operate on an annual rather than on a semester basis, beginning students are regularly admitted only in September. In special cases, admission may be granted in February.

All beginning students register in the General College. Those admitted in Engineering will be eligible for promotion to the College of Engineering after satisfactory completion of the fourth semester Engineering schedule.

DEGREES

The College of Engineering offers curricula on the cooperative plan in Chemical, Civil, Electrical and Mechanical Engineering with an Industrial Option in Mechanical Engineering. The degrees conferred include the Bachelor of Science in Chemical, Civil, Electrical and Mechanical Engineering.

For the Master's degree program in Engineering, see the Graduate Study Division.

REQUIREMENTS FOR GRADUATION

1. Compliance with University requirements, chapter 3, this BULLETIN.
2. Successful completion of a minimum of 146 credits.
3. Successful completion of all the required courses listed in the schedule.
4. A quality point ratio of at least 2:0 in Engineering courses as well as in total credits.
5. Completion of three cooperative work periods.
6. The recommendation of the student's department head.

Any Junior or Senior Engineering student with a quality point ratio of 2.50 over-all and 2.75 Engineering or better may substitute not more than two approved upper college courses in Mathematics, Science or Engineering for equal number of certain required Engineering courses.

BASIC REQUIREMENTS FOR ALL DEGREES*

Freshman Year (Full Time)

First Semester		Credits	Second Semester		Credits
17:25	Elementary Functions	4	17:74	Analytic Geometry-Calculus I	4
5:27	Chemistry	4	5:28	Chemistry	4
1:1	Written English	3	1:2	Written English	3
36:23	Engineering Graphics or 1:8 Effective Speaking	3	1:8	Effective Speaking or 36:23 Engineering Graphics	3
	ROTC	1½		ROTC	1½
1:21	Physical Education	½	1:22	Physical Education	½
		16			16

Sophomore Year

(Except Chemical Engineering)

First Semester		Credits	Second Semester		Credits
17:75	Analytic Geometry-Calculus II	4	17:76	Analytic Geometry-Calculus III	4
20:27	Physics	4	20:28	Physics	4
1:5	Written English	3	34:48	Applied Mechanics I	3
	or		1:5	Written English	3
17:52	Computer Science	2		or	
1:15	Institutions in the U.S.	3	17:52	Computer Science	2
	ROTC	1½	35:90	A.C. Circuits	3
		14½ or 15½		ROTC	1½
					17½ or 18½

37: CHEMICAL ENGINEERING

Chemical Engineering is the branch of engineering concerned with the development and application of manufacturing processes in which chemical and/or physical changes of material are involved. The manufacturing process can usually be resolved into a series of related unit operations and unit processes. Industries based on chemical or physical changes are called the Chemical Process Industries and manufacture products such as inorganic and organic chemicals, rubber, plastics, petroleum, detergents, metals, pharmaceuticals, and foodstuffs.

* Students enrolled prior to September, 1962 will follow schedules in previous bulletins.

The chemical engineer whether employed by industry, government or self-employed will usually be concerned with one of the following areas: research and development, plant design and construction, or plant operation and management. In addition to the traditional Processing Industries, chemical engineers are increasingly finding employment in the new areas, such as biomedical engineering, nuclear power, the space program, and environmental control.

Sophomore Year

First Semester		Credits	Second Semester		Credits
17:75	Analytic Geometry-Calculus II	4	17:76	Analytic Geometry-Calculus III	4
20:27	Physics	4	20:28	Physics	4
5:63	Organic Chemistry Lecture	3	5:64	Organic Chemistry Lecture	3
5:65	Organic Chemistry Lab	2	34:48	Applied Mechanics I	3
1:15	Institutions in the U.S.	3	1:5	Written English	3
	ROTC	1½		ROTC	1½
		<u>17½</u>			<u>18½</u>

Summer Term

	Credits
17:114 Differential Equations	3
20:29 Modern Physics	3
37:100 Process Calculations	3
	<u>9</u>

Pre-Junior Year

First Semester		Credits	Second Semester		Credits
17:50	Digital Computers	2	33:151	Co-op Work Period I	0
5:113	Physical Chemistry Lecture	3			
5:115	Physical Chemistry Lab	2			
1:17	Western Cult. Trad.	3			
37:110	Transfer Operations	3			
37:115	Materials Science	3			
		<u>16</u>			

Summer Term

	Credits
34:103 Applied Mechanics II	3
35:100 Analog Computers	1
37:120 Chemical Process Industries	2
	<u>6</u>

Junior Year

First Semester		Credits	Second Semester		Credits
33:152	Co-op Work Period II	0	1:18	Western Cult. Trad.	3
			5:114	Physical Chemistry Lecture	3
			35:90	A. C. Circuits	3
			37:125	Transport Phenomena I	4
			37:140	Chem. Eng. Thermodynamics	3
					<u>16</u>

Summer Term

	Credits
33:153 Co-op Work Period III	0

<i>Senior Year</i>			
First Semester	Credits	Second Semester	Credits
1:103 Eastern Civilizations	3	1:101 Senior Seminar	2
6:43 Economics	3	37:146 Chem. Eng. Operations Lab	2
35:153 Electronic Fundamentals	3	37:151 Plant Design	3
37:126 Transport Phenomena II	4	37:160 Reaction Kinetics	3
37:145 Chem. Eng. Operations Lab	2	37:165 Process Control	2
37:150 Process Design	2	Free Elective	3
	17		15

DEPARTMENTS OF INSTRUCTION

34: CIVIL ENGINEERING

Civil Engineering is a professional field closely related to our modern way of life.

The civil engineer is responsible for many of our routes of communication (highways, railroads, airports, canals), for much of our public health (water supply, sewage treatment, air and stream pollution), for the structures so important to our daily living (buildings, bridges, dams), and for much of our ordered way of life (surveying and mapping, traffic management, community planning).

The civil engineer is concerned with planning, designing, constructing, and operating or maintaining these varied facilities.

The professional courses prescribed at this university in the civil engineering curriculum are rather carefully balanced among three principal interest areas: (1) structures, (2) sanitary engineering, including hydraulics, and (3) highways, including highway materials and surveying.

Some civil engineers are engaged in the private practice of their profession or work for other consulting engineers. Some are employed in industry or by construction companies. Many are employed by all levels of government.

SCHEDULE OF REQUIRED COURSES

Sophomore Summer Term

	Credits
17:114 Differential Equations	3
34:103 Applied Mechanics II	3
34:47 Elementary Surveying	2
35:100 Analog Computers	1
	9

Pre-Junior Year

First Semester	Credits	Second Semester	Credits
34:101 Mechanics of Materials	3	33:151 Co-op Work Period I	0
34:105 Structural Analysis	2		
36:177 Thermodynamics	3		
1:17 Western Cult. Trad.	3		
1:103 Eastern Civilizations	3		
3:77 Bacteriology	2		
	16		

Summer Term

	Credits
20:29 Modern Physics	3
36:171 Fluid Mechanics	3
34:100 Advanced Surveying	3
	9

Junior Year

First Semester	Credits	Second Semester	Credits
33:152 Co-op Work Period II	0	1:18 Western Cult. Trad.	3
		34:106 Indeterminate Structures	3
		34:108 Hydrology	3
		34:111 Hydraulics	2
		34:120 Soil Mechanics	3
		34:137 Engineering Materials Lab	1
		37:115 Materials Science	3
			18

Summer Term

	Credits
33:153 Co-op Work Period III	0

Senior Year

First Semester	Credits	Second Semester	Credits
6:43 Economics	3	1:101 Senior Seminar	2
34:114 Highway Materials	3	34:122 Sewerage	3
34:119 Photogrammetry	2	34:125 Highways	3
34:115 Water Supply	3	34:126 Urban Planning	3
34:123 Sanitary Lab	2	34:145 Reinforced Concrete Design	4
34:144 Steel Design	4		
	17		15

35: ELECTRICAL ENGINEERING

The many branches of electrical engineering include production and distribution of electrical energy; research, development and manufacture of varied electrical and electronic products; design, installation and operation of communication systems including telephone, radio, television and microwave links; adaptation of electrical and electronic principles to industrial needs such as instrumentation and process control, automation of production machinery and machine tools through use of computers and magnetic tape; participation at all levels in government projects in the space age, instrumentation, tracking, telemetry and data gathering and evaluation relating to satellites and space crafts; design of modern lighting, both indoors and out; cooperation in such fields as nuclear physics, electro-chemistry, metallurgy, bio-chemistry and medicine.

The growth of electronic research and manufacturing has been accelerated by the space age. There is hardly a segment of the American economy which has not been influenced by electronics. The high speed digital computer has found its way into merchandising, production control, warehouse control, banks and the stock exchange.

The wide use of electrical means for measurements and controls has resulted in the need for electrical engineers in all types of industries besides those of electrical manufacture, utilities and communications.

SCHEDULE OF REQUIRED COURSES

*Sophomore
Summer Term*

	Credits
17:114 Differential Equations	3
20:29 Modern Physics	3
35:139 Electrical Measurements	3
	<hr style="width: 100px; margin-left: 0;"/>
	9

Pre-Junior Year

First Semester	Credits	Second Semester	Credits
35:134 A. C. Circuits II	3	33:151 Cooperative Work Period I	0
35:152 Electromagnetic Fields	3		
36:177 Thermodynamics	3		
37:115 Materials Science	3		
1:17 Western Cultural Traditions	3		
	<hr style="width: 100px; margin-left: 0;"/>		
	15		

Summer Term

	Credits
34:103 Applied Mechanics II	3
35:140 Electrical Measurements	3
35:141 A. C. Circuits III	2
35:100 Analog Computers	1
	<hr style="width: 100px; margin-left: 0;"/>
	9

Junior Year

First Semester	Credits	Second Semester	Credits
33:152 Cooperative Work Period II	0	1:18 Western Cultural Traditions	3
		6:43 Economics	3
		35:142 A. C. Circuits IV	2
		35:155 Electrical Machinery I	4
		35:165 Electronics I	4
			<hr style="width: 100px; margin-left: 0;"/>
			16

Summer Term

	Credits
33:153 Cooperative Work Period III	0

Senior Year

First Semester	Credits	Second Semester	Credits
1:103 Eastern Civilizations	3	35:168 Ultra High Frequencies*	4
35:156 Electrical Machinery II	4	35:172 Control Systems*	4
35:166 Electronics II	4	35:173 Symmetrical Components*	4
35:159 Transmission Lines	3	35:145 Illumination**	2
35:171 Elements of Servo-Mechanisms	2	35:163 Electrical Engineering Problems**	1
	<hr style="width: 100px; margin-left: 0;"/>	35:174 Computer Circuits	3
	16	Free Elective**	3
		1:101 Senior Seminar	2
			<hr style="width: 100px; margin-left: 0;"/>
			16

* Choose 8 credits

** Choose 6 credits

36: MECHANICAL ENGINEERING

The more important branches of mechanical engineering include machine design, manufacturing and production methods and the heat-power field.

The importance of machine design in this age is self-evident. The mechanical engineer designs and supervises the manufacture of the machines used in everyday life and the machine tools which make these machines. The design of special equipment challenges the ingenuity of the mechanical engineer.

In the field of heat-power, the mechanical engineer designs, builds and operates boilers, turbines and engines which convert the heat content of fuels into useful energy for immediate application or for conversion into electrical energy which can be distributed over wide areas. Motive power for automobiles, railroads, ships and aircraft is being constantly improved with respect to both thermal efficiency and dependability.

The design and installation of complete air conditioning equipment for the control of both temperature and humidity is a relatively recent but major development in the heat-power field.

All the way from the mine to the final delivery of finished products, the knowledge and skill of the mechanical engineer have aided the development of modern industry.

The majority of mechanical engineers are employed in a wide variety of capacities in industry but a limited number act as independent consultants.

SCHEDULE OF REQUIRED COURSES

*Sophomore
Summer Term*

	Credits
17:114 Differential Equations	3
34:103 Applied Mechanics II	3
36:176 Mechanical Measurements	3
	9

Pre-Junior Year

First Semester	Credits	Second Semester	Credits
34:101 Mechanics of Materials	3	33:151 Co-op Work Period I	0
35:132 Electrical Machinery	3		
36:150 Production Engineering	2		
36:177 Thermodynamics I	3		
36:170 Kinematics	3		
1:17 Western Cult. Trad.	3		
	17		

Summer Term

	Credits
20:29 Modern Physics	3
35:100 Analog Computers	1
36:171 Fluid Mechanics	3
	7

Junior Year

First Semester	Credits	Second Semester	Credits
33:152 Co-op Work Period II	0	1:18 Western Cult. Trad.	3
		6:43 Economics	3
		36:189 Dynamics of Machines	3
		36:181 Thermodynamics II	3
		37:115 Materials Science	3
			<hr/>
			15

Summer Term

	Credits
33:153 Co-op Work Period III	0

Senior Year

First Semester	Credits	Second Semester	Credits
1:103 Eastern Civilizations	3	1:101 Senior Seminar	2
35:153 Electronic Fundamentals	3	36:128 Engr. Economy	3
36:140 Heating & Air Conditioning*	2	36:175 Compressible Fluid Mechs.*	2
36:184 Heat Transfer	3	36:188 Mechanical Design II	3
36:187 Mechanical Design I	3	36:195 Automatic Controls*	3
36:197 Mech. Engr. Problems*	1	36:193 Heat Machines or	
36:199 Mech. Engr. Seminar*	1	36:201 Exper. Stress Analysis*	3
		36:197 Mech. Engr. Problems*	1
		36:199 Mech. Engr. Seminar*	1
	<hr/>		<hr/>
	16		18

* Or 4 credits in Industrial Option.

* Or 10 credits in Industrial Option.

AN UPPER COLLEGE:

The College of Education

H. KENNETH BARKER, Ph.D., *Acting Dean*

OBJECTIVES

The purpose of the College of Education is to further the objectives of The University of Akron by providing a quality program for students of Education and to pursue the following aims:

To develop in students the knowledge, skills and understanding in the use of the best methods and materials of instruction and evaluation, and of motivating human growth.

To provide for the development of the skills necessary to diagnose learning difficulties and to resolve them.

To encourage in students the development of those distinguishing personal characteristics which are desirable in a teacher.

To promote in students a high sense of professional ethics and responsibility.

The College recommends each student for the appropriate certificate and bachelor's or master's degree in accordance with his level of accomplishment.

The University has had an area of instruction devoted to the preparation of teachers since 1921. The old Perkins Normal School became the Teachers College of the University at that time, expanding into the College of Education in 1935.

Throughout its history, this Upper College has maintained a close liaison with the Akron Public Schools. Perkins Normal was founded by the Board of Education; today the public school administrators cooperate in advisory capacities and in the arrangement of practice teaching schedules for students in the College of Education. Prospective teachers receive valuable experience through actual classroom observation at Spicer Elementary School near the campus.

Approximately one half of Akron Public School teachers are former students at The University of Akron. Close cooperative relationships are also maintained with Summit County schools and other educational organizations in the surrounding area.

Young men and women who are ambitious to enter any of the numerous fields of teaching will find excellent opportunity to acquire technical training for specific areas, firmly based on a foundation of general knowledge. In the College of Education, as in all other Upper Colleges, two years of course work in the General College are required.

Following this pattern, students in the College of Education develop valuable funds of information related to the arts and sciences. Then they acquire the professional skill of imparting this knowledge.

In addition to offering degrees in elementary and secondary education areas, the College of Education offers courses in School Administration, Guidance Counseling and School Psychology. All courses of study are designed to comply with State certification requirements. A Bachelor of Arts in Education and a Bachelor of Science in Education are the baccalaureate degrees offered. Also, the College of Education is accredited to offer a Master of Arts and a Master of Science in Education, and the Ph.D. and Ed.D. degrees.

Special courses and related services such as workshops and institutes are regularly arranged for members of the teaching profession and for prospective teachers as well. The College of Education has an enrollment in the Summer Sessions almost equalling its enrollment for Spring and Fall semesters.

REQUIREMENTS FOR ADMISSION

1. Each student must meet the University requirements for degree listed in Chapter 3.
 2. Each student is required to meet a satisfactory standard with respect to personality. This rating is made by instructors conducting the courses in Education in the General College, by the Dean of Student Services, by means of a standardized rating or a combination of all.
 3. Each student planning to major in a special field may be required to take an examination by the special department.
 4. Each prospective high school teacher must be prepared for certification in two subjects but three teaching fields are recommended.
 5. Each prospective high school teacher should be prepared to enter Upper College courses in two teaching fields.
-

All students preparing for certification will be evaluated by the College of Education Committee on Admission and Retention, subject to review by the Dean. This evaluation will take place when the student officially indicates his intention to work for certification, and periodically thereafter if deemed necessary by the faculty of the College of Education. This committee can recommend to the Dean of the College of Education any one of the following actions:

1. that the student's admission to or retention in the program for certification be confirmed with no other action suggested,
2. that the student's admission to or retention in the program for certification be confirmed but that he be apprised that he has certain weaknesses which must be corrected before he will be approved for student teaching,
3. that the student's final admission to or retention in the program for certification be denied because of certain weaknesses which the committee believes are not correctible.

STUDENT ADVISERS

Students should confer with the following persons, depending upon the fields in which they expect to teach. Students should also feel free to consult with the Dean of the College of Education.

Art	Miss Davis
Business Education	Mr. Misko, Mrs. Tucker
Elementary	Mrs. Badger, Miss Becker, Mr. Beisel, Miss Cann, Mr. Maben, Mrs. Painter, Mrs. Whitford, Mr. Williams
High School	Mr. Brumbaugh, Mr. Doverspike, Mr. Ferguson, Mr. Johnson, Mr. Ocasek, Miss Orlinoff, Mrs. Pfeiffer, Mr. Rich, Mr. Watt, Mr. Wood
Home Economics	Miss Bear
Music	Mr. Hutchins
Nursing	Miss Naes, Miss Tovey
Physical Education	Mr. Ewers, Mr. Cochrane, Miss Ruman
Speech	Mr. Sandefur
Graduate	Mr. Ferguson, Miss Riedinger, Mr. Rich, Mr. Watt

GENERAL INFORMATION

The College of Education administers programs for the preparation of teachers in the following areas or fields: Nursery School, Kindergarten-Primary, Elementary; the conventional academic fields found in junior and senior high schools; and the special fields of Physical Education, Music, Art, Business, Speech, Home Economics, Nursing.

The distribution of subjects required for degrees in certain fields has been set forth in subsequent pages to help students see more clearly the entire course requirements for the degrees. These outlines should, however, not be considered rigid. They are for guidance purposes and should be modified, if necessary, in consultation with the adviser.

Students who complete a four-year curriculum of 128 credits and have completed the prescribed schedule of courses satisfactorily receive the B.A. in Education or the B.S. in Education degree.

A physical examination is required each year of all students who are preparing for certification as teachers.

REQUIREMENTS FOR BACHELOR'S DEGREE

The requirements for the Bachelor of Arts or Bachelor of Science Degree in Education include series of courses in General Studies. Pre-professional, professional and subject matter areas which constitute major and minor fields. All such requirements are specified within the sequences of courses arranged by year and semester.

The B.A. degree in Education is granted to those whose major is in one of the academic fields.

The B.S. degree in Education is granted to those whose major is in one of the special fields such as Art, Business Education, Health and Physical Education or Music. This degree is also granted to those whose major is in the field of elementary education.

The degree B.S. in Nursing is granted to those who complete the regular collegiate program.

STUDENT TEACHING

Student teaching is done in the public schools under the direction of supervising teachers and a representative of the College of Education faculty. Each student must teach for a semester under regular assignment. When arranging his University schedule for this semester, the student must leave either the morning or afternoon free for student teaching. The student should apply for student teaching early in the semester preceding the one in which he expects to schedule his student teaching.

In order to qualify for student teaching a student must maintain a 2.5 average in his teaching field. Satisfactory work must be done in teaching fields and in professional education to warrant recommendation for a teaching certificate.

RECOMMENDATIONS FOR CERTIFICATION

Every teacher in Ohio public schools is required to have a certificate covering the fields in which he is teaching. This certificate is issued by the State Department of Education upon recommendation of the Dean of the College of Education. The student must make out an application form which may be obtained in the office of the Dean. This form should be filled out about one month before the student plans to complete all of his requirements for teaching.

Students are expected to receive their recommendation for certification from the institution granting the degree. Students who expect to receive degrees from other institutions but who wish to qualify for certification at The University of Akron will be expected to meet all of the requirements of The University of Akron and complete an approximate total of one year's work at this institution.

STUDENTS ENROLLED IN OTHER COLLEGES AT THE UNIVERSITY OF AKRON

Some students who receive degrees from other colleges in the University may also wish to qualify for teaching. They will be recommended for certification after completing their major and minor requirements and the Pre-professional and professional courses included in the RECOMMENDED SEQUENCE FOR SECONDARY EDUCATION listed later in this chapter. Such students must be closely advised during the last two years.

Any student in the University who is not enrolled in the College of Education and who wishes to teach should register with the Dean of the College of Education at least two years prior to the time he expects to be eligible to teach.

ELEMENTARY EDUCATION

The Kindergarten-Primary program is for students preparing to teach in the kindergarten through the third grade. The Elementary program is for those preparing to teach in grades one to eight inclusive.

All students working for a degree in Elementary Education will be required to obtain a minor in a non-professional field chosen from among those fields approved by the Department of Elementary Education and consisting of a minimum of 18 credit hours of academic work.

A typical schedule arranged by academic years appears below. Further information may be obtained from the Department of Elementary Education.

The State of Ohio will grant a cadet provisional elementary school certificate upon completion of a two-year program. Such a program is provided by the College of Education. To qualify for student teaching in this two year program the student must maintain a grade point average of 2.5 in all course work. A total of 48 semester hours must be completed to qualify for student teaching in the two year program.

KINDERGARTEN-PRIMARY AND ELEMENTARY

First Year

First Semester		Credits	Second Semester		Credits
1:1	*Written English	3	1:2	*Written English	3
1:15	Institutions in the U.S.	3	1:16	Institutions in the U.S.	3
1:21	*Physical Education	1/2	1:22	*Physical Education	1/2
30:41	*General Psychology	3	27:57	*Human Development & Learning	3
2:21	Design	2	27:62	*Elementary School Music Literature & Appreciation	2
18:61	*Fundamentals of Music	2	27:41	*Handicrafts	2
	*ROTC or/ Elective (Academic Minor)	1 1/2 3		*ROTC or/ Elective (Academic Minor)	1 1/2 3
		16 1/2 or 15			16 1/2 or 15

Second Year

Third Semester		Credits	Fourth Semester		Credits
1:5	*Written English or/ Effective Speaking	3	1:5	*Written English or/ Effective Speaking	3
1:8	*Numbers Communications	3	1:14	*Reasoning and Understanding Science	3
1:11	*Reasoning and Understanding Science	3	27:86	*Children's Literature	3
1:13	*Education in American Society ..	2	28:21	World Cultural Geography	3
27:56	*American Government or/ U.S. to 1865 or/ U.S. since 1865	3 1 1/2 3		*ROTC	1 1/2
21:41	*ROTC	1 1/2		Elective (Academic Minor)	3
12:41	U.S. to 1865 or/ U.S. since 1865	3			15 or 16 1/2
12:42	*ROTC	1 1/2			
	Elective (Academic Minor)	3			
		17 or 18 1/2			

* All courses so marked are required in the Two-Year Cadet Program. This program is scheduled with the Head of the Department of Elementary Education.

Third Year

Fifth Semester		Credits	Sixth Semester		Credits
1:17	Western Cultural Traditions	3	1:18	Western Cultural Traditions	3
27:137	*Teaching Language Arts or/		27:121	Art for the Grades	2
27:131	Early Elementary Education	3	27:133	Science for Elementary Grades ..	3
28:	Geography Elective	3	27:138	*Teaching Social Studies or/	2
29:138	*Health & Physical Education		27:132	Early Elementary Education	3
	Activities	3		Electives	5
27:122	Primary Elementary Music	2			
	Elective (Academic Minor)	3			
		—			15 or 16
		17			

Fourth Year

Seventh Semester		Credits	Eighth Semester		Credits
27:150	Tests and Measurements	2	1:101	Senior Seminar	2
27:136	*Arithmetic for Elementary		1:103	*Eastern Civilizations	3
	Grades	3	27:201	Problems in Education	3
27:135	*Teaching of Reading	3	27:202	*Student Teaching and Seminar	8
	Electives	8			
		—			16
		16			

* All courses so marked are required in the Two-Year Cadet Program. This program is scheduled with the Head of the Department of Elementary Education.

Any elementary certificate will be validated for kindergarten teaching provided the applicant submits evidence of completion of 6 semester hours of credit in kindergarten methods and materials. The two courses Early Elementary Education 27:131 and 132 serve this purpose.

By taking the following courses, students in the Kindergarten-Primary program may also receive University recommendations as Director or Teacher in Nursery Schools:

	Credits		Credits	
22:41	General Sociology	13:65	Child Development	3
13:45-46	General Foods	29:111	Red Cross First Aid	1
27:202	Student Teaching (In Nursery School) (after 4 credits in Kindergarten-Primary program)			4

CERTIFICATION FOR TEACHING FOREIGN LANGUAGE IN THE ELEMENTARY SCHOOL

Persons desiring certification to teach modern foreign language on the elementary level must meet the regular requirements for certification on the secondary level, plus these Ohio State requirements:

- A. Child Psychology or Human Growth and Development,
- B. Purposes and Practices of Elementary Education, or equivalent,
- C. Methods of Teaching the Modern Foreign Language.

CERTIFICATION OF NON-PROFESSIONAL DEGREE HOLDERS FOR ELEMENTARY SCHOOL TEACHING IN OHIO

The State Department of Education will, upon the request of the Superintendent in an employing city, county, or exempted village, and the recommendation of the institution in which the credit is completed, grant a temporary elementary certificate to the holder of an appropriate bachelor's degree, who submits evidence of the completion of the 12 credits listed in the section following.

To qualify for a Provisional Elementary Certificate the holder of a baccalaureate degree should complete a program of courses substantially equivalent to that required for the degree in elementary education. Typically this requires approximately 36 semester hours of course work.

RETRAINING FROM SECONDARY TO ELEMENTARY CERTIFICATE

The holder of a Provisional, Professional, or Permanent High School or Special Certificate may obtain a certificate valid for elementary teaching upon submitting evidence of the satisfactory completion of the following 12 credits:

27:57 Human Development and Learning or	
30:107 Child Psychology	3 credits
27:135 Teaching of Reading	3 credits
27:136 Arithmetic in Elementary Grades	3 credits
27:251 Elementary Education	3 credits

Such certification shall be designated as a "Retraining" certificate and may be renewed only by submitting evidence of the completion of 12 credits of additional course work applicable to a degree in elementary education. Then, when qualified, application may be made for the Provisional Elementary Certificate.

**DUAL CERTIFICATION PROGRAM
ELEMENTARY AND SECONDARY**

This curriculum prepares teachers for the elementary and secondary schools. Students completing this curriculum will receive the four-year provisional certificate to teach in the secondary school and a certificate which will qualify them to teach in grades 1 through 8 of the elementary school.

In addition to the necessary requirements for Elementary Education (with minor modifications in the areas of Art and Music Education) the course 27:113, Principles and Practices in Secondary Education (3 cr.) is required and should be taken during the Junior year. Elective credits shall be limited to service courses in physical education and courses required for the field or fields of teaching at the secondary level in which certification is requested. For advisement in this area contact the Head of the Department of Elementary Education.

SECONDARY EDUCATION

The secondary program is for students preparing to teach in junior and senior high schools. A list of the specific requirements for the various teaching fields will be provided for the student by his College of Education adviser or by the Dean of the College.

RECOMMENDED SEQUENCE FOR SECONDARY EDUCATION

		<i>First Year</i>				
		First Semester	Credits	Second Semester	Credits	
1:1	Written English	3		1:2	Written English	3
1:15	Institutions in the U.S.	3		1:16	Institutions in the U.S.	3
1:21	Physical Education	1/2		1:22	Physical Education	1/2
	ROTC	1 1/2			ROTC	1 1/2
30:41	*General Psychology	3		27:57	*Human Development and	
	Electives	6			Learning	3
					Electives (Teaching Fields)	4-5

		<i>Second Year</i>			
First Semester		Credits	Second Semester	Credits	
1:5	Written English or/		1:5	Written English or/	
1:8	Effective Speaking	3	1:8	Effective Speaking	3
1:11	Numbers Communication	3	1:11	Numbers Communication	3
1:13	Reasoning and Under- standing Science	3	1:14	Reasoning and Under- standing Science	3
	ROTC	1½		ROTC	1½
27:56	*Education in American Society	2		Electives (Teaching Fields)	5-6
	Electives	2			

		<i>Third Year</i>			
First Semester		Credits	Second Semester	Credits	
1:17	Western Cultural Traditions	3	1:18	Western Cultural Traditions	3
27:113	*Principles and Practices in Secondary Education	3	27:150	*Tests and Measurements	2
	Electives (Teaching Fields)	11		Electives (Teaching Fields)	11

		<i>Fourth Year</i>			
First Semester		Credits	Second Semester	Credits	
1:101	Senior Seminar	2	1:101	Senior Seminar	2
1:103	Eastern Civilizations	3	1:103	Eastern Civilizations	3
27:202	*Student Teaching and Seminar	8		Electives (Teaching Fields)	12
27:201	*Problems in Education	3		Total to make 128	
	Electives (Teaching Fields)	5			

* Pre-professional and Professional Requirements

TEACHING FIELDS

Each student preparing for secondary school teaching must have at least two academic teaching fields. One field shall be at least six credits more than the minimum required by the State Department of Education, except where the teaching field is 30 credits or more. However, if a student chooses one of the special teaching fields or one of the comprehensive teaching fields, as listed below, he will not be required to prepare in a second field.

For selection of required courses for a teaching field, a student should consult the head of the Department of Secondary Education who will appoint an adviser.

STATEMENT OF NUMBER OF HOURS REQUIRED FOR CERTIFICATION IN VARIOUS TEACHING FIELDS

AS SPECIFIED BY THE STATE DEPARTMENT OF EDUCATION

In High School and Special Areas

<i>Field</i>	<i>Number of Credits</i>	
	High School Tchg. Fields*	Special Tchg. Field†
Art	24	50
Business		
Bookkeeping	9	
†Bookkeeping—Basic Business	20	
Salesmanship—Merchandising	15	
†Stenography—Typing	20	
Typing	5	

Business Education Comprehensive	45	
English	24	
Health Education	24	
Health Education and Physical Education	24	40
History and Government	27	
Home Economics	30	
Latin	15	
Library Science	16	
§Modern Languages	20	
Mathematics	18	
Music	24	50
Science		
Biological Science	15	
Earth Science	15	
General Science	21	
Physical Science	21	
Science Comprehensive	45	
Social Studies Comprehensive	45	
Speech	18	40

* High School teaching fields entitle the holder of the certificate to teach the subjects in all grades 7-12 in a secondary school and in grades 7 and 8 of an elementary school if the work is departmentalized.

† A special teaching field entitles the holder of the certificate to teach that subject in any grade of the public schools.

‡ If used as major 30 credits will be required.

§ The 20 credits will *not* include any credit earned in the beginning College course in the language. Such credits (if earned) are used to satisfy the State requirement of two units of high school language as prerequisites for College study.

SPECIAL FIELDS

Students preparing to teach in the *Special Fields* of Art, Business Education, Home Economics, Music, Health and Physical Education, and Speech will follow the pattern of courses outlined under RECOMMENDED SEQUENCE FOR SECONDARY EDUCATION in this chapter. Lists of specific course requirements and recommended yearly and semester patterns will be provided to the student by his advisor.

SPECIAL EDUCATION

Teacher of Slow-Learning Children

Students may prepare for teaching slow-learning children by adding the following sequence of courses to their regular program in Elementary or Secondary Education.

30:204 Psychology of Exceptional Children and Adolescents	3 credits
27:260 Developmental Characteristics of Slow-Learning Children	3 credits
27:261 Principles of Teaching Slow-Learning Children	3 credits
27:262 Methods and Materials for Teaching Slow Learners	2 credits
27:264 Reading and Language Arts for the Slow Learner	2 credits
27:265 Social Studies for the Slow Learner	2 credits
27:266 Number Concepts for the Slow Learner	2 credits
27:268 Occupational Orientation in and Job Training for Exceptional Children	2 credits
27:202 Student Teaching and Supervision	4-8 credits

SPEECH AND HEARING THERAPY

First Year

First Semester		Credits	Second Semester		Credits
1:1	Written English	3	1:2	Written English	3
1:15	Institutions in the U.S.	3	1:22	Physical Education	1/2
1:21	Physical Education	1/2	1:16	Institutions in the U.S.	3
	ROTC	1 1/2	27:57	Human Development and Learning	3
30:41	General Psychology	3		ROTC	1 1/2
1:11	Numbers Communication	3		Elective	2-3
	Elective	4-5			

Second Year

First Semester		Credits	Second Semester		Credits
1:13	Reasoning and Under- standing Science	3	1:5	Written English or Effective Speaking	3
1:5	Written English or Effective Speaking	3	24:73	Voice and Articulation	3
1:8	Effective Speaking	3	1:14	Reasoning and Under- standing Science	3
	ROTC	1 1/2		ROTC	1 1/2
27:56	Education in American Society	2	24:31	Public Speaking	3
24:35	Basis of Speech	3	24:33	Oral Interpretation	3
3:91	Introduction to Human Physiology	4		Elective (Speech)	3
				Elective	8-9

Third Year

First Semester		Credits	Second Semester		Credits
1:17	Western Cultural Traditions	3	1:18	Western Cultural Traditions	3
27:114	Teaching of Speech	2	24:74	Applied Phonetics	3
24:173	Speech Reading	3	24:272	Speech Pathology & Therapy	3
24:271	Speech Pathology & Therapy	3	24:274	Clinical Practice	1
24:273	Clinical Practice	1	24:270	Speech Correction for the Classroom Teacher	3
30:107	Psychology of Childhood and Adolescence	3	27:150	Tests and Measurements	2
27:113	Principles and Practices in Secondary Education	3		Elective (teaching field)	3

Fourth Year

First Semester		Credits	Second Semester		Credits	
1:101	Senior Seminar	2	or	1:101	Senior Seminar	2
1:103	Eastern Civilizations	3		1:103	Eastern Civilizations	3
24:273	Clinical Practice	1		24:274	Clinical Practice	1
27:202	Student Teaching and Seminar	8		30:204	Psychology of Exceptional Children and Adolescents	3
	Speech	3		27:201	Problems in Education	3
					Speech	3
					Elective (teaching field)	3

NOTE: Students wishing to meet Ohio State Certification Requirements MUST take the following starred courses which appear in the fifth year offerings:

Fifth Year

First Semester		Credits	Second Semester		Credits
24:371	Advanced Speech Pathology and Therapy	3	24:372	Advanced Speech Pathology and Therapy	3
24:373	Voice Pathology	3	24:277	Hearing Conservation and Audiometry*	3
3:251	Anatomy and Physiology of Speech*	3	24:374	Internship	2-4
24:374	Internship	2-4	24:297	Speech Seminar*	2
24:394	Research in Hearing*	3	24:394	Thesis (FOR MASTER'S DEGREE ONLY)	

* Required if student wishes to teach the academic minor as well as in the major field.

30: PSYCHOLOGY

The field of Psychology may be used in the College of Education in meeting specific requirements or for elective work and as prerequisites for graduate study in the field of certification as a School Psychologist. Psychology, however, is not recognized as a teaching field by the State Department of Education. Prospective teachers will be encouraged to elect courses in this field.

BASIC COLLEGIATE PROGRAM IN NURSING

This four year program leads to the degree of Bachelor of Science in Nursing. The program combines liberal arts courses with professional nursing courses that will enable the graduate of the program to function as a professional nurse in beginning positions in nursing courses including public health nursing. The laboratory experience in the professional nursing courses includes maternal and child health nursing, adult nursing, the care of the emotionally ill, and public health nursing.

GENERAL COURSES		PROFESSIONAL COURSES	
	Credits		Credits
1:1 through 1:103 (Except 1:11 and 1:13-1:14)	30	Nursing in a Social Order	3
College Algebra	3	General Nursing	10
General Chemistry	8	Adult Nursing	14
General Sociology	3	Maternal-Child Nursing	14
Introduction to Logic	3	Psychiatric Nursing	7
General Psychology	3	Public Health Nursing	7
Developmental Psychology	3	Seminar in Nursing	5
Anatomy & Physiology	6	Issues in Nursing	2
General Bacteriology	4	Electives	6
Human Genetics	2		

ADVANCED PROFESSIONAL PROGRAM FOR
REGISTERED NURSES

Advanced study programs are available for registered nurses leading to the degree of Bachelor of Science in Nursing. The professional objectives of this program are to supply the registered nurse the academic and professional courses required for the Bachelor of Science in Nursing degree and to prepare her to assume responsibility in the administration of patient care and assist in clinical instruction. Special programs may be arranged for registered nurses interested in public school teaching certificates.

Candidates must present evidence of graduation from an approved school of nursing. They are required to complete at least 128 credits which include 18 credits in professional nursing courses. Required courses include:

GENERAL COURSES		PROFESSIONAL COURSES	
	Credits		Credits
1:1 through 1:103 Courses (Except 1:13-1:14)	32	31:100 Nursing Trends	3
27:57 Human Development and Learning	3	31:105 Prin. & Meth. of Teaching Nursing	3
30:115 or 116 Psychology	3	31:106 Ward Mgt. & Tchg.	3
27:150 Tests & Measurements	2	31:113 Public Health Nursing Practice	3
Chemistry, Physics, Bacteriology or Physiology	6-8	31:114 Comprehensive Nursing Care	3
		31:115 Comprehensive Nursing Practice	3

Registered nurses are allowed some credit for their professional education in nursing. This is dependent upon the quality and quantity of work completed in various subjects. The number of electives will depend on the credit allowed the individual student for her basic professional program. No new students will be admitted to this program. Students currently enrolled will have the opportunity to complete their program by June 1968.

AN UPPER COLLEGE:

The College of Business Administration

RICHARD C. REIDENBACH, Ph.D., *Dean*

OBJECTIVES

The purpose of the College of Business Administration is to further the objectives of The University of Akron by providing a quality program of collegiate education for business and to pursue the following aims:

To prepare students for a career in business by providing them opportunities to develop a synthesized perception of the role of business institutions in a dynamic industrial society.

To develop in students an awareness and skill in the analytical approach of quantitative methods and an understanding of the application of behavioral science techniques to the field of business administration.

To promote in students an understanding of the ethics and responsibilities in the area of business administration.

The College recommends each student for the appropriate bachelor's or master's degree in accordance with his level of accomplishment.

Baccalaureate degrees offered in this Upper College are the Bachelor of Science in Business Administration and the Bachelor of Science in Industrial Management. At the graduate level the Master of Business Administration and Master of Science in Accounting and the Master of Science in Industrial Management degrees are offered through day and evening courses.

Graduates of this Upper College can expect to enter fields of business or governmental administration, accounting, marketing, advertising or industrial management or advanced study for law, business, or teaching. Study programs follow the University philosophy of teaching each student in the broad areas of knowledge; superimposed on this fundamental education are the specific knowledge areas pertaining to the functional operations of modern commerce and industry.

At The University of Akron, there is a long history of education relating to the field of commerce and industry. Since 1919 there have been courses offered in the Department of Commerce. It was in 1953 that these were combined with other related fields and made into a separate college.

Since its inception, the College of Business Administration's curriculum has been designed with equal emphasis on the broad basic principles as well as the immediate practices. Textbook knowledge is consistently made more significant by field trips and inspection tours to witness business operations "on the scene."

Similarly, the College maintains a sound balance between liberal education and professional courses. Half of the courses of study are in a field of liberal education; the remaining courses are divided between courses of general business subjects and the individual student's own indicated area of specialization.

REQUIREMENTS FOR ADMISSION

The College of Business Administration accepts students after they have completed two years of General College work. The admission of a student will depend upon his preparation, ability to do college work, his interests, moral character and fitness for an effective business or professional career. The entrance requirements to the College are:

1. Completion of 64 credits with a 2.0 quality point average in all work taken, or permission of the Dean.
2. A general educational background as indicated by the satisfactory completion of the General College program as specified for the various areas of Business Administration.
3. Evidence of satisfactory competence in oral and written English and applied mathematics.

The College reserves the right to require examinations of students transferring work to validate the credits, if necessary, or properly to place the student where the more advanced courses presume a certain background of knowledge, as in accounting.

REQUIREMENTS FOR GRADUATION

1. A minimum of 128 credits, including the work in the General College. Not more than one credit of physical education activities may be included.
2. Other requirements, including the residence requirement, listed in this Bulletin.

3. At least a 2.0 quality point average in (a) the major and all courses taken in the College, and (b) all courses undertaken here and elsewhere.
4. Recommendation of the student's department head.

BASIC CURRICULUM PATTERN FOR BUSINESS ADMINISTRATION

PRE-BUSINESS PREPARATION TWO YEARS		BUSINESS ADMINISTRATION MAJOR	
<i>Liberal Education</i> —to Provide:	<i>Business</i> <i>Foundation Courses</i>	<i>Junior Year</i>	<i>Senior Year</i>
1. Facility in use of English—oral and written.	1. Business Organization	1. Principles of business operation. Production Marketing Finance Personnel Relations	Major of 15 credits—sufficient concentration for the student to appreciate and understand one given area of business. Electives in Liberal Arts in: a. Economics, social sciences, literature, etc. b. Bus. Adm. Courses (major) Business Policy (3 credits) integrates, evaluates and applies the materials learned.
2. Knowledge of basic mathematics—the quantitative measuring tool.	2. Economics	2. Measurement and control tools: Accounting Costs-budgets Statistics Operating standards	
3. A basic understanding of the reasoning and analytical methods of science.	3. Accounting		
4. Knowledge of man's moral, social, cultural and religious development.			

CORE PROGRAM

In addition to the General Studies program required of all students at The University of Akron, students enrolled in the College of Business Administration must successfully complete the following Core Program:

6:45-46	Principles of Economics	3 credits each semester
17:21	College Algebra	3 credits
39:21-22*	Accounting	3 credits each semester
40:61	Business Organization and Management	3 credits
40:62	Production Management	3 credits
40:83	Marketing	3 credits
40:141	Business Law	3 credits
40:147	Economic Statistics	3 credits
40:171	Business Finance	3 credits
40:268	Business Policy	3 credits

DEPARTMENTS OF INSTRUCTION

39: ACCOUNTING

The accountant of today is recognized as a professional man. Practice of public accountancy and practice of accountancy in private employment are both included in professional accounting. Standards and ethics are as important in one as in the other; mastery of accounting concepts and procedures is essential to both.

* Non-Accounting majors may take 39-121 in lieu of 21 and substitute an elective for 22, as 22 may not be taken by students who have taken 121.

Private and public businesses provide opportunities for employment to persons with accounting backgrounds. Accounting graduates usually begin their careers in junior positions. Those who choose public accounting may become seniors, managers, principals and partners in a public accounting firm. Those who choose careers in private business may later hold such senior positions as chief accountant, budget director, internal auditor, treasurer and controller. More frequently than ever before, outstanding public accountants are being appointed to fill top positions in government. The presidents of more than eighty nationally-known corporations reached their executive positions by way of the accounting department.

The accounting curriculum is designed to prepare the student for professional service, including the taking of the state-board-administered uniform certified public accounting examination and to prepare the student to undertake advanced study leading to the Master's degree. In recognition of the fact that public and private accounting rest on the same foundation, the following basic accounting courses are required of all accounting majors:

- 6 credits of elementary accounting (39:21 and 39:22)
- 3 credits of cost accounting (39:127)
- 6 credits of intermediate accounting (39:143 and 39:144)
- 3 credits of Federal income tax procedures (39:233)
- 3 credits of auditing (39:237)
- 3 credits of controllership problems (39:239)
- 3 additional credits of business law (40:142)

The Level I achievement test, prepared and graded by the American Institute of Certified Public Accountants, is required of all students before credit will be granted in Accounting 22. Students interested in majoring in Accounting should score well on this test. The Level II accounting test is required of all students desiring credit for Accounting 237.

In addition to the accounting courses required in the above program, students preparing for a career in public accounting are advised to take Accounting 251. Majors preparing for careers in industrial accounting should take courses in Industrial Management including Production Control 42:203 and Motion and Time Study 42:165.

Because of the increasing demand for accountants with a knowledge of computer theory and practice, majors are advised to elect such courses as Electronic Data Processing 40:191 and Accounting Systems 39:230. A course in mathematics beyond Algebra is also strongly recommended.

40: MARKETING AND FINANCE

The Department of Marketing and Finance develops and applies the principles and techniques of economics, administration and operation which are common to all business and industrial organizations. The Department offers majors in two fields: Marketing and Finance.

Programs in the Department are adapted for students preparing for careers in business operation, marketing and merchandising, advertising, sales, retailing or finance.

The Department also provides courses for students majoring in Liberal Arts but seeking careers in business, and for students majoring in textiles but seeking positions in merchandising. It also provides excellent fundamental background for advanced study, law or governmental careers.

During his General Studies program the student who wishes to major in Marketing or Finance should take general psychology and either applied or industrial psychology. In his Junior year he will elect the major in which he wishes to specialize. In addition to completing Managerial Accounting (39:124), he must complete a minimum of 15 credits of work in his major, including two 3-credit courses on the 200 level, excluding Business Policy 268. With the approval of his adviser a student may select courses for his major from those listed below. Courses designated with an asterisk (*) are required for a major in this field.

MARKETING

Credits		Credits	
40:188 Sales Promotion and Market Development	3	40:296 Marketing Analysis*	3
40:291 Sales Administration*	3	40:194 Principles of Merchandising	3
40:293 Problems in Marketing*	3	40:185 Advertising	3
		40:284 Problems in Retail Management	3

FINANCE

Credits		Credits	
40:272 Investments*	3	40:158 Principles of Insurance	3
40:279 Problems in Finance*	3	40:174 Credits & Collections	2
40:277 Security Analysis	3	40:247 Advanced Statistics	3
40:176 Banking Practice and Management	3	40:250 Business & Society	3
6:148 Money and Banking*	3	6:204 Monetary & Banking Policy	3
		6:208 Public Finance	3

The degree of Bachelor of Science in Business Administration will be granted to those students who complete the prescribed work, including a problems course or seminar in the major area.

42: INDUSTRIAL MANAGEMENT

The University of Akron was one of the first institutions of higher learning to establish an Industrial Management curriculum. Important factors in the decision to establish such a program were the location of the University in a major industrial area and the recognition of an emerging educational need.

The emphasis on education for management is the result of several factors. First, managers are becoming increasingly aware that a professional approach to management requires understanding of quantitative methods and the behavioral sciences. Second, the management task is becoming much more complex in terms of number of activities, volume of work, and the broader impact of managerial decisions. Third, the practice of management in any setting requires a measure of specific preparation and qualification.

Events of the past several years have brought about a rapid and sweeping change in the business and industry of our society—in the number and complexity of enterprises and in facilities, in the number and variety of management positions. The graduate with an Industrial Management degree finds many employment opportunities with industrial firms, in staff, supervisory, and other management positions. He possesses, in addition,

the required basic understanding for effectively managing facilities, equipment and personnel in a variety of activities such as transportation, warehousing, research, construction or institutional management.

In addition, the graduate has the fundamental preparation to undertake advanced study leading to an M.B.A. degree.

Departmental philosophy decrees that the student entering this field be well grounded in the basic liberal background and that he maintain a liberal approach to his education within the framework of the Industrial Management curriculum.

In addition to Cost Accounting (39:127) or Managerial Accounting (39:124) the student majoring in Industrial Management must take the following:

42:101	Industrial Plants	3 credits
42:150	Principles of Management	3 credits
42:162	Personnel Management	3 credits
42:165	Motion and Time Study	3 credits
42:203	Production Planning and Control	3 credits
42:205	Quality Control	3 credits
42:256	Industrial Management Problems	3 credits

INDUSTRIAL ACCOUNTING CURRICULUM

The Industrial Accounting Curriculum, jointly administered by the Accounting Department and the Industrial Management Department is designed to benefit the student who may wish to pursue a career in the field of accounting, but who does not wish to become a C.P.A. The courses selected are those which will furnish the student with a background in the operational management of production activities as well as in the accounting and budgeting procedures utilized in the control of these activities. The curriculum leads to the degree, Bachelor of Science in Industrial Management.

The student selecting the Industrial Accounting curriculum must successfully complete the following:

39:127	Cost Accounting	3 credits
39:239	Controllership Problems	3 credits
40:191	Introduction to Electronic Data Processing	3 credits
42:101	Industrial Plants	3 credits
42:162	Personnel Management	3 credits
42:165	Motion and Time Study	3 credits
42:203	Production Planning and Control	3 credits
42:205	Quality Control	3 credits

Recommended electives for the student majoring in Industrial Accounting includes:

Recommended Electives:

42:256	Industrial Management Problems	40:247	Advanced Statistics
42:264	Personnel Relations	40:158	Principles of Insurance
40:189	Purchasing	40:142	Business Law
39:230	Accounting Systems	39:237	Auditing
30:116	Industrial Psychology	39:233	Taxation



The Army and Air Force ROTC

An important phase of life on the Akron U campus is the men's participation in military training. During most of the University's history as an urban institution, it has been actively involved in the education of its male citizens for either reserve or active duty in the armed forces. A branch of the Army ROTC was organized in 1919, making it one of the oldest in the country.

At that time there was a military encampment on the Hilltop and it was in the University barracks that a marching band was organized—the first formal instrumental group on campus!

In 1946, a unit of the Air Force ROTC was formed to give both basic and advanced instruction to University men, just as the Army ROTC had been doing in the preceding quarter century.

A basic course in either Army or Air Force ROTC is required of all male students at the University.

Normally first year students may indicate a preference for the branch of military training they prefer subject to certain regulations. Upon successful completion of the first year (two semesters), the student has the right to choose the other ROTC program if he so desires. This is accomplished by simply registering with the other ROTC unit at the beginning of his sophomore year. During the basic courses extending over two years, they receive uniforms and equipment, for which they are responsible. These must be returned at the end of that year or upon leaving the program.

These are the only individuals exempted from this required training for freshmen and sophomore men:

- 1) Aliens
- 2) Men physically disqualified, carrying less than eight hours, or with at least six months of prior honorable military service.
- 3) Men above 23 years of age or enrolled in short professional or pre-professional courses not leading to degrees.
- 4) Men who have completed 48 credit hours at another accredited college or university.
- 5) Men who submit written declaration of valid religious or conscientious objections to military service.

Principal objectives of the training programs are to develop character and good moral habits and heighten each man's awareness of his responsibilities as a citizen. It is a goal that the Army and Air Force ROTC be integral and useful parts of the University and community.

Both areas of training are important sources of qualified career officers and reserve officers in the U.S. Army and U.S. Air Force.

The Army ROTC is a General Military Science unit. Its graduates may be commissioned in any of 13 arms and services of the Army. The selection of each graduate's area of service depends on his own personal choice, his major academic field and the current needs of the Army.

The Air Force ROTC embodies a generalized curriculum which educates and motivates potential junior officers for the advanced phases of Air Force training. In addition to this, it provides an opportunity for qualified young men to take pilot or navigation training after receiving their commission at the University. It also provides opportunities in many fields such as engineering, intelligence, administration, personnel, finance, computers, law, aerospace medicine, education, meteorology and a multitude of others.

Advanced courses are available for men at the University as well as Advanced Summer Camps for both of the military units.

THE ADVANCED ROTC COURSE

Advanced ROTC programs leading to a commission in the Reserves are offered by both the Army and the Air Force.

The Advanced course is open to students who have satisfactorily completed the basic course; students who have been accepted into an upper college but have not taken basic ROTC, provided such students successfully complete a pre-advanced summer training camp of six weeks duration. Transfer students with less than 48 credits, but with programs that will permit them to graduate in seven semesters or less, have the option of taking four semesters of basic ROTC or entering the two-year advanced program.

Applicants for Advanced ROTC programs must pass a physical exam and be approved by the University and the Professor of Military Science (Army) or Professor of Aerospace Studies (Air Force).

Once a student enters the Advanced ROTC program he must complete requirements for a degree as well as the Advanced program prior to receiving a commission. He also is under obligation to complete the Advanced course in order to qualify for a University degree unless specifically excused by the President of the University.

Entry into the Advanced Army ROTC Course commits the student to active service as a commissioned officer for a period of two years and service in the active reserve for an additional four years. Entry into the Army's Flight Training Program requires an active duty stay of three years but a student disqualified prior to completing the flight program reverts to a two-year obligation.

Entry into the Advanced Air Force ROTC Course commits the student to active service as a commissioned officer for a period of four years but has no additional requirement for active reserve status. Entry into the Air Force ROTC pilot training program adds another year to the active duty requirement with the same reversion to original contract time in case of disqualification.

FLIGHT TRAINING PROGRAMS

Both the Army and the Air Force ROTC programs offer flight training options. Army cadets may, during their senior (graduating) year, enroll in the Army Flight Training Program, an extra-curricular program offering 35 hours of flying instruction and 35 of ground instruction. The program leads to an FAA approved pilot's license and is offered without cost to the cadet. It is designed to afford an opportunity for those who desire to qualify for Army Pilot training after entry on active duty.

Senior Air Force ROTC students who have been selected for pilot training receive 36½ hours of flight instruction from an approved flying school at no cost to the student and a private pilot's license may be obtained if the student completes the necessary FAA requirements.

ADVANCED ROTC CAMP

Six-week Advanced ROTC camps are conducted each summer. Students going into the Advanced ROTC programs will be required to complete one summer camp. Students receive the pay of the first enlisted grade while at the advanced camp and are reimbursed for travel to and from camp.

Education: Round-the-Clock
Round-the-Year

The Evening College
and
The Summer Sessions

The Evening College

WILLIAM A. ROGERS, Ed.M., *Dean*

Special attention has been given at The University of Akron to developing courses for the interest and enlightenment of busy part-time students available in evenings or in summers.

Among leading educational institutions in the United States, The University of Akron is exceptional in keeping its doors open around-the-clock and around-the-calendar, "keeping the lamp of learning burning" for students of all ages, ambitions and interests.

The Evening College of the University is an extension of regular daytime college life on the campus. Credit courses have the same value whether taken in daytime or evening hours. Many of the daytime faculty members teach Evening College courses, so the calibre of work is identical.

When additional faculty members are needed in order to accommodate Evening College enrollment, part-time instructors are engaged. These are people of the community with full academic training and experience.

Typical enrollees in the Evening College are described as follows:

- 1) Students who want to gain University credits, but for financial reasons hold daytime jobs, can begin or complete their education with Evening College courses.
-

- 2) Some students, in accepting part-time jobs, are requested by their employers to work during some of the daytime hours. In a case like this, a student could attend lectures in the morning, work a half-shift in the afternoon and return to the campus for lectures in the evening. The combination of day and evening classes is completely acceptable and the credits earned in Evening College have the same value as those earned in the daytime.
- 3) Many mature people, young or old, settled in their chosen professions, realize that they can gain promotions if they have additional college education. If they choose to spend their evening hours to improve themselves academically and professionally, they enroll in Evening College. They can be awarded any of the University degrees with sufficient credits earned in the Evening College.

Daytime classes ordinarily begin at 8:00 a.m. except in Summer Sessions when they begin at 7:40 a.m. Evening College classes begin as early as 4:15 p.m., but the heaviest enrollment in Evening College is in courses which begin at 5:45, 7:15 or 8:45 p.m.

Evening Extracurricular Activities

An Evening College Student Council directs the extracurricular affairs which are much like the extracurricular activities of the daytime college and in fact, sometimes are part of the daytime schedule. For instance, an Evening College May Queen participates in the May Day celebration—an event annually celebrated in the Spring on the University campus.

Other organizations which have been established for the Evening College students include the national scholastic honorary fraternity, Alpha Sigma Lambda; the Evening College sorority, Gamma Beta; the Evening College fraternity, Chi Sigma Nu; and the honorary fraternity, Alpha Epsilon.

Bulletins with Evening College information may be obtained from the Evening College offices which are located on the ground floor of Buchtel Hall. These will tell about admission, prerequisites, student course loads, absences with- drawals and grades.

A monthly publication called *Nite-Life* keeps Evening College students in- formed of current happenings on campus.

ENROLLMENT IN THE EVENING COLLEGE IS MORE THAN 4,800 STUDENTS, compared to the approximate enrollment of daytime students which is estimated at about 6,500. (These figures do not include students registered in the Department of Special Programs non-credit courses.)

The Summer Sessions

For more than 44 years, the University has offered courses in the summer. Classes are now available in both daytime and evening, offering credits to be earned in the summer months. Also, there are noncredit courses offered during the summer season in the Department of Special Programs.

Summer courses for credit have been designed for the following groups:

TEACHERS—so that they may study during their summer vacations and earn credits leading to either a Bachelor's or a Master's degree. Courses are available that lead to the Ph.D. in Chemistry, Education, Polymer Science, Industrial Psychology, and the Ed.D. in School Administration, and programs are offered for teachers who wish to obtain emergency certificates or renew their teaching certificates.

Student teaching is scheduled as follows for the 1967 Summer Sessions:

Spicer Elementary	June 12—July 21
Barberton High School	June 20—July 29
Akron Central High School	June 12—August 4
West Junior High School	June 12—August 4

(Requests for Student Teaching should be made to the Director of Student Teaching, College of Education, by November 15.)



REGULAR ENGINEERING STUDENTS—so that they may continue on schedule while studying on the cooperative program.

STUDENTS FROM OTHER COLLEGES AND UNIVERSITIES—so that they may take advantage of their summer vacations to work towards their chosen degrees. These students are classified as “transients” and they must present a letter from their institution indicating they are in good standing. Permission to enter is granted for the Summer Sessions.

HIGH SCHOOL GRADUATES—so that they may enter the University immediately after their graduation in June. They may take either credit or noncredit courses.

- a) Credit courses are taken in accordance with the General College standards of admission. They are available to those who wish to accelerate their college training, enrolling in the regular courses of study.
- b) Noncredit courses are offered for those recent high school graduates who want to improve their rates of reading and comprehension, writing ability or who want to learn such special skills as typing, notetaking and using the library. These noncredit courses are arranged by the Department of Special Programs.

REGULAR STUDENTS AT THE UNIVERSITY OF AKRON—so that they keep on studying at the University around-the-calendar and accelerate their academic progress.

* * *

ADVICE to students who expect to earn degrees or certificates in Summer Sessions. If you expect to complete requirements for a degree at the close of 1967 Summer Sessions, indicate this to the Director during the first week of classes.

INFORMATION for those wishing to gain admission to the University's Summer Sessions: Applicants for credit courses in Summer Sessions must meet the same entrance requirements as for the regular academic year.

Administration of Summer Sessions courses for credit or noncredit, taken in daytime or evening, is under the jurisdiction of the Director of the Summer Sessions.

RESIDENCE FACILITIES: Housing for men and women is available on the University campus during the summer. Availability and rates can be obtained from the Director of Housing. Estimated rates are as follows:

<i>Single Occupancy:</i>	6 wks.—\$90	8 wks.—\$115	12 wks.—\$180
	(When requested and available)		
<i>Double Occupancy:</i>	6 wks.—\$70	8 wks.—\$ 90	12 wks.—\$140
	(this does not include meals)		

DATES of the University Summer Sessions for 1967:

First six weeks session	June 12—July 21
Second six weeks session	July 24—Sept. 1
Eight weeks session	June 12—August 4

Advanced Study

The Graduate Division
and
The College of Law

Qualified students who have completed their baccalaureate programs with sufficiently high standings may continue their studies through the University's Graduate Division in programs leading to the Master's degree as well as to the Doctor's degree. Undergraduate students who qualify may enroll in certain graduate level classes and apply the credits earned to the total required for the baccalaureate degree. To receive Graduate credit for the courses, however, students must be admitted to the Graduate Division.

The Graduate Division

ERNEST H. CHERRINGTON, JR., Ph.D., *Dean*

OBJECTIVES

The purpose of the Graduate Division is to further the objectives of The University of Akron by providing a quality program of graduate education and to pursue the following aims:

To offer advanced courses in various fields of knowledge beyond the baccalaureate level.

To offer students opportunities to develop and apply research techniques and to use the resources appropriate to their graduate programs.

To contribute to the advancement of knowledge for the benefit of mankind through the efforts of its faculty and students.

The Division recommends each student who has been recommended by the student's college faculty for the appropriate master's or doctor's degree.

Graduate study at The University of Akron began a few years after Buchtel College opened its doors, and the first earned Master's Degree was conferred in 1880. The College of Education awarded its first Master's Degree in 1924, and the Colleges of Engineering and Business Administration followed in 1959. The first earned Doctor's Degrees were conferred in 1959. Professor Charles Bulger was appointed first Dean of Graduate Work in 1933, and he continued in that capacity until 1950. Professor Cherrington was named Director of Graduate Studies in 1955 and appointed Dean of The Graduate Division upon its establishment in 1960.

The Graduate Division offers programs of advanced study leading to the degrees of Doctor of Philosophy in Chemistry, Polymer Science, Industrial Psychology, and Education (Elementary, Secondary and Guidance and Counseling). The Doctor of Education degree is offered in Educational Administration.

The staff and facilities of the Institute of Rubber Research, which has conducted basic research on campus since 1943, are available to qualified students. Such studies are facilitated by proximity to the home plants and research centers of leading rubber manufacturers and the location on campus of the Library of the Division of Rubber Chemistry of the American Chemical Society.

The Graduate Division also offers programs of study leading to the Master's Degree with majors in the following areas: Accounting, Biology, Business Administration, Chemistry, Economics, Education, Engineering, English, French, History, Industrial Management, Mathematics, Philosophy, Physics, Political Science, Psychology, Sociology and Speech.

Several other departments offer a limited amount of work which may be undertaken on the graduate level. Such courses may supplement the major program of study and may constitute the minor subject for students who do not devote their entire attention to one field.

REQUIREMENTS FOR DOCTOR OF EDUCATION DEGREE

Admission procedures and requirements for the Doctor of Education degree, with the exception of the language requirement, are the same as outlined in the Doctor of Philosophy degree program.

THE GRADUATE COUNCIL

Academic programs and policies of the University's Graduate Division are recommended by the Graduate Council which is elected by the Graduate Faculty. Membership in the Council presently includes two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, and four members from the College of Liberal Arts.

The Council's Chairman is elected by members of the Council, and the Dean of the Graduate Division, an ex-officio member, serves as Secretary. The functions of the Council include examination of proposed graduate programs and course offerings, and recommendation of policy for all phases of graduate education.

THE NATURE OF GRADUATE EDUCATION

The Graduate Division is organized for the purpose of providing properly qualified students with the graduate education which they may require for the full development of their scholarly and professional capacities, subject to the criteria that all such programs are determined to be academically sound and feasible.

Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. Graduate education is more concerned with the significance of facts than with their accumulation. While the latter usually constitutes a necessary portion of a graduate program, it must not be regarded as an end in itself. The primary purpose is to orient the student toward research in its broadest connotation and to give him experience in the methods by which information is evaluated and knowledge is acquired. At its best, graduate education is characterized by able and enthusiastic advanced students who join faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception and vital creativity all here combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in all areas of human endeavor.

The administrative functions of the Graduate Division include establishment of suitable entrance requirements, admission of qualified students, maintenance of high quality instruction, and provision of minimum requirements for advanced degrees. The Division accomplishes its purpose through the individual and collective actions of the members of the Graduate Faculty with the administrative assistance of the Dean.

REQUIREMENTS FOR ADMISSION

Any student who wishes to enroll in a graduate course (coded 300, 400, or 500) for credit or audit must:

1. Fill out the Application for Admission to the Graduate Division, in triplicate, and attached RA-1 form. The student must indicate the specific area of study he wishes to pursue and whether or not he desires to become a candidate for an advanced degree.
2. Submit *official* transcripts to the Dean of the Graduate Division of all college or university work taken (except at The University of Akron). None will be returned. The applicant for admission to graduate study must show that he has received the Bachelor's Degree from a regionally accredited college or university.
3. Pay a \$15.00 non-refundable application fee. Applicants who have previously registered for any credit course at The University of Akron are excused from the payment of this application fee.
4. Take the Graduate Record Examination (Aptitude and Advanced Tests). Applicant will make his own arrangements with Educational Testing Service, at Princeton, New Jersey, or Berkeley, California.

It is the responsibility of the applicant to make certain that all credentials requested by the Graduate Division are received no less than two weeks prior to the official registration period published on the University Calendar. Failure to do so may result in deferment of admission to a later semester.

Foreign students must furnish *all* credentials by June 1 for September admission.

It is important that every student who may wish to qualify for an advanced degree

indicate his intention at the earliest possible date. By so doing he may expect to receive advisement which will facilitate efficient progress toward his goal.

The Dean of the Graduate Division, upon recommendation of the dean of the college in which the student expects to study, will admit the applicant if his transcripts show an overall quality point average of no less than 2.50 (2.00 is "C"; 3.00 is "B"), a quality point average of no less than 2.75 in the intended major field, and the necessary background courses for the graduate program which he wishes to pursue as well as any specific entrance requirements set by the college in question.

Applicants whose records fall somewhat short of these minimum requirements may be admitted on provisional status by the Dean of the Graduate Division, upon recommendation of the dean and department head concerned, and in accord with the policy established by the Graduate Faculty.

The Graduate Faculty reserves the right to require any applicant to prove that he has acquired a satisfactory background for graduate study by taking and passing such special examinations as may be indicated.

Mature individuals, who may not meet the admission requirements set forth above, but who desire certain selected graduate courses, upon recommendation of the dean of the college in which the course is offered, may be admitted by the Dean of the Graduate Division as special graduate students. Such an applicant must submit full academic credentials as described above and must demonstrate to the department head concerned that he has completed in course or by experience all prerequisites for such courses. He may then enroll for credit or as an auditor, but such enrollment does not admit the individual to a graduate program or to any work beyond the course or courses specified.

Every person who desires to enroll in or audit any graduate course or who desires to enroll in any 200 level course for graduate credit must be admitted to the Graduate Division either as a graduate student or a special graduate student.

STUDENT CLASSIFICATION

A graduate student is a student who holds a Bachelor's degree from an accredited college or university and who is enrolled for credit in one or more courses on the graduate level. Graduate students are admitted according to the provisions of the preceding section.

A postgraduate student is a student who holds a Bachelor's degree from an accredited college or university and who is enrolled in credit courses on the undergraduate level only. Postgraduate students do not apply for admission to the Graduate Division, but enroll directly in the College in which they desire to study.

A special graduate student is an adult who may or may not hold academic degrees but who desires to enroll in or audit certain selected graduate courses.

REQUIREMENTS FOR DEGREES

Degrees will be awarded for graduate work to students who have met the following general requirements as well as the requirements for the specific degree:

1. A quality point average of at least 3.00 ("B" average) in all graduate work taken. No graduate degree credit will be given upon completion of courses numbered from 300 to 499 if the final grade earned is lower than "C". All other work presented, including transfer credits and all "200-500" level courses, must be of "A" or "B" quality. However, all grades received in graduate courses will be counted when the student's overall average is computed.

2. Comprehensive final or cumulative examinations, if required. Such examinations may be oral, written, or a combination of both. For detailed information the head of the major department should be consulted.

3. The filing of an Application for Diploma with the Registrar no later than November 1 of the academic year in which the student plans to receive the degree.

4. Payment of graduation fee and fee for binding thesis or problem.

5. The fulfillment of all University obligations, and attending and participating in the Commencement exercises at which the degree is conferred.

REQUIREMENTS FOR THE MASTER'S DEGREE

The general requirements for the degree of Master of Arts, Master of Science, Master of Business Administration, and similar degrees are as follows:

1. A minimum of 30 credits of graduate work.

2. A quality point average of at least 3.00 ("B" average) in all graduate work taken. No graduate degree credit will be given upon completion of courses numbered from 300 to 499 if the final grade earned is lower than "C", and no more than six credits of work of "C" quality will be accepted in fulfillment of the minimum credit requirement for the degree. All other work presented, including transfer credits and all "200-500" level courses, must be of "A" or "B" quality. However, all grades received in graduate courses will be counted when the student's overall average is computed.

3. In a number of departments a thesis or formal problem approved by the adviser. The title of the thesis or problem should be filed with the Dean of the Graduate Division at about the time the student applies for advancement to candidacy. The thesis will be prepared in accordance with the rules of the Graduate Faculty and will be submitted in duplicate to the Dean of the Graduate Division not later than May 15 of the year in which the degree is expected. These copies will be final and must bear the signatures of the adviser, faculty reader, department head and college dean. They will be bound and placed in the University Library. Payment of binding fee (currently \$5.00 per copy) must be made at Controller's Office prior to delivery of copies to Library for binding. The research project and thesis or report will comprise from two to six of the credits required for the graduate degree.

4. Any additional requirements listed hereafter under the college and department in which the program contemplated is offered.

TRANSFER CREDITS

Up to a maximum of 10 credits (six in Engineering) of graduate work taken at a properly accredited graduate school may be transferred in partial fulfillment of the requirements for the degree upon recommendation of the major Department Head and the Dean of the college with the approval of the Dean of the Graduate Division. All work so transferred must be of "A" or "B" quality and must form an integral part of the student's program of study in The University of Akron. The student should petition the Dean of the college concerned to recommend transfer credit acceptance, after he has successfully completed 12 graduate credits at The University of Akron. Extension courses are not accepted.

All work (including transfer credit) offered in fulfillment of the minimum credit requirement must have been taken within the five-year period immediately preceding the date on which the last requirement is completed. When graduate study is interrupted by

military service the five-year limit may be extended by the amount of time in service to a maximum of three years.

REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE

Besides fulfilling the general requirements listed above, candidates for the Doctor of Philosophy degree must meet the following specific requirements:

1. At least one year in full-time residence. The one-year period may be based on either an academic or calendar year, depending upon the curriculum involved.

2. Knowledge of one or two foreign languages, as approved by the head of the department and/or chairman of the interdepartmental committee. Depending on the department and curriculum involved, the student may elect either

PLAN A: Reading knowledge of two approved foreign languages, with aid of a dictionary, or

PLAN B: Comprehensive knowledge of one approved foreign language.

Language examinations are given in October and in January on a date announced by the department head. Students should prepare for and complete these examinations early in their programs. If a student fails the language examination, he must pay a fee of \$5.00 for the second examination and \$10.00 each for any additional examinations.

3. The preparation and completion of a dissertation based upon original research which has been approved by the head of the department and/or the chairman of the interdepartmental committee. The dissertation must be a contribution to knowledge worthy of publication and unrestricted in circulation except for limitations that may arise from national security regulations. The dissertation, prepared in accordance with the rules of the Graduate Faculty, must be submitted in duplicate to the Dean of the Graduate Division no later than May 15 or December 15 of the academic year in which the degree is expected. Both copies must bear the signatures of the adviser, faculty reader, department head, and college dean.

Both copies will be bound and placed in the University Library. All dissertations will be microfilmed and copies will be available through University Microfilms, Inc., Ann Arbor, Michigan. Payment of binding and microfilm fees (currently \$30.00 for the two copies, \$5.00 for each additional bound copy) must be made at the Controller's Office before the copies are delivered to the University Library.

4. Any additional requirements listed hereafter under the college and department in which the program contemplated is offered.

NOTE: The student must complete all requirements for the degree within 10 years from the date of his admission unless an extension is granted by the head of the department and/or the chairman of the interdepartmental committee, and the Dean of the Graduate Division.

MAJOR AND MINOR

The program of study leading to a graduate degree may be composed of work in one or more departments of the University depending upon the purpose and need of the student.

If it is agreed in conference with the major department head that some work will be taken in other departments, the minor or minors should be selected and planned to constitute an integrated program of advanced study. Furthermore, the student must demonstrate that he has had sufficient undergraduate work, or its equivalent, in the proposed major and minor areas to qualify him for study on the graduate level therein.

FEEES

A resident of Akron who enrolls in graduate courses or in "200-500" level courses for graduate credit shall pay a fee of \$26.00 per credit for all such credit work.

A nonresident of Akron who enrolls in graduate courses or in "200-500" level courses for graduate credit shall pay a fee of \$32.00 per credit for all such credit work.

An Auditor shall pay the same fee as a student enrolled for credit.

Graduate students will also pay a general service fee of \$5.00 per semester, if enrolled for less than nine credits or \$20 per semester if enrolled for nine or more credits.

Students taking work for graduate credit shall be subject to whatever other special and miscellaneous fees published in the *University Bulletin* may be applicable to their respective cases.

FELLOWSHIPS AND SCHOLARSHIPS

A number of research assistantships and fellowships are available for graduate study leading to the Master of Science or Doctor of Philosophy Degree in Chemistry and Polymer Science. These are offered through the Department of Chemistry and the Institute of Rubber Research and range in amount up to annual stipends of \$4,500. In addition, tuition and fees may be remitted by the University to the recipients of some fellowships.

Graduate Assistantships are available in most departments for students with excellent undergraduate records and a desire to prepare for college teaching or assist in departmental research. Appointees receive a salary of \$2,000 for teaching six credits of undergraduate courses each semester during the academic year. In addition, they are granted remission of fees for enrollment in up to fifteen credits of graduate work per year. Application deadline is March 1.

ADVANCEMENT TO CANDIDACY

A graduate student who wishes to qualify for an advanced degree should make his desire known to the head of his major department during, if not prior to, his first semester of enrollment in graduate courses. At that time his complete academic record will be reviewed by the dean of the college or the department head, and his program of study will be outlined provided he meets the standards set forth in this bulletin.

A student working toward the Doctor's Degree will file with the Dean of the Graduate Division an Application for Advancement to Candidacy upon successful completion of his cumulative examinations. The application will bear the approval of the major department head and will list all requirements that remain to be completed.

A student working toward the Master's Degree will file with the Dean of the Graduate Division an Advancement to Candidacy Application when he has completed approximately 20 credits of work. This application must be filed no later than the first week of the student's last semester. It must bear the recommendation of the dean or major department head, as well as the statement of work to be completed. All students must be advanced to candidacy before they are cleared for graduation.

APPLICATION FOR GRADUATION

Students must apply for graduation and pay fees prior to the deadline announced by the Registrar.

BUCHTEL COLLEGE OF LIBERAL ARTS

THE DOCTOR OF PHILOSOPHY DEGREE

The following programs leading to the Doctor of Philosophy Degree are offered in the Buchtel College of Liberal Arts: The Doctor of Philosophy Degree in Chemistry, the Doctor of Philosophy Degree in Industrial Psychology, and the Doctor of Philosophy Degree in Polymer Science.

DOCTOR OF PHILOSOPHY PROGRAMS IN CHEMISTRY OR POLYMER SCIENCE

In addition to satisfying the general requirements of the Graduate Division, students working toward the Doctor of Philosophy Degree in chemistry or polymer science must meet the following requirements:

1. Satisfactory completion in the judgment of the Head of the Chemistry Department or the Chairman of the Interdepartmental Committee and the Dean of the Graduate Division of a minimum of 48 credits in graduate courses. Twelve credits a semester shall be considered a normal load. At least 24 credits of graduate course work must be completed at The University of Akron.

2. Credit for a dissertation, to be established by enrollment in Chemistry 401, equivalent to 36 credits of graduate work in addition to the 48 credits of graduate courses mentioned above. The amount of credit for the dissertation in each academic semester or term shall be determined by the Head of the Chemistry Department or the Chairman of the Interdepartmental Committee.

3. The passing of an oral examination upon completion of the research dissertation. Cumulative examinations are given monthly during the academic year. The candidate is urged to begin to take these examinations early in his graduate program and must pass eight of them as a degree requirement.

DOCTOR OF PHILOSOPHY IN CHEMISTRY

Programs leading to the Doctor of Philosophy Degree in Chemistry (Analytical, Inorganic, Organic, or Physical) are administered through the Department of Chemistry. Students working toward the terminal degree in chemistry will take courses in the basic core program, in addition to the courses listed below under the various specializations, or demonstrate equivalent knowledge to the satisfaction of the Head of the Department:

CORE PROGRAM

5:315-316	Instrumental Methods of Analysis	3 credits each semester
5:319:320	Theoretical Inorganic Chemistry	2 credits each semester
5:335-336	Advanced Physical Chemistry	2 credits each semester
5:339	Advanced Chemical Thermodynamics	2 credits
5:401	Doctoral Research	36 credits

COURSES FOR THE ANALYTICAL SPECIALIZATION

*5:340	Special Topics in Analytical Chemistry	2 credits
5:309	Micro-Quantitative Organic Analysis	2 credits
20:516	Electronics	3 credits

COURSES FOR THE INORGANIC SPECIALIZATION

5:321-322	Advanced Inorganic Preparations	1 credit each semester
5:337-338	Advanced Physical Chemistry Laboratory	1 credit each semester
*5:310	Special Topics in Organic Chemistry	2 credits
*5:341	Special Topics in Inorganic Chemistry	2 credits
*5:342	Special Topics in Physical Chemistry	2 credits

COURSES FOR THE ORGANIC SPECIALIZATION

5:301-302	Chemistry of Polymers	2 credits each semester
5:309	Micro-Quantitative Organic Analysis	2 credits
*5:310	Special Topics in Organic Chemistry	2 credits
5:501	Biochemistry	3 credits

COURSES FOR THE PHYSICAL SPECIALIZATION

5:325	Colloid Chemistry	2 credits
5:331-332	Physical Chemistry and High Polymers	2 credits each semester
5:333-334	Experimental Physical Chemistry of High Polymers	2 credits each semester
*5:341	Special Topics in Inorganic Chemistry	2 credits
*5:342	Special Topics in Physical Chemistry	2 credits

DOCTOR OF PHILOSOPHY IN POLYMER SCIENCE

An Interdisciplinary Program leading to the Doctor of Philosophy in Polymer Science is administered through the Institute of Rubber Research, by means of an interdepartmental committee consisting mainly of faculty members from the Chemistry, Physics and Engineering Departments who are on the staff of the Institute. Graduates from the three main disciplines are guided into the appropriate courses of study and research, as outlined below, under the supervision of an Institute staff member in their own field.

It should be noted that this type of program is restricted to the Doctor of Philosophy level. However, graduate students who are entering a Master's degree program in chemistry, physics or engineering, and who may be especially interested in the field of polymer science, should obtain suitable guidance, at an early date, to enable them subsequently to enter the Interdisciplinary Program toward their Doctor of Philosophy degree. This may be accomplished, for example, by selecting a Master's thesis topic in polymer science, so that the research can be carried out under the supervision of an appropriate member of the Institute staff.

*May be taken several times as different topics are discussed.

CHEMISTRY PROGRAM

Specified Courses for All Students

	Credits
5:301-302 Chemistry of Polymers	4
5:319-320 Theoretical Inorganic Chem.	4
5:331-332 Physical Chem of Polymers	4
5:333-334 Experimental Physical Chemistry of Polymers	4
5:335-336 Advanced Physical Chem.	4
90:351-352 Polymer Technology	6

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30

(a) Organic Chemistry Option

5:303-304 Chemistry of Polymers Laboratory	4
5:310 Special Topics in Organic Chemistry	2
5:349 Chemistry of Elastomers	2

Elective Courses

5:315-316 Instrumental Methods of Analysis	6
5:321-322 Adv. Inorganic Preparations	2
5:325 Colloid Chemistry	2
5:337-338 Advanced Physical Chemistry Laboratory	2
5:339 Advanced Chemical Thermodynamics	2
5:350 Special Topics in Polymer Chemistry	2
20:347-348 Physics of Polymers	4
Other approved Physics and/or Mathematics Courses.	

(b) Physical Chemistry Option

All students electing this option must have previously taken, or must take during their first year, an approved course in *Differential Equations*, for which no graduate credit will be given.

Specified Courses

5:339 Advanced Chemical Thermodynamics	2
20:347-348 Physics of Polymers	4

Elective Courses

5:303-304 Chemistry of Polymers Lab.	4
5:310 Special Topics in Organic Chemistry	2
5:321-322 Adv. Inorganic Preparations	2
5:325 Colloid Chemistry	2
5:337-338 Advanced Physical Chemistry Laboratory	2
5:349 Chemistry of Elastomers	2
20:349-350 Physics of Polymers Lab.	4
Other Approved Physics, Mathematics and/or Engineering Courses.	

PHYSICS PROGRAM

Specified Courses

90:351-352 Polymer Technology	6
17:202-203 Advanced Calculus	5
17:208 Vector Calculus	3
17:210 Theory of Functions of a Complex Variable	3
17:212 Partial Differential Equations ..	3
20:321 Theoretical Mechanics	4
20:322 Theoretical Electricity and Magnetism	4
20:257 Intro. to Quantum Mechanics	3
20:341 Statistical Thermodynamics	3
20:255 Solid State Physics	3
20:347-348 Physics of Polymers	4
20:349-350 Physics of Polymers Lab.	4

Elective Courses

5:332 Physical Chem. of Polymers	2
5:334 Experimental Physical Chemistry of Polymers	2
20:251 Atomic Spectra and Atomic Structure	3
20:253 Xrays	3
20:254 NMR Spectroscopy	2
20:261-262 Methods of Theoretical Physics	6
20:352 Molecular Spectra	3
20:411-412 Quantum Mechanics	6
20:413-414 Solid State Physics	6
34:300 Theory of Elasticity	3
36:300 Vibration Isolation	3
Other approved Chemistry, Engineering and/or Mathematics Courses.	

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45

ENGINEERING PROGRAM

Specified Courses

5:351-352	Polymer Technology	6
17:202-203	Advanced Calculus	5
17:212	Partial Differential Equations	3
20:211-212	Mechanics	6
20:347-348	Physics of Polymers	4
20:349-350	Physics of Polymers Lab.	4
34:300	Theory of Elasticity	3
34:330	Adv. Engineering Materials	3
36:300	Vibration Isolation	3
36:302	Fluid Dynamics	3
36:312	Polymer Processing	3
36:313	Des. of Rubber Components	2

Elective Courses

5:332	Physical Chem. of Polymers	2
5:334	Experimental Physical Chemistry of Polymers	2
36:303	Heat Transfer Problems	3
Other approved Chemistry, Physics and/or Mathematics Courses.		

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45

DOCTOR OF PHILOSOPHY IN INDUSTRIAL PSYCHOLOGY

A program leading to the Doctor of Philosophy in Industrial Psychology is offered through the Department of Psychology.

The degree will be awarded to students who, besides fulfilling the general requirements of the Graduate Division have met the following specific requirements:

1. A 90-credit minimum total requirement (including a 30-credit Master's program where applicable), including thesis and dissertation. Students considered deficient in any area may be required to take additional courses.
2. The completion of a core program. This is meant to prepare the student first as a psychologist and only later in the industrial specialty.
3. The completion of preliminary examinations on the core areas. Even though students may elect certain courses within some core areas, examinations will cover all courses in all core areas. Written and oral examinations will also be required in the major (Industrial) and the minor.
4. The completion of at least 12 credits in a minor field. This minor may be taken in the department in another area, e.g., clinical psychology, or it may be taken in another appropriate department.
5. The completion of a dissertation comprising 15 credits. The oral examining committee must be constituted of at least five full-time staff members, one of whom must be from outside the department.

NOTE: Final selection of applicants will be made in March of each academic year. At that time, all applications received will be considered by the Psychology Staff and the best qualified ones will be selected.

MASTER'S CORE PROGRAM

All Required:

30:302	Advanced Psychological Statistics Correlation Analysis	3 credits
30:303	Advanced Psychological Statistics Analysis of Variance	3 credits
30:330	Advanced General Psychology	3 credits
30:403	Thesis-Dissertation Seminar	3 credits
30:404	Thesis Research	2, 3, or 4 credits

Ph.D. CORE PROGRAM

Master's Core Program Plus:

Group A—Measurement—all required:

30:405 Computer Techniques in Psychological Measurement	2 credits
30:406 Advanced Tests & Measurements	2 credits

Group B—Experimental—at least 3 credits required:

30:410 Theories of Learning	3 credits
30:413 Perception	2 credits
30:415 Physiological Psychology	2 credits

Group C—Individual Differences—at least 3 credits required:

30:311 Psychology of Individual Differences	3 credits
30:312 Theories of Personality	3 credits
30:313 Theories of Psychotherapy	3 credits

Group D—General Requirements—all required:

30:217 History & Systems of Psychology	3 credits
30:490 Dissertation Research	15 credits

Reminder: Although the student has options in the core, he will be examined on material from all courses in the core.

TOTAL REQUIREMENT—90 credits

In M.A. Core 14-16	14	16
In Ph.D. Core 28	28	28
Electives	48	46
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	90	90

THE MASTER'S DEGREE

Programs of advanced study leading to the Master's degree are offered by the Departments of Biology, Chemistry, Economics, English, History, Mathematics, Modern Languages, (French), Philosophy, Physics, Political Science, Psychology, Sociology, and Speech. Before undertaking such a program the student must show that he has:

1. Met the general requirements for admission to the Graduate Division.
2. Met the standard requirements for an undergraduate major in the area of proposed graduate specialty or that he has performed work which the department head approves as equivalent to an undergraduate major.

General requirements for the degree are listed on preceding pages.

Additional requirements in effect in the several departments offering graduate programs follow:

BIOLOGY: Research and thesis, 6 credits. A minor may be taken in approved graduate courses, including education. Participation in seminars and demonstration, prior to last semester of enrollment, of reading proficiency in a foreign language appropriate to the field of study. Summer study at a biological station recommended.

CHEMISTRY: A minimum of 12 credits of work, including at least two credits of laboratory must be offered from the following list of courses: 5:309, 319-320, 321-322, 331-332, 303-304, or 333-334, 335-336, 337-338. The research project (enrollment in 365) and resulting thesis will constitute six of the credits required for the degree. Attendance and participation in seminar-type discussions scheduled by the department are required. Demonstration, prior to last semester of enrollment, of reading proficiency in a foreign language appropriate to the field of study.

ECONOMICS: The following courses are required: 6:341, 351, 355 or 356, 595-596; 40:547 and 40:450.

ENGLISH: Unless previously taken, the following credits must be included in the program: 7:201, 215 or 216, 397-398. Three credits will be earned in 401. At least half of the work taken must be in 300 level courses, and a minor of up to 9 credits in an allied area may be included. Demonstration, prior to last semester of enrollment, of reading proficiency in a foreign language appropriate to the field of study.

FRENCH:

Option I: Completion of 33 credits of graduate course work. No thesis required.

Option II: Completion of 30 credits of graduate work, including a thesis (equivalent of 3 of the 30 credits required).

Basic Requirements for either option: 21 credits distributed as follows—Literature, 8:311-12, 6 hours; Linguistics, 8:303-4, 6 hours; Culture and Civilization, 8:343-44, 6 hours; Advanced Language Skill, 8:301, 3 hours.

Electives: Option I—12; Option II—6. With approval of departmental graduate committee, up to 6 elective credits may be taken in another department.

Additional Requirements: 1) Second Language Requirement—At some time prior to the beginning of his last graduate semester, the candidate will be required to demonstrate a reading knowledge of a modern foreign language other than French. Choice of the second language will be left to the student in consultation with his adviser.

2) Final Comprehensive Examinations—The candidate will be required to pass both a written and oral final examination covering all areas of study included in his program.

3) Admission Requirements—Proficiency level in the four competencies (listening, speaking, reading and writing) will be evaluated by means of applicable parts of the proficiency test devised by the steering committee of the MLA Executive Council.

HISTORY: Completion of 30 credits, including nine credits in 300 level courses, plus 12:412-413; a comprehensive examination covering three fields to be determined in conjunction with the departmental adviser. Demonstration, prior to the last semester of enrollment, of reading proficiency in a foreign language appropriate to the field of study.

MATHEMATICS: Completion of 17:317-318, 17:322-323, 6 graduate credits either in *Analytic Function Theory*, *Geometry*, or *Mathematical Statistics*, plus elective credits in 200 or 300 level courses. All candidates will be required to include 17:390 and the topics

discussed therein will be the basis for a paper or thesis. Upon recommendation of the department, enrollment in 17:391 for an additional 3 credits will be permitted for completion of a thesis. A comprehensive examination, taking the form suggested by the department will be required of each candidate.

PHILOSOPHY: The following courses are required: 19:311, 19:312, 19:313. Comprehensive examinations must be passed in areas selected by the department, and an acceptable thesis must be written. Prior to the last semester of enrollment, reading proficiency must be demonstrated in one of the three languages: French, German, Greek.

PHYSICS: The following must be included in the graduate program: 20:321, 360, and 411 (or 257). Courses 322 and 341 are strongly recommended, but not required.

A comprehensive examination covering the fields of mechanics, electricity and magnetism, thermodynamics, modern physics and quantum mechanics.

A thesis, comprising the report of an original research study carried out in course 20:360.

POLITICAL SCIENCE: Completion of 21:401 for a total of three credits.

PSYCHOLOGY: Completion of 30:302, 403 and 404; oral examination.

SOCIOLOGY: Three credits for thesis. Required courses are 22:301, 22:303, 22:399 and 30:300, remaining credits to be selected in consultation with adviser.

SPEECH:

- A. Public Address programs will include 24:390, 391, 392, 393, 394, 3 credits in advanced theatre, 3 credits in advanced speech correction, 7:221 or 222 or 223, 7:397-398, 12:222 or 223, 12:242.
- B. Theatre programs will include 24:262, 265, 267, 361, 365, 367, 368, 394.
- C. Speech Correction programs will include 24:277, 297, 371, 372, 373, 374, 394, 3:251.

THE COLLEGE OF ENGINEERING

A program of advanced study leading to the Master of Science in Engineering is offered.

In addition to the general requirements for admission to the Graduate Division, an applicant for graduate study in Engineering must hold a Bachelor's Degree in a curriculum accredited by the Engineers' Council for Professional Development at the time of his graduation. Applicants holding other Bachelor's Degrees in Engineering will be considered for provisional graduate status.

Additional College requirements may be specified.

In addition to the general requirements for the degree which are listed on preceding pages, the student must include in his program approved courses as follows:

- a. At least 15 credits in Engineering courses.
- b. At least 8 credits in Mathematics and/or approved science courses.
- c. A minimum total of 30 credits.

THE COLLEGE OF EDUCATION

THE DOCTOR OF PHILOSOPHY DEGREE

Programs leading to the Doctor of Philosophy Degree in Elementary Education, Secondary Education, and Guidance and Counseling are offered by the College of Education. The degree will be awarded to students who, besides fulfilling the general requirements of The Graduate Division, have met the following specific requirements:

1. A minimum of 90 graduate credits (including a 30-credit Master's program where applicable), including the doctoral dissertation. Students considered deficient in any area may be required to take additional courses.
2. The completion of a core program designed to prepare the student generally before he begins to specialize.
3. The completion of preliminary examinations on the core areas for all students. Written and oral examinations will also be required in the student's major and minor.
4. Successful completion of an examination in a language judged not to be the student's native tongue.
5. The completion of at least twelve credits beyond the Master's degree level in a cognate area.
6. The completion of a dissertation comprising not more than fifteen credits. The oral examining committee must be constituted of at least five full-time staff members, one of whom must be from outside the College of Education.

THE DOCTOR OF EDUCATION DEGREE

A program leading to the Doctor of Education degree in School Administration is also available.

The admission procedures and requirements for the Doctor of Education degree, with the exception of the language requirement, are the same as outlined above in the Doctor of Philosophy degree program.

Programs of advanced study leading to the degree of Master of Arts in Education and Master of Science in Education are offered.

Students who expect to earn the Master's Degree for advancement in the field of teaching must have met the general requirements for admission to the Graduate Division and must be qualified to hold a standard teaching certificate. Exceptions to this latter requirement will be made for qualified students who do not wish to teach or perform duties in the public schools, provided they present or acquire an appropriate background of study or experience. Students who expect to earn the Master's Degree in personnel and administration also should have some successful teaching experience. The major field quality point average requirement will apply to all work taken in the professional sequence including General Psychology. A physical examination may be required if and when indicated. Any student who exhibits a deficiency in English or other skills may be required to correct same before recommendation for an advanced degree.

The general requirements for the degree, listed on preceding pages must be met.

All graduate degree programs must be approved by the Dean of the College of Education and must include the following courses which will comprise 9 to 11 of the 30 credits required:

CORE COURSES

27:300 Philosophies of Education	3 credits
27:301 Developmental Procedures in Learning	2 credits
27:303 Techniques of Research	2 credits
27:499 Research in Education	2-4 credits

In addition to the required courses listed above, the following course lists are published as guides to graduate students selecting work in areas of their interest.

ELEMENTARY EDUCATION

Required:

27:330 Elementary School Curriculum and Instruction	2 credits
27:436 Seminar in Elementary Education	4-8 credits

Electives:

Any combination of courses to meet the minimum of 30 credits which may include up to 12 credits in pertinent electives from course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

This program is intended primarily for the student who expects to progress as a teacher in elementary schools. Students who look forward to an elementary school principalship will qualify by electing courses in Administration.

SECONDARY EDUCATION

Required:

27:302 Orientation to Pupil Personnel Services	2 credits
27:319 Secondary School Curriculum and Instruction	2 credits
Graduate study in subject field (6 credits of 200 level courses will be accepted)	9-14 credits

Electives:

Any combination of courses to meet the minimum of 30 credits. Elective courses should be planned with the graduate adviser. This program is intended for the student who expects to progress as a junior or senior high school teacher. The student who wants also to qualify as a secondary school principal may do so by electing courses in Administration.

ELEMENTARY SCHOOL PRINCIPAL

Required:

27:322 Supervision of Instruction	3 credits
27:330 Elementary School Curriculum and Instruction	2 credits
27:331 Elementary School Administration	2 credits
27:345 Principles of Educational Administration	3 credits
At least two (2) additional credits from courses in Administration, Supervision and Curriculum	2 credits

Electives:

Any combination of courses to meet the minimum of 30 credits which may include up to 6 credits in pertinent electives from course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

This program is intended primarily for the student who expects to progress as a principal or administrator in the elementary schools.

SECONDARY SCHOOL PRINCIPAL

Required:

27:302 Orientation to Guidance Services	2 credits
27:319 Secondary School Curriculum and Instruction	2 credits
27:320 Secondary School Administration	2 credits
27:322 Supervision of Instruction	3 credits
27:345 Principles of Educational Administration	3 credits

Electives:

Any combination of courses to meet the minimum of 30 credits which may include up to 6 credits in pertinent electives from course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

This program is intended primarily for the student who expects to progress as a principal or administrator in the secondary schools.

SCHOOL SUPERINTENDENT

Required:

27:345 Principles of Educational Administration	3 credits
27:322 Supervision of Instruction	3 credits
27:319 Secondary School Curriculum and Instruction	2 credits
27:330 Elementary School Curriculum and Instruction	2 credits
27:350 Legal Basis of Education	2 credits
27:352 Principles of School Finance	2 credits
27:420 School Building and Construction	2 credits
At least eight (8) additional credits in courses in administration and supervision	8 credits

Electives:

Any other courses considered necessary or desirable by student, with advice of his counselor, which may include up to 6 credits in pertinent electives from course offerings outside College of Education.

SUPERVISOR

Required:

27:319 Secondary School Curriculum and Instruction	2 credits
27:322 Supervision of Instruction	3 credits
27:330 Elementary School Curriculum and Instruction	2 credits

Electives:

Any combination of courses to meet the minimum of 30 credits which may include up to 6 credits in pertinent electives from course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

Supervisory certificates are issued for the elementary and the secondary school levels. Details of the requirements may be obtained in consultation with an adviser. The School Superintendent certificate is valid for supervisory duties at either level.

EXECUTIVE HEAD

Required:

27:345 Principles of Educational Administration	3 credits
27:322 Supervision of Instruction	3 credits

27:319 Secondary School Curriculum and Instruction	2 credits
27:330 Elementary School Curriculum and Instruction	2 credits
27:350 Legal Basis of Education	2 credits
27:352 Principles of School Finance	2 credits

Electives:

Any combination of courses to meet the minimum of 30 credits which may include up to 6 credits in pertinent electives from course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

GUIDANCE COUNSELOR

Prerequisites:

30:107 Psychology of Childhood and Adolescence	3 credits
30:203 Normal and Abnormal Personality	3 credits

Required:

27:302 Orientation to Guidance Services	2 credits
27:308 Techniques of Guidance	2 credits
27:309 Vocational Guidance and Occupational Information	2 credits
27:312 Group and Educational Guidance	2 credits
27:314 Evaluation and Diagnosis of Learning Problems	3 credits
27:315 Practicum in School Counseling	1-2 credits
30:204 Psychology of Exceptional Children & Adolescents	3 credits
30:207 Psychological Tests and Measurements	3 credits
27:306 Guidance in the Elementary School	2 credits
27:310 The Counseling Interview	2 credits
27:319 Secondary School Curriculum and Instruction	}
or	
27:330 Elementary School Curriculum and Instruction	}
27:320 Secondary School Administration	
or	}
27:331 Elementary School Administration	

Electives:

Choice of graduate education courses in Administration, Curriculum and Instruction or of 200 or above level courses in Sociology, Economics, Labor Relations, or Psychology if the candidate has the proper undergraduate program.

TEACHER OF SLOW-LEARNING CHILDREN

Prerequisites:

30:204 Psychology of Exceptional Children & Adolescents	3 credits
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Required:

27:260 Developmental Characteristics of Slow-Learning Children	3 credits
27:261 Principles of Teaching Exceptional Children	3 credits
27:262 Methods and Materials for Teaching Slow-Learners	2 credits
27:263 Arts and Crafts for the Slow-Learner	2 credits
27:264 Reading and Language Arts for the Slow-Learner	2 credits

The foregoing program meets the state certification requirements of 15 credits of preparation beyond that necessary for a provisional certificate, including six to nine credits of psychological backgrounds and six to nine credits of methods.

VISITING TEACHER

The service of the Visiting Teacher includes working with individual children and their families when a child has difficulty such as maladjustment, failure to learn or non-attendance. This service supplements the contribution of the teacher and other personnel and is carried out in cooperation with them. As a liaison service, it helps to integrate school and community services for the benefit of the child.

For those students seeking certification as a Visiting Teacher, the following requirements must be met:

1. Possession of a provisional or higher certificate valid for teaching in Ohio.
2. Evidence of at least one year of teaching experience.
3. The following courses of study:
 - a. 30:204 Psychology of Exceptional Children and Adolescents 3 credits
and/or
 - 27:314 Evaluation and Diagnosis of Learning Problems 3 credits
 - b. 22:206 Community Organization 3 credits
 - c. 27:302 Orientation to Guidance Services 2 credits
 - d. 27:345 Principles of Educational Administration 3 credits
 - e. Seminar or Research in the field of social case work 2 credits

READING SPECIALIST OR READING CONSULTANT

To qualify as a reading specialist or consultant the student must meet the following requirements:

- I Have a minimum of three years of successful teaching experience.
- II Earn a Master's Degree or its equivalent in credit hours, which includes the following program:
 - A. Core courses in Master's Program 9-11 credits
 - B. Reading Instruction 10-12 credits
 1. 27:290 Diagnosis and Correction of Reading Difficulties 3 credits
 2. 27:291 Laboratory Practice in Reading Improvement 2-4 credits
 3. 27:392 Advanced Study and Research in Reading Instruction 3 credits
 4. 27:393 Supervision and Curriculum Development in
Reading Instruction 2 credits
 - C. Related Professional Education 4-6 credits
With the approval of his adviser, each student will schedule a minimum of two courses from among the following:
 - 27:330 Elementary School Curriculum and Instruction 2 credits
 - 27:319 Secondary School Curriculum and Instruction 2 credits
 - 27:322 Supervision of Instruction 2 credits
 - 27:356 Education and Social Trends 2 credits
 - 27:436 Seminar in Elementary Education 2 credits
 - D. Psychological Foundations 4-8 credits
With the approval of his adviser, each student will schedule a minimum of two courses from among the following:
 - 27:302 Orientation to Guidance Services 2 credits
 - 27:314 Evaluation and Diagnosis of Learning Problems 3 credits
 - 30:304 Advanced Developmental Psychology 3 credits

30:306 Individual Intelligence Testing I	2 credits
30:307 Individual Intelligence Testing II	2 credits
30:311 The Psychology of Individual Differences	3 credits

Students in graduate programs with other areas of concentration may elect any specialized course in reading, provided they meet the prerequisites.

SCHOOL PSYCHOLOGIST

Prerequisites:

30:41 General Psychology	3 credits
30:107 Psychology of Childhood and Adolescence	3 credits
or	
27:57 Human Development and Learning	3 credits
30:204 Psychology of Exceptional Children and Adolescents	3 credits

Recommended Preparation in Psychology:

30:47 Introduction to Experimental Psychology	3 credits
30:230 Abnormal Personality	2 credits
30:312 Theories of Personality	3 credits

Required:

27:319 Secondary School Curriculum and Instruction	2 credits
or	
27:330 Elementary School Curriculum and Instruction	2 credits
27:320 Secondary School Administration	2 credits
or	
27:322 Supervision of Instruction	3 credits
or	
27:331 Elementary School Administration	2 credits
30:304 Advanced Developmental Psychology	3 credits
30:512 Psychology of Learning	3 credits
30:503 Personality	3 credits
30:302 Advanced Psychological Statistics	3 credits
or	
27:311 Statistics in Education	3 credits
30:310 Theories of Psychotherapy	2 credits
or	
30:508 Techniques of Guidance and Counseling	2 credits
30:507 Psychological Tests and Measurements	3 credits
30:306 Individual Intelligence Testing I	2 credits
30:307 Individual Intelligence Testing II	2 credits
30:319 Survey of Projective Techniques	3 credits
30:320 Practicum in Clinical and Counseling Psychology	3 credits
27:459 Role and Function of the School Psychologist	2 credits
27:460 Internship in School Psychology	3 credits
27:461 Internship in School Psychology	3 credits

With minor adjustments in course requirements it is possible to obtain a Master's Degree in School Psychology in the Psychology Department. Course 30:304 will be accepted in lieu of 27:301 in the Education Core.

SIXTH YEAR PROGRAM

In addition to the foregoing Graduate programs which meet minimum State of Ohio certification requirements in the areas of Administration, Supervision and Guidance, the College of Education offers one year of study beyond the Master's Degree in the areas of Administration, Guidance and School Psychology, respectively.

It is anticipated that those who elect the sixth year program in preparation for first level administrative positions will use the following courses as basic requirements:

27:350 Legal Basis of Education	2 credits
27:352 Principles of School Finance	2 credits
27:420 School Building and Construction	2 credits
27:441 Evaluating Educational Institutions	2 credits

The remainder of the program will be selected, with proper planning, from among courses in Education, Political Science, Sociology, Economics, Business Administration and other disciplines which might provide important understandings for those in administrative positions.

Those who elect the sixth year program in preparation for positions of Guidance Counselor will take:

27:445 Organization and Administration of Guidance Services	2 credits
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The remainder of the program will be selected, with proper planning, from among the following:

27:350 Legal Basis of Education	2 credits
27:354 School and Community Relations	2 credits
27:356 Education and Social Trends	2 credits
27:436 Seminar Elementary Education	2 credits
or	
27:437 Secondary Education	2 credits
27:441 Evaluating Educational Institutions	2 credits
Economics or Sociology	6 credits
Labor Management or Industrial Personnel Problems	6 credits

For those who are preparing for positions of School Psychologist, the sixth year will be devoted to the Internship Program.

THE COLLEGE OF BUSINESS ADMINISTRATION

Programs of advanced study leading to the degrees of Master of Business Administration, Master of Science in Accounting, and Master of Science in Industrial Management are offered in the College of Business Administration. Before undertaking such programs the student must show that he has:

1. Met the general requirements for admission to the Graduate Division.
2. Met the standard requirements for an undergraduate major in the area of proposed graduate specialization or that he has completed in a satisfactory manner such background courses as may be prescribed by the faculty of the college to provide adequate basis for graduate study. The necessary background courses may total up to 30 credits of undergraduate level work for those whose academic records show no courses in economics or business administration.

3. The major field quality point average requirement will apply to all economics and business administration courses previously taken.

General requirements for the degree are listed on preceding pages. In addition to these, the student must follow a graduate study program approved by the department in which he desires to pursue advanced study.

MASTER OF SCIENCE IN ACCOUNTING

1. Business Core Courses

a. Functional Courses consisting of two of the following:

39:427 Accounting Management and Control	3 credits
40:474 Financial Management and Policy	3 credits
40:490 Marketing Management and Policy	3 credits

b. Administration Courses—both required:

40:466 Management Behavior and Methods	3 credits
40:469 Organizational Theory and Policy Formulation	3 credits

c. Economics—required:

6:341 Economic Analysis	3 credits
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2. Accounting Concentration—15 credits required:

a. Required of all majors:

39:421 Advanced Accounting Theory	3 credits
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b. Accounting electives—12 credits required from the following courses:

39:234 Advanced Federal Income Taxation	3 credits
39:239 Controllership Problems	3 credits
39:399 CPA Problems	4 credits
39:498 Seminar in Accounting	3 credits

MASTER OF BUSINESS ADMINISTRATION

1. Business Administration Core Courses

a. Functional Courses consisting of three of the following:

39:427 Accounting Management and Control	3 credits
40:474 Financial Management and Policy	3 credits
40:490 Marketing Management and Policy	3 credits
42:463 Industrial Relations	3 credits

b. Administration Courses:

40:466 Management Behavior-Methods	3 credits
40:469 Organizational Theory and Policy Formulation	3 credits

2. General Courses:

40:450 Administrating Costs and Prices	3 credits
6:351 Macro Economics	3 credits

3. Concentration Courses amounting to nine credits in one of the following areas:

a. Accounting

b. General Business (including Marketing-Merchandising or Finance)

c. Industrial Management

Students with undergraduate majors in Business Administration may have some of the requirements under group 1. a. above waived, the credits to be made up in additional courses under group 2. Following course 6:341 such students should take either 6:294 National Income and Its Variation or 6:293 Development of Economic Thought.

MASTER OF SCIENCE IN INDUSTRIAL MANAGEMENT

The degree program consists of work in the following areas:

1. From the Functional area select two of the following three:
 - 39:427 Accounting Management and Control 3 credits
 - 40:474 Financial Management and Policy 3 credits
 - 40:490 Marketing Management and Policy 3 credits
 2. From the Economics area:
 - 6:341 Economic Analysis 3 credits
 3. From the Administration area:
 - 40:466 Management Behavior and Methods 3 credits
 - 40:469 Organizational Theory & Policy Formulation 3 credits
 4. From the Industrial Management area:
 - 42:448 Applied Industrial Statistics 3 credits
 - 42:449 Executive Decisions & Operations Research 3 credits
 - 42:463 Industrial Relations 3 credits
 - 42:467 Manufacturing Analysis 3 credits
 - 42:498 Seminar in Industrial Administration 3 credits
- Total credits for the degree 30 credits

UNIVERSITY GRADUATE COURSE LISTING

All courses bearing a course number higher than 299 carry graduate credit automatically upon successful completion. Courses numbered 300 to 399 are open also to senior undergraduate students of exceptional ability who, with approval of their advisers, wish to include a few such courses in their Bachelor's degree programs or wish to start on graduate degree programs. Courses numbered 400 to 499 are open only to students who hold the Bachelor's Degree. All students must apply for admission to the Graduate Division before enrolling in any of these courses for graduate credit.

ACCOUNTING

39:399 39:421 39:427 39:498

BIOLOGY

3:347 3:367-368

CHEMISTRY

5:301-302	5:313	5:335-336	5:343-344	5:370
5:303-304	5:315-316	5:337-338	5:349	5:371
5:305	5:319-320	5:339	5:350	5:372
5:306	5:321-322	5:340	5:355	5:373
5:309	5:325	5:341	5:356	5:374
5:310	5:331-332	5:342	5:357	5:401
	5:333-334		5:365	

CHEMICAL ENGINEERING

37:300	37:303	37:310	37:333	37:350
37:301	37:304	37:320	37:335	37:360
37:302	37:305	37:321	37:340	37:395
		37:330		

CIVIL ENGINEERING

34:300	34:304	34:310	34:314	34:330
34:301	34:306	34:311	34:320	34:340
34:303	34:307	34:312	34:321	34:341
	34:308	34:313	34:322	

ECONOMICS

6:341	6:351	6:355-356
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EDUCATION

27:300	27:311	27:345	27:400	27:445
27:301	27:312	27:350	27:402	27:448
27:302	27:314	27:352	27:406	27:450
27:303	27:315	27:354	27:420	27:452-453
27:305	27:317	27:356	27:422	27:459
27:306	27:319	27:360	27:426	27:460-461
27:307	27:320	27:362	27:428	27:464-465
27:308	27:321	27:364	27:433	27:468
27:309	27:322	27:392	27:436	27:490
27:310	27:330	27:393	27:437	27:499
	27:331		27:441	

ELECTRICAL ENGINEERING

35:300	35:302	35:306	35:310	35:313
35:301	35:303	35:307	35:311	35:314
	35:304	35:308	35:312	

ENGLISH

7:303	7:322	7:332	7:340	7:401
7:311	7:328	7:338	7:397-398	

HISTORY

12:311-312	12:333	12:343	12:413
12:331	12:335	12:412	

INDUSTRIAL MANAGEMENT

42:448	42:449	42:463	42:467	42:498
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MARKETING AND FINANCE

40:450	40:466	40:474	40:490	40:498
40:465	40:469	40:478	40:494	

MATHEMATICS

17:312-313	17:317-318	17:322-323	17:330-331	17:337
17:314	17:320	17:324	17:336	17:390-391
		17:326		

MECHANICAL ENGINEERING

36:300	36:302	36:304	36:310	36:313
	36:303	36:305	36:312	

MODERN LANGUAGES

8:301	8:304	8:343	8:352-353
8:303	8:311-312	8:344	

MUSIC

18:321	18:327-1	18:328-1	18:328-5	18:329-4
18:324	18:327-2	18:328-2	18:329-1	18:329-5
18:325	18:327-3	18:328-3	18:329-2	18:331
18:326	18:327-4	18:328-4	18:329-3	

PHILOSOPHY

19:311	19:312	19:313
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PHYSICAL EDUCATION

29:301	29:303	29:305	29:306	29:308
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PHYSICS

20:321	20:340	20:347-348	20:360	20:413-414
20:322	20:341	20:349-350	20:411-412	20:421
		20:352		

POLITICAL SCIENCE

21:301	21:303	21:308	21:344
21:302	21:305	21:331	21:401

POLYMER SCIENCE

90:301-302	90:303	90:311	90:491
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PSYCHOLOGY

30:302	30:318	30:410	30:442
30:303	30:319	30:413	30:445
30:304	30:320	30:415	30:451
30:306	30:330	30:417	30:454
30:307	30:403	30:430	30:457
30:311	30:404	30:433	30:460
30:312	30:405	30:436	30:463
30:313	30:406	30:439	30:490

SOCIOLOGY

22:300	22:306	22:316	22:330	22:370
22:301	22:309	22:320	22:335	22:399
22:303	22:312	22:324	22:351	

SPEECH

24:361	24:368	24:374	24:379	24:393
24:365	24:371-372	24:375	24:390	24:394
24:367	24:373	24:377	24:391-392	

COURSES IN WHICH GRADUATE CREDIT MAY BE EARNED

Courses bearing course numbers from 200 to 299 inclusive are senior undergraduate courses. However, a graduate student, with the approval of his adviser and the department head concerned, may establish graduate credit through enrollment in certain courses numbered from 200-299 provided he:

1. Declares at registration his intention to earn graduate credit in the course.
2. Makes certain that the course is entered on his enrollment blank with a 500 instead of a 200 number (e.g., Course 39:230 taken for graduate credit would be entered as 39:530).
3. Pays the fee for graduate credit.
4. Informs the instructor at the first meeting of the class that he is enrolled for graduate credit.
5. Performs the additional assignments given him by the instructor (approximately one-third more work than is required of the undergraduate student).
6. Earns an "A" or "B" in the course.
7. Has applied for and been admitted to the Graduate Division.

The following 200 level courses may be taken for graduate credit:

ACCOUNTING

39:230	39:233-234	39:236 39:239	39:241	39:251
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ART

2:203-204	2:209	2:225-226
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BIOLOGY

3:207-208	3:218	3:248	3:256	3:265-266
3:215-216	3:219	3:251	3:257	3:267-268
3:217	3:235	3:255	3:258	3:271

CHEMISTRY

5:201	5:211	5:221
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CIVIL ENGINEERING

34:200

CLASSICS

11:231-232	15:203-204	15:206
15:201-202	15:205	16:231-232

ECONOMICS

6:204	6:242	6:267	6:293	6:295-296
6:239	6:260	6:268	6:294	6:298

EDUCATION

27:220	27:238	27:244	27:265	27:276-277
27:225	27:239	27:260	27:266	27:278-279
27:234	27:240	27:261	27:268	27:280
27:235	27:241	27:262	27:270-271	27:290
27:236	27:242	27:263	27:272-273	27:291
27:237	27:243	27:264	27:274-275	

ENGLISH

7:201	7:212	7:216	7:223
7:202	7:213	7:217	7:240
7:205	7:214	7:221	7:297-298
7:207	7:215	7:222	

GEOGRAPHY AND GEOLOGY

28:233	28:241	28:245	28:264	28:270
		28:250		

HISTORY

12:218	12:222	12:235	12:246	12:253
12:219	12:223	12:236	12:247	12:254
12:220	12:229	12:242	12:250	12:260
12:221	12:230	12:243	12:251	12:261
		12:244		

INDUSTRIAL MANAGEMENT

42:256	42:260	42:264
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LAW

50:220	50:234	50:264	50:268
50:222	50:253	50:266	50:269
50:233	50:254	50:267	

MARKETING & FINANCE

40:247	40:277	40:291	40:296
40:268	40:279	40:293	

MATHEMATICS

*17:202-203	17:209	17:213	17:226	17:251
17:207	17:210	17:217	17:232	17:255
17:208	17:212	17:218	17:250	17:256

MECHANICAL ENGINEERING

36:201	36:210
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*Will not count for Master's Degree in Mathematics.

MODERN LANGUAGES

8:213-214	8:223-224	10:219-220	23:212	23:216
8:217-218	10:211-212	23:207	23:213	23:217
8:219-220	10:213-214	23:208	23:214	23:218
8:221-222	10:217-218	23:211	23:215	

PHILOSOPHY

19:211	19:221-222	19:229	19:242	19:258
19:212	19:224	19:241	19:256	

PHYSICS

20:201	20:211-212	20:218	20:241	20:254
20:202	20:213	20:227	20:242	20:255
20:203	20:214	20:231	20:251	20:257
20:204	20:217	20:240	20:253	20:261-262

POLITICAL SCIENCE

21:201	21:205	21:210	21:220	21:243
21:202	21:208	21:213-214	21:230	

PSYCHOLOGY

30:203	30:207	30:212	30:220
30:204	30:208	30:217	30:230

SOCIOLOGY

22:204	22:214	22:225	22:233	22:255
22:206	22:216	22:227	22:235	22:257
22:207	22:222	22:229-230	22:237	22:259
	22:223	22:231	22:238	

SPEECH

24:244	24:265	24:270	24:273-274	24:290
24:262	24:267	24:271-272	24:277	24:297

The College of Law

STANLEY A. SAMAD, LL.M., *Dean*

OBJECTIVES

The purpose of the College of Law is to further the objectives of The University of Akron by providing a quality program of collegiate education for Law and to pursue the following aims:

To prepare students for a career in the profession of law by imparting information concerning legal institutions, basic principles of the substantive and procedural law, and jurisprudential thought concerning the role of law in society.

To help to develop in students an active and critical attitude rather than a passive approach toward the rules of law and their social implications.

To develop in students a high sense of professional responsibility in terms of technical competency, appreciation of professional standards and the responsibility of the lawyer to achieve a more nearly perfect system of civil and criminal justice.

The College recommends each student for the Juris Doctor degree upon satisfactory completion of the requirements.

The College of Law was established on September 1, 1959 as the successor to the Akron Law School. Founded in 1921 as an independent evening law school, the Akron Law School produced two generations of successful members of the bench and bar, and leaders in industry and commerce. Recognizing that legal education is best conducted in university-centered programs, and mindful of the need for the continuation of a sound program of legal education in the most densely populated quadrant of the state, The University of Akron accepted an offer of merger, and formed the College of Law.

The College of Law continued to offer a plan of part-time study of law with all classes scheduled during the evening hours. The completion in 1965 of a modern, new building to house the Colleges of Law and Business Administration, and a realization by the University of an impending shortage of opportunities for the study of law on a full-time basis, led to a decision to offer both day and evening programs in law.

The schedule of courses for full-time students is designed so that the Juris Doctor degree may be earned in six semesters or three academic years. Attendance at the summer sessions is optional.

The schedule of courses for part-time evening students is designed so that the Juris Doctor degree may be earned in four academic years consisting of four fall semesters, four spring semesters, and three summer sessions. The normal academic load in the evening program is nine credit hours, and the summer sessions are an integral part of the program.

The schedule of courses has been designed by the faculty to provide a logical progression of subject matter, as well as reasonable freedom in the selection of elective courses. Students are encouraged to observe this schedule in planning their programs so that they can continue their advantageous progression of subject matter.

The primary purpose of students enrolling in the College of Law is to accrue fundamental knowledge of law and the role of law in society, interlaced with a grasp of the public responsibilities of the lawyer, enabling them to become attorneys and counsellors at law and leaders in governmental affairs. The ultimate aim of the College is the development of graduates who will serve society not only through the representation of their individual, corporate, or governmental clients, but who will also serve as architects of the future of society.

Students are trained to develop their powers of legal analysis and synthesis, to develop the technical skills of legal advocacy and legal draftsmanship, and to learn practical skills of research and the management of litigation.

PRE-LEGAL EDUCATION

A student expecting to enter the College of Law should hold a baccalaureate degree which has been granted by an accredited institution of higher learning. His undergraduate courses should have developed his ability in expression and comprehension of the English language, afforded him basic information about human institutions and culti-

vated his ability to think creatively and critically, with thoroughness and intellectual curiosity.

Requirements are flexible for undergraduate study preceding legal education. However, it is generally recommended that students have a liberal arts background with majors in any of these fields: English, economics, history, mathematics, philosophy, political science, psychology, sociology or a science. Also, acceptance is granted to students with degrees in areas of business administration, education and engineering.

Comments on specific fields of logical background study are as follows:

Accounting—so that a future lawyer will be able to understand financial terminology.

Economics—valuable because law protects and regulates economic interests.

English—highly recommended because “words are the tools of a lawyer’s trade.”

History—important because political, economic and constitutional history are basic to the study of law.

Political Science—a logical program for pre-law students because their future profession deals with governmental and political policies.

Sociology—valuable because many jurisprudents explain law in sociological terms and advocate a sociological, humanistic approach to the development of law.

Philosophy—philosophic methods are useful in achieving orderly, critical thinking.

Psychology—essential because law is a means of regulating human behavior and therefore, a lawyer should understand behavioral motivation and response.

Languages—valuable because much of law practice is apt to have international significance and an awareness of other tongues brings understanding of other people.

REQUIREMENTS FOR ADMISSION

An applicant for admission to the College of Law desiring to become a candidate for the Juris Doctor degree must satisfy the following requirements:

1. He must be of good moral character.
2. He shall show evidence that he has received a Bachelor’s degree from a regionally accredited college or university in a field of study deemed appropriate by the faculty of the College of Law, with an academic average substantially better than the minimum average required for such degree.
3. He must have taken prior to admission the Princeton Law School Admission Test and earned a satisfactory score.

The procedures for securing admission are as follows:

1. Obtain an application form from the College of Law.
2. File with the College of Law an official copy of the transcript of the record from the institution which awarded the degree, at least one week prior to the official registration period published in the University Calendar.
3. Arrange to take the Princeton Law School Admission Test which is given by the University, or submit evidence of the score if the test was taken elsewhere.

The College accepts beginning students only in the fall semester.

All inquiries and correspondence pertaining to admission should be sent to:

The College of Law
The University of Akron
Akron, Ohio 44304

ADMISSION TO ADVANCED STANDING

A law student who has completed part of his law course at a school on the approved list of the Section of Legal Education and Admission to the Bar, American Bar Association, and who is eligible for readmission to his former law school, may be admitted to advanced standing. A student desiring admission to advanced standing shall (1) obtain from the Dean of his former law school a letter setting forth the fact that he is eligible for further instruction, and consent to the transfer; (2) submit evidence of meeting the admission requirements of The University of Akron College of Law; (3) present an official transcript of all work completed at his previous law school. Credit to be given for the prior law school work shall be that determined by the Dean of the College of Law.

AUDITORS

An auditor is a student who, with the permission of the Dean of the College of Law, is enrolled for a course without credit. The auditor is required to do all the work prescribed for the regular student enrolled for credit except taking examinations. The fee for the auditor is the same as for a regular student.

REQUIREMENTS FOR A DEGREE

The Juris Doctor degree is conferred upon students of good moral character who have been recommended by the Dean and faculty of the College of Law and who have:

1. Completed satisfactorily all required courses, seminars and electives to earn at least 84 credits and a noncredit course of a clinical nature in legal aid. The legal aid requirement may be waived by the Dean.
2. Attained at least a 2 average for all courses taken and at least a 2 average for the senior year.
3. Spent their last year in residence at the University unless excused by the Dean.

FEES AND EXPENSES

Fees are as follows:

Application fee (payable once, nonrefundable, and inapplicable to students previously enrolled at the University for credit):	\$15
Fees for residents of Akron, per credit:	\$30
Fees for nonresidents, per credit:	\$35

Students taking less than nine credits in any semester pay a General Service Fee of \$5 for that semester. Students taking nine or more credits pay \$20.

For those students living in University Housing, the cost is \$875 for two semesters. This fee includes room (two students per room), bed linen, and twenty meals per week for two semesters.

Books (new) will cost approximately \$110 per year for full-time students and about \$75 per year for part-time students.

LOAN FUNDS

University loans by which tuition and maintenance fees may be paid over the semester in periodic installments may be requested through the Office of the Controller. Normally, these loans do not exceed one-half the fees due in a semester.

Law students may apply for the following loans: National Defense Student Loans,

the Philip H. Schneider Scholarship Loan Fund, Ohio Higher Educational Assistance Commission Loans (available to full-time students who are residents of Ohio), and the American Bar Association Fund for Legal Education (for students in good standing, after the first year).

Application for loans should be obtained from the Financial Aids Office, The University of Akron, well in advance of the beginning of the semester.

Loans for emergency purposes will be considered during the academic year.

LIBRARY

The law library is the laboratory of the College of Law and is most important in providing the law student with materials for research and study. The law library contains approximately 26,500 volumes. University libraries comprising more than 200,000 volumes are available to law students.

ENROLLMENT IN OTHER SCHOOLS

A student who is enrolled in the program leading to the Juris Doctor degree may not take work in any other school, college or course of instruction, unless he first obtains the written consent of the Dean. No student may attend a course designed as a review for the bar examination until he has completed all course requirements for the Juris Doctor degree.

BAR ADMISSION REQUIREMENTS

Each student entering the College of Law is encouraged to read Rule XVII of the Supreme Court of Ohio, **ADMISSION TO THE PRACTICE OF LAW** or the comparable rule of court in the jurisdiction wherein he desires to take the bar examination and practice law.

The Supreme Court of Ohio requires that each student entering a law school shall file during his first semester in law school an application for registration as a law student, evidence of his meeting the pre-legal educational requirements established by the Rule, a legible set of fingerprints on a prescribed form and a filing fee of \$20.00. As a condition for taking the bar examination, the applicant must file an application not less than 90 days prior to the date of the bar examination, a certificate of the College of Law that the student has completed or will complete all courses required by the Rule and a filing fee of \$40.00. The Rule requires that a student be tested in the following courses: Business Associations (including Agency, Partnerships and Private Corporations) Constitutional Law, Contracts, Criminal Law, Equity (including Trusts) Evidence, Negotiable Instruments, Pleading and Practice, Torts and Wills. Further, the student must be certified as having had instruction in Legal Ethics.

The appropriate forms may be obtained from the College of Law on request. It is the responsibility of the student to initiate a request for, to execute properly, and to file timely, the requisite forms.

CLUBS

THE STUDENT BAR ASSOCIATION is designed to introduce law students to the professional responsibilities and problems they will face upon admission to the bar, to provide closer integration among the future lawyers and present-day leaders of the legal profession, to promote professional responsibility and to acquaint law students with the opportunities and obligations to improve the administration of justice through the

organized bar. In addition, the Student Bar Association provides a form of student government and promotes good fellowship.

The Grant Chapter, Phi Alpha Delta Law Fraternity was established in 1962. This fraternity has as its objectives the advancement of the legal profession, the attainment of a high standard of scholarship, and the development of a spirit of good fellowship among its members. Law students in good standing may become pledges after the first semester and active members after the second semester.

The Judge Florence E. Allen Chapter, Phi Delta Delta Legal Fraternity (International) for women was established in 1965. The objectives of this fraternity are to promote the highest professional standards among women law students and women in the legal profession and to promote the achievement of its members.

An appellate moot court program known as BRAC^TON'S INN is offered to all students. BRAC^TON'S INN has as its purpose the development of skills in legal research, brief writing and oral advocacy before a moot appellate tribunal. BRAC^TON'S INN is student-managed.

SCHOLARSHIPS, HONORS AND AWARDS

Applications for scholarships may be obtained from the Dean of the College of Law. These applications should be submitted not later than May 1. No awards will be made until the student is accepted by the College of Law. Grants up to one thousand dollars may be made for an academic year, and may be considered for renewal, provided the student's performance is superior.

Law students who carry a full program and who earn a 3.25 average or better for a semester are nominated to the Dean's List for that semester.

The Akron Bar Association Auxiliary Scholarship, established by the Akron Bar Association Auxiliary, provides an annual scholarship from principal and income not to exceed \$1,000 to an entering student in a full-time program of law study. The University Scholarship Committee, on the basis of scholarship, legal aptitude, character and need, and with the advice of the Dean of the College of Law shall make the selection, giving first preference to a resident of Summit County, Ohio. A recipient may apply for an annual renewal of the scholarship.

The American Law Book Company has authorized the West Publishing Company to award four titles of *Corpus Juris Secundum* to students of all classes who have made the most significant contribution to overall legal scholarship.

The W. H. Anderson Company, Publisher, awards to the highest ranking student in Corporations each year a copy of ANDERSON'S OHIO CORPORATION DESK BOOK, and to the highest ranking student in Pleading and Practice a copy of LEYSHON'S OHIO PRACTICE MANUAL, Second Edition.

The Lawyers Co-operative Publishing Company and Bancroft-Whitney Company, joint publishers of AMERICAN JURISPRUDENCE, award to top ranking students in about twenty courses a specially bound copy of the equivalent title from their multi-volume publication.

Mr. and Mrs. Evan B. Brewster have established an annual award in the sum of \$125.00, half of which is to assist a deserving law student who ranks in the upper half of his class to obtain the use of assigned case and text books, and half for the expansion of the Law Library collection.

The Bureau of National Affairs, Inc. awards a year's complimentary subscription to THE UNITED STATES LAW WEEK to a graduating student who, in the judgment of the faculty, has made the most satisfactory progress in his senior year.

The Lawyers Title Insurance Corporation awards annually to a graduating senior who has excelled in the study of Real Property Law (including Wills and Trusts) the sum of \$100 and a framed Certificate of Award.

The Fellows of the Ohio State Bar Association Foundation award annually two \$100 scholarships. One scholarship is awarded to a sophomore law student with the highest academic average and the second to a junior law student with the highest academic average.

The Judge W. E. Pardee Memorial Award of \$150 (established 1963-64) presented annually to a participant or team of participants in Bracton's Inn (the Case Club of the College of Law) who best displays advocacy skill and professional decorum.

The West Publishing Company annually awards suitable law books to students with the highest first year average, highest second year average, highest third year average and to a student who has displayed leadership and scholarship.

CURRICULUM

FULL-TIME PROGRAM

(These courses are to be offered during the day. *Note:* in 1966-1967, only first-year courses will be offered during the day.)

<i>First Year, Required</i>					
First Semester		Credits	Second Semester		Credits
50:202	Development of Law and Legal Institutions	2	50:206	Contracts II	2
50:203	Legal Method and Legislation	3	50:218	Torts II	2
50:205	Contracts I	3	50:219	Agency	2
50:214	Property I	3	50:225	Property II	3
50:215	Legal Research and Writing	1	50:226	Property III	2
50:217	Torts I	3	50:238	Criminal Law	3

<i>Second Year, Required</i>					
50:220	Business Associations	4	50:222	Administrative Process	3
50:228	Legal Profession	1	50:235	Pleading and Joinder	3
50:236	Constitutional Law	3	50:237	Remedies	4
50:239	Jurisdiction and Judgements	3			

<i>Third Year, Required</i>					
50:233	Evidence I	2	50:234	Evidence II	2
50:241	Trusts	3			

PART-TIME PROGRAM
(These courses are offered in the evening.)

<i>First Year, Required</i>		Credits	<i>Second Semester</i>		Credits
First Semester			Second Semester		
50:203	Legal Method and Legislation	3	50:202	Development of Law and Legal Institutions	2
50:205	Contracts I	3	50:206	Contracts II	2
50:217	Torts I	3	50:214	Property I	3
			50:218	Torts II	2
Summer Session: 50:215		Legal Research and Writing			1 Credit
50:219		Agency			2 Credits

<i>Second Year, Required</i>		Credits	<i>Second Semester</i>		Credits
50:225	Property II	3	50:222	Administrative Process	3
50:236	Constitutional Law	3	50:226	Property III	2
50:239	Jurisdiction and Judgements	3	50:237	Remedies	4
Summer Session: Electives		2-3 Credits			

<i>Third Year, Required</i>		Credits	<i>Second Semester</i>		Credits
50:220	Business Associations	4	50:228	Legal Profession	1
50:233	Evidence I	2	50:234	Evidence II	2
50:235	Pleading and Joinder	3	50:238	Criminal Law	3
				Electives	3
Summer Session: Electives		2-3 Credits			

<i>Fourth Year</i>		Credits	<i>Second Semester</i>		Credits
50:241	Trusts	3	Electives		9
	Electives	6			

ELECTIVES

50:231	Commercial Transactions I	3	50:259	Problems in Conflict of Laws	2
50:232	Commercial Transactions II	2	50:260	Seminar in Selected Legal Problems	1-2
50:243	Wills	2	50:262	Seminar in Estate Planning	3
50:244	Federal Jurisdiction and Procedures	3	50:263	Seminar in Patent, Trademark and Copyright Law	2
50:245	Problems in Trial Advocacy	1	50:264	Federal Income Taxation	3
50:246	Trial and Appellate Practice	2	50:265	Seminar in Land Use Planning	3
50:252	Creditors' Rights	3	50:266	Seminar in Jurisprudence	2
50:253	Municipal Corporations	2	50:267	Seminar in Comparative Legal Systems	3
50:254	Domestic Relations	2	50:268	Seminar in Labor Law	2
50:255	Research Problems	1-3	50:269	World Law	3
50:257	Trade Regulations	3			
50:258	Security Transactions	3			



The Community Ambassador addresses a meeting of the Akron Area Adult Education Council. The College and Community Ambassadors are available to speak and show slides of their overseas experiences to community groups.

5

Public Service Programs

Department of Special Programs

Institute for Civic Education

Research

Center for Information Services



“Institutions of higher learning are being called upon ever more frequently for public service—for defense research, foreign development, and countless other programs. They have performed magnificently. We must now call upon them to meet new needs.

“Today, 70 percent of our people live in urban communities. They are confronted with problems of poverty, residential blight, polluted air and water, inadequate mass transportation and health services, strained human relations, and overburdened municipal services.

“Our great universities have the skills and knowledge to match these mountainous problems. They can offer expert guidance in community planning; research and development in pressing educational problems; economic and job market studies; continuing education of the community’s professional and business leadership; and programs for the disadvantaged.”

PRESIDENT LYNDON B. JOHNSON

JANUARY 12, 1965

The above statement by President Johnson sums up many of the responsibilities universities are being called upon increasingly to meet. The University of Akron is already involved in many of the programs cited and members of the faculty and staff are studying some of the others.

The Department of Special Programs

ROBERT THORBURN, B.A.Ed., *Acting Head*

A part of the Community and Technical College, the Department of Special Programs offers a wide variety of informal courses, seminars, conferences, institutes and other educational services to adult citizens of the Akron area. It is the University's center for all non-degree programs and community services.

INFORMAL COURSES

Since 1937 The University of Akron has provided courses to meet the vocational and avocational interests and needs of adults who do not require academic credit.

This bulletin does not present a complete listing of the Department's informal courses. However, the following subjects indicate the scope and variety of the more than 100 courses offered each year:

LANGUAGE—Chinese Literature, beginning and advanced, elementary Arabic, everyday usage of French, German conversation, beginning and advanced Italian, Russian for children, Spanish simplified-beginning and advanced.

BUSINESS—Blueprint reading, Business data processing and computer programming, corrosion fundamentals, electronic circuits, heat treatment of metals, real estate law, introduction to rubber chemistry, trigonometry.

SELF-IMPROVEMENT—English grammar, beginning and advanced shorthand, interior decorating, investing for tomorrow, speed reading, beginning and advanced typing, vocabulary improvement.

AVOCATIONAL—Ceramic arts, photography.

The informal courses are usually offered according to the regular schedule for day-time college and evening college courses, throughout the entire calendar year. Most of the courses meet for one and one half hours each week. Registration fees are \$16.00 per course, with certain exceptions. An additional \$2.00 is charged for a parking permit.

A course offered by the Department of Special Programs is not evaluated in terms of academic hours. Courses do not become part of a student's permanent record, and they have no transfer value in terms of academic credit. Admission to these courses does not follow the admission standards for the academic areas of the University. One may enroll without a transcript of credits.



Community discussion leaders talk about foreign policy decisions and goals during a briefing by the Northeast Regional Director of the Foreign Policy Association. Discussion groups are held in homes throughout the Akron area.

The Institute for Civic Education

CHARLES V. BLAIR, M.A., *Director*

The Institute for Civic Education represents an idealistic and optimistic concept. Its program assumes that men in a democratic society can and will develop, through patterns of continuing education, a greater sense of public responsibility and will exercise that responsibility to make Reason more effective in our social order. Thus the Institute is aiming at the highest goal of education in our democracy—perfecting man's Reason and his moral sense of Responsibility. These objectives, pursued in balance, define the ultimate justification for the distinction and the dignity of man.

Universities cannot completely rely on the traditional academic classroom approach to fulfill the requirements of education for public responsibility. A variety of structures and programs have been developed with various names for these tasks. Some are centers for continuing education, others focus on the study of liberal education by adults. At The University of Akron this work is carried out by the Institute for Civic Education, which began as an experimental project in 1956 with financial assistance from the Fund for Adult Education.

The Institute serves as a special civic programming center for the University and as such fulfills a managerial and coordinating function for many non-credit, informal programs of continuing education for adults. These programs vary in length, frequency and cost and many are free of any charge. Most of the activities of the Institute are conducted on the University's campus in an informal atmosphere, and most involve one or more faculty members as lecturers or resource persons. Specific offerings and program details are described in separate brochures and announcements which are available to anyone on request from the Institute. In addition, the Institute publishes and circulates a monthly *Civic Educalendar* of educational events and a monthly newsletter, the *Civic News*.

Among the continuing educational services provided by the Institute are conference coordination and consultation, cultural and civic field trips, serving as the foreign visitor center in Akron, a series of Friday conversations for men from the campus and the community, an internship for community leadership student program, labor education programs, a twenty-eight week liberal education experience for the over-specialized person in business, maintenance of the speakers bureau, special guest lectures, study-discussion programs, Thursday Breakfast Roundtable for men interested in regional planning and development, Town and Gown series of platform lectures by outstanding commentators and authorities on national and international affairs, urban studies programs and ten annual World At Our Door travel-film lectures.

In cooperation with the Akron Area Adult Education Council the Institute produces bi-monthly public Council meetings, arranges and coordinates the annual Community and College Ambassador projects of sending area representatives overseas for a summer home stay, weekly Community and National Issues luncheons and weekly World Affairs luncheons. The Institute serves as headquarters for the Adult Education Council and the Institute's Director is the Council's Executive Secretary.

Since 1961 the Institute has fulfilled a managerial role in the conduct of an Engineering Management of Water Supply Systems course in contract with the Agency for International Development, U.S. Department of State. The Institute coordinates the academic role of the University's College of Engineering with the needs of foreign engineers studying water systems management. Since the inception of the program seventy-nine participants from thirty-one different countries have come from all parts of the world.

Center for Urban Studies

EDWARD W. HANTEN, Ph.D., *Director*

The Center for Urban Studies of the University's Institute for Civic Education was established in 1965, to engage in the analysis of basic problems of urban structure through continuing programs of fundamental research and extension. Its establishment is evidence of fundamental research and extension. Its establishment is evidence of the fact that The University of Akron has responded to the increasing demand that higher education enter the struggle to revitalize America's cities and become an agent of urban service in the same manner that universities became agricultural agents for agrarian society a century ago.

Objective of the Center, in all its operations, is to improve the competency of the citizenry to understand, and more adequately deal with, local and regional urban problems. While major emphasis is directed toward Akron and its immediate environs, the research activities and findings, and the extension programs will, in many cases, have a much broader scope and application.

To achieve this objective the Center for Urban Studies initiates and conducts programs dealing with urban phenomena in three major sectors—Research, Extension, and Accumulation.

RESEARCH will be undertaken to develop basic data and information about the area which can be used by local communities, organizations, planners, and residents.

EXTENSION programs including workshops, seminars, short courses, and conferences are designed to assist residents in the recognition of local problems and determining the feasibility of potential solutions.

ACCUMULATION of data resulting from research conducted by the Center and other agencies involves the University's Computer Center in processing, storage, and retrieval of information.



Research:

Looking at the World of Tomorrow

ROBERT C. CARSON, Ph.D., *Coordinator*

Colleges and universities have traditionally been thought of as ivy-covered storehouses of knowledge where neat parcels of information are regularly dispensed to the eager young students of the day. But this is only partly true for, while the dissemination of knowledge is still a major responsibility of any university, today's institutions of higher learning have other important obligations as well:

1. To advance the frontiers of knowledge, and
2. To perform appropriate educational public services.

This challenge cannot be met passively. The University of Akron cannot serve solely as a repository of the knowledge of the past, but must actively contribute to knowledge of the future. And this contribution, if it is to have any value to society, must be related to the problems of the world we live in.

Recognizing its obligations to the people it serves, the University is seeking to ensure that the research being performed here is not only an integral part of the total university life but is also relevant to the needs of today and tomorrow.

A revolution in research has been evident at The University of Akron where research has been a prime concern of the institution since its founding in 1870.

Traditional research, the product of an individual scholar, has become a team effort—often bringing together men from two or more disciplines. Research groups composed of chemists and physicists or biologists and statisticians probe the unknown. The fast-developing space age has accelerated the trend toward larger inter-disciplinary groups whose membership is determined by the problem . . . not by tradition.

Research teams at The University of Akron are formed to deal with specific problems posed by private business or government agencies. The research is conducted by those in the University who can best contribute to the solution of the problem no matter what their specialty may be.

The University Research Council coordinates all research activities performed on campus and is the administrative arm for contract research conducted for agencies not connected with the University. It is composed of the directors of the four research institutes:

Dr. Maurice Morton, Director, Institute of Polymer Science;

Dr. H. Kenneth Barker, Acting Director, Institute of Civic and Educational Research;

Dr. Richard Reidenbach, Director, Institute of Business and Economic Research; and

Dr. Michael J. Rzasa, Director, Institute of Science and Engineering Research.

Dr. Arthur K. Brintnall, Dean of Administration, is Chairman of the Council.

It is the aim of the Council to encourage such activities as will further the educational goals of the University.

INSTITUTE OF POLYMER SCIENCE

Originally called the Institute of Rubber Research, this Institute is engaged in basic research in the chemistry and physics of polymers. The Institute has a staff of eight faculty members who direct the work of the doctoral and post-doctoral students. The Institute has a wide range of equipment and instrumentation appropriate to its activities.

Some of the projects currently being carried on by this Institute are:

Study of Copolymer Cyclization Reactions

Molecular Structure and Mechanical Properties of Organic and Inorganic Polymers

Mechanics of Rubber Spring Systems

Accelerated Degradation of Elastomers

Low Temperature Polymerization

Sequence Distribution in Copolymers

Crystallization Behavior of Synthetic Elastomers

Mechanism of Thermal Free Radical Initiation

Directive Influences in Aqueous Polymerization.

INSTITUTE OF CIVIC AND EDUCATIONAL RESEARCH

Concerned with the increasingly complex human problems facing our society today, this Institute is carrying out a number of studies designed to assist government and industry meet the challenges of the times. In addition to studies whose concern is with how to improve the educational process, there are a number of programs which aim to improve governmental service, both by devising new solutions to problems and by bringing together experts in various fields to share their expertise with others.

Some of the current projects being carried on in this Institute include:

Student Commitment as an Admissions Criterion

Teacher and Pupil Attitude and Performance in Relation to Number of Books Used in First Grade Reading

Development of Resource Material in Space Oriented Mathematics

Student Reactions to the Use of Programmed Learning

Conference on Current Social Welfare Programs and Trends for Career Workers without Professional Degrees

Institute for Teachers of Disadvantaged Youth

Multi-phase Research and Evaluation of the "War on Poverty" Programs

Research on human decision making in task oriented groups.

INSTITUTE OF SCIENCE AND ENGINEERING RESEARCH

The studies conducted in this Institute are what most people think of when the word research is used for it is this Institute that deals with the natural sciences. Here are the chemists and physicists and engineers, with the test tubes, spectrophotometers, nuclear reactors and all of the varied paraphernalia of modern science. As a result, this Institute possesses a large number of specialized laboratories and many unusual pieces of equipment.

Typical of the projects underway at present are:

A Study of the Thermal Decomposition of Materials

Comprehensive Evaluation of Highway Sign and Billboard Regulations

Boron Analogs of Nonclassical Ions

Study of the variation of the Wind Gust Factor

Lipids of Frog Oocyte Fractions

The Formation of Cyclopentenyl Cations from Linear and Larger-Ring Systems

Hall Coefficients of Aluminum Alloys

Succinonitrile Deviations of Halogenopentacarbonylmanganese

ESR Studies of Chelation Properties of Amino Acids.

INSTITUTE OF BUSINESS AND ECONOMIC RESEARCH

The work of this Institute is carried out principally by members of the Department of Economics and the College of Business Administration. Most of the work in this Institute is not of a project nature but rather is of the nature of

a consultation. The specific problem of a specific client is handled rather than large scale, long-range theoretical studies.

Some of the project areas in which work is currently being carried on include:

- Regional Economic Growth and Development
- Job Evaluation
- Marketing and Market Research
- Executive and Sales Training
- Tax Problems
- Information Retrieval in Industrial Development Planning
- Financial Management

While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both graduate and undergraduate students have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Thus, the University's research activities benefit students in several ways. Through research the University serves not just as a storehouse of knowledge of what *has* taken place, but offers the dynamic atmosphere of an institution participating in the development of the world of tomorrow.

This, in turn, assures the student of a skilled, knowledgeable faculty, not cloistered in an ivory tower but alert to the latest developments in its various fields. Finally, it also makes it easier for the student to bridge the gap between the knowledge of the past, that he is obtaining from his books and lectures, and the up-to-date activities of the worlds of commerce, industry, education and technology.

Center for Information Services

PANOS KOKOROPOULOS, *Director*

THE MACHINE RETRIEVAL PROJECT OF THE DIVISION OF RUBBER CHEMISTRY, AMERICAN CHEMICAL SOCIETY

The Center for Information Services (CIS) of The University of Akron has established a Mechanized Information Storage and Retrieval System for The Rubber Division of The American Chemical Society. The services offered are "current awareness" in the form of a Weekly Abstract Bulletin, and a Question-and-Answer Service using an interim system.

It is a punched card system similar to the one in the Research Division of The Goodyear Tire and Rubber Co., using the same cards as input and an IBM 108 sorter.

While maintaining the interim system in full operation, CIS is in the process of developing a computer-operated Storage and Retrieval System. When this is developed to the satisfaction of the Operating Committee of The Rubber Division, changeover will be made from the interim system without interrupted service. After the completion of the developing stage, the Center will provide complete documentation and will conduct workshops on the system with emphasis in indexing and retrieval.

FUTURE DEVELOPMENT

The University of Akron will continue to develop improvements and new concepts which can be incorporated into the system if the subscribers so choose. For example, cost estimates will soon be completed for adding to the system a method of handling patents.

Technical responsibility for the preliminary stages of the project was vested in Professor Allen Kent, Director of The Knowledge Availability Systems Center of The University of Pittsburgh. Mr. Panos Kokoropoulos, Director of The Center of Information Services, is in charge of the overall direction of The University of Akron project, and responsible to Dr. D. J. Guzzetta, Senior Vice President and Provost for the University.

The Center for Information Services is preparing a dictionary with the proper hierarchy in the classification of terms and a system of roles and links which will be tested by the Operating Committee of the Rubber Division in a pilot plant operation to insure that the system meets the needs of the Division. As soon as satisfactory operation is demonstrated, this system will be programmed. Indexing will be changed over to the new classification system.

The University's IBM 1620 computer is currently in use. However, the program will be implemented for the IBM System 360 Mod 40 computer which

will soon be available in AU's computer center. Mr. Robert S. Hathaway, Director of the Computer Center, supervises computer programming and testing of the system.

AVAILABLE SERVICES

The weekly current awareness service consists of two copies of a bulletin, listing by categories all the articles analyzed during the week together with a short abstract of each article. Additional abstract bulletins are provided at cost to subscribers.

The Question-and-Answer service is provided through a retrospective search through the files to locate all references that satisfy the search criteria. Question-and-Answer service is provided on an overnight basis, the answers being mailed the next morning. Current awareness searches at regular intervals are provided upon request.

Outputs from both the Question-and-Answer service and the current awareness service are provided in any form that can be produced by the computers: computer printout on 8½ x 11 or any other stock size paper or IBM cards.

Each subscriber requests either a computer printout of the dictionary or a set of IBM cards. Changes in the dictionary will be mailed to all subscribers as well as quarterly supplements and an annual printout of the new dictionary.

BIBLIOGRAPHY AND SEARCH FILES

The output of the current awareness service is used to produce the Bibliography of Rubber Literature at the end of each year. In addition to the general search file, special files for trade names, new products and news items of general interest to the Rubber and Plastics Industries, are being developed and are available for search. Reproductions of articles from the Current Awareness Bulletin or the retrospective search results are available through the Rubber Division Library.

CLASSIFIED DOCUMENT SERVICE

If a company wishes, the CIS staff will service and store internal reports in a protected file for a nominal charge. This service is housed in a separate room where only authorized persons are admitted and all materials stored in properly secured files.

DOCUMENT ACQUISITION

As a leading institution in the science of high polymers, The University of Akron is in the process of acquiring for its own library together with the Rubber Division library most of the literature in this field. The University has subscribed to 330 journals from the basic list provided by the Rubber Division with provision to add new journals as required.

6

Courses of Instruction

The following is a comprehensive description of the courses of instruction offered at The University of Akron. The list is arranged numerically, first, according to the Code Number of the Department in which it is offered, and then by course number within each departmental grouping. Departmental code numbers are as follows:

1—General Studies	19—Philosophy	39—Accounting
2—Art	20—Physics	40—Marketing and Finance
3—Biology	21—Political Science	42—Industrial Management
5—Chemistry	22—Sociology	46—ROTC, Air
6—Economics	23—Spanish	47—ROTC, Army
7—English	24—Speech	50—Law
8—French	27—Education	60—Commercial Art
10—German	28—Geography and Geology	61—Electronic Technology
11—Greek	29—Health and Physical Education	62—Mechanical Design
12—History	30—Psychology	63—Chemical Technology
13—Home Economics	31—Nursing Education	64—Transportation
14—Russian	33—Cooperative Work Courses	65—Associate Studies
15—Classics	34—Engineering, Civil	66—Sales and Merchandising
16—Latin	35—Engineering, Electrical	67—Secretarial Science
17—Mathematics and Astronomy	36—Engineering, Mechanical	68—Industrial Technology
18—Music	37—Engineering, Chemical	69—Surveying and Construction Technology
		90—Interdisciplinary

1: DEPARTMENT OF GENERAL STUDIES

1:1-2. WRITTEN ENGLISH. *3 credits each semester.*

1:1 is prerequisite to 1:2.

1:5. WRITTEN ENGLISH. *3 credits.*

1:1 and 1:2 are prerequisites.

These courses are intended to enable the student to obtain proficiency in the reading and writing of English. The reading materials used will be, primarily, outstanding literary works of our Western tradition.

Through these courses the student will gain competence in reading and writing. He will improve his writing skill through short expository papers (writing at least one a week), including a documented paper in 1:1; and, in the following courses, progress to writing longer and more complex critical and analytical pieces, including, in 1:2, a longer documented paper. He will improve his reading skill through reading, analyzing and discussing selected materials arranged in order of increasing difficulty and through critical analysis and appraisal of his own and other students' compositions.

1:8. EFFECTIVE SPEAKING. *3 credits.*

Through this course the student will acquire speaking-listening proficiency; he will develop an awareness of and skill in the accurate use of language and learn to relate fundamentals of effective speaking to certain aspects of reading, writing, and listening. The course 1:8 will place special emphasis on the argumentative and persuasive aspects of speech. At least two thirds of the course will be devoted to speech performance.

1:11. NUMBERS COMMUNICATION. *3 credits.*

Through this course in the language of quantitative relationships the student will develop his ability to receive and to express ideas in mathematical symbols, increase his appreciation of the methods of mathematical reasoning, and come to understand and think creatively about the quantitative aspects of the world in which he lives. One lecture and two participation-discussion periods each week.

1:13-14. REASONING AND UNDERSTANDING IN SCIENCE. *3 credits each semester.*

1:13 is prerequisite to 1:14. Primary objectives of this course are to enable the student to grasp the processes of accurate thinking and to understand the principles used in science as illustrated in the study of natural phenomena. The study of the use of the method will be emphasized, rather than of the end products obtained by its use. This procedure will involve the use of case histories chosen from the various fields of science. Three lectures per week.

1:15-16. INSTITUTIONS IN THE UNITED STATES. *3 credits each semester.*

1:15 is prerequisite to 1:16. Primary objective of this course is to enable the student to achieve an understanding of human relationships through a comparative descriptive, and analytical study of institutions of the United States. An exposition of basic institutional principles will be followed by a discussion of these principles in the light of both the student's reading and the student's direct contact with institutional reality. Two lectures and one discussion period each week.

1:17-18. WESTERN CULTURAL TRADITIONS. 3 credits each semester.

Prerequisites, 1:2 or permission. 1:17 is prerequisite to 1:18. Primary objectives of this course are to enable the student to understand human experience, both individual and group, of the past, so that he may develop an intelligent and constructive standard of personal behavior and may become a responsible member of society. To achieve these objectives, it is necessary for the student to grasp the essential features of the traditions of Western civilization as manifested in its outstanding accomplishments and creative endeavors in letters, music, and the visual arts. It is not intended that this course give a complete portrayal or minute development of any one of these fields, but rather that certain particularly important eras which have special significance for our time should be chosen. Two lectures and two participation-discussion periods each week.

1:21-22. PHYSICAL EDUCATION. $\frac{1}{2}$ credit each semester.

Participation in individual and group sports, with each individual to acquire knowledge and skill in activities which can be of value and satisfaction to him throughout his life. Two periods each week.

1:101. SENIOR SEMINAR. 2 credits.

Prerequisite, Senior standing. An analytical examination of significant, current problems and issues, including their origin and development, and the consideration of possible solutions for them. Each student must satisfactorily complete this course before graduation and should take it in either one of his last two semesters preceding graduation.

1:103. EASTERN CIVILIZATIONS. 3 credits.

Prerequisite, 64 credits. The primary objective of this course is to give the student a knowledge of past human experience and an understanding of present attitudes in the four major cultural groups of the Eastern World: China, Japan, India and the Moslem World. The student will become familiar with the essential features of these civilizations as manifested in their outstanding accomplishments in religion, philosophy, art, science and political organization.

2: ART

2:21. DESIGN. *Either semester.* 2 credits.

Basic principles of creative design and color theory. Discussion and studio.

2:23-24. COSTUME-STYLES AND FASHION. 2 credits each semester.

Desirable that 21 precede this course. Design as applied to costume, contributing influences, the human figure, occasion and personality. Discussion and studio. No credit toward major.

2:33-34. HOUSE PLANNING AND DECORATION. 2 credits each semester.

Desirable that 21 precede this course. Historic and contemporary styles in housing, interiors, furniture, textiles, etc. Discussion and studio. No credit toward major.

2:35. UNDERSTANDING ART. 3 credits.

A foundation for the critical evaluation of the visual arts using the basic principles of design as applied to our environment, past and present. Consideration will be given to the possibilities and limitations of materials and processes in relation to design.

2:37-38. DESIGN AND COMPOSITION IN COMMERCIAL ART. 2 credits each semester.

Desirable that 21 or 45 precede this course. Principles of design as applied to commercial art, color theory, lettering, layout, reproduction processes. Discussion and studio. No credit toward major.

2:43. INDUSTRIAL DESIGN. 2 credits.

Prerequisites, 21 and Engineering Graphics 36:23. Materials and process requirements necessary to design for mass production. Discussion and studio.

2:45. DRAWING. 2 credits.

Prerequisite, 21 or permission of Head of Department. Fundamentals of graphic expression: perspective, development of form and space in line, value and texture through variety of media and techniques. Studio.

2:50-51. DRAWING AND PAINTING. 2 credits each semester.

Desirable that 45 precede this course. An introduction to painting, understanding and appreciation through application of fundamentals of color and composition. First semester, oil; second semester, water color. Studio. No credit toward major.

2:57. DESIGN IN CRAFTS. 2 credits.

Prerequisite, 21. Extension of design to objects in space; emphasis on the continuous interaction of physical materials, structural processes and significance of the total organization. Studio.

2:59. CERAMICS. 2 credits.

Prerequisite, 21. Design through the use of forming processes (hand-built and wheel), decorating, glazing, firing processes. Studio.

2:60. CERAMICS. 2 credits.

Prerequisite, 59. Advanced work in ceramic design, sculpture, molds, and glazes. Studio.

2:69. LIFE DRAWING. 2 credits.

Prerequisite, 45. Structure of the human figure: its anatomy, proportion and articulation as they relate to the visual arts. Studio.

2:75. HISTORY OF ART, ANCIENT, CLASSICAL AND MEDIEVAL. 2 credits.

Architecture, painting, sculpture, and minor arts, from prehistoric times to close of Middle Ages. Lecture. No credit toward major.

2:76. HISTORY OF ART, RENAISSANCE AND BAROQUE. 2 credits.

Arts of Western Europe (with exception of France) from close of Middle Ages to 1850. Lecture. No credit toward major.

2:77. HISTORY OF ART, MODERN. 2 credits.

Arts of France from Gothic to present, art in United States, contemporary movements. Lecture. No credit toward major.

2:80-81. SURVEY OF HISTORY OF ART. 3 credits each semester.

Architecture, sculpture, painting and the minor arts from Prehistoric through Contemporary.

2:90. **ADVANCED DRAWING.** *2 credits.*

Prerequisite, 69. Drawing as an expressive, independent art form; development of creative attitudes through individual exploration of various media and techniques. Studio.

2:102. **ADVANCED DESIGN IN CRAFTS.** *2 credits.*

Prerequisite, 57. Advanced problems of greater complexity and broader scope: individual exploration of sculptural and structural potentials of materials. Studio.

2:105. **GRAPHIC ARTS.** *2 credits.*

Prerequisite, 69. Design related to screen printing (film and touche), wood cut, wood engraving, acid and dry point etching. Studio.

2:106-107. **WEAVING.** *2 credits each semester.*

Prerequisite, 21. Design related to weaving processes, warping and threading of looms, plain and pattern weaving, use of different looms and materials. Studio.

2:108-109. **METAL CRAFT.** *2 credits each semester.*

Prerequisite, 21. Creative design in terms of metals and processes, hammering, piercing, etching, stone setting, enameling. Studio.

2:115-116. **PAINTING.** *2 credits each semester.*

Prerequisite, 90 or permission. Creative and individual expression through painting media, color and composition, experimentation in techniques. First semester, oil; second semester, water color. Studio.

2:131-132. **COMMERCIAL ART.** *2 credits each semester.*

Prerequisite, 90. Professional approach to creative advertising art, lettering, layout, "finished art" techniques, reproduction processes. Studio.

2:151-152. **COSTUME DESIGN.** *3 credits each semester.*

Prerequisite, 69. Professional creative dress design, historic costume as source material. Discussion and studio.

2:171-172. **INTERIOR DESIGN.** *3 credits each semester.*

Prerequisites, 57, 45, and Engineering Graphics 36:23. Professional approach to interior design, problems in house planning and furnishings, historic and contemporary furniture and interiors. Lectures, discussions, and studio.

2:179. **BOOK ILLUSTRATION.** *2 credits.*

Prerequisite, 90. Professional approach to book illustration, different age levels, the book as an art form. Studio.

2:203-204. **HISTORY OF ART SEMINAR.** *3 credits each semester.*

Prerequisite, permission of Head of Department. A restricted field of study to be selected.

2:209. **ADVANCED LIFE DRAWING.** *2 credits.*

Prerequisite, 90. A more fully developed conception of creative design in terms of the human figure and its significance as a fundamental expressive element. Studio.

2:225-226. **SPECIAL PROBLEMS IN ART.** *3 credits each semester.*

Prerequisite, permission of Head of Department. Problems of an advanced nature in the field of special interest. Studio.

3: BIOLOGY

3:21-22. PRINCIPLES OF BIOLOGY. 4 *credits each semester*.

Selected biological principles will be treated in historically oriented lectures, and illustrated by studies in the laboratory. The first semester will deal with principles most easily illustrated by plant materials, the second with those best treated in connection with animals, but neither semester is to be exclusively botany or zoology.

3:33. MICROBIOLOGY. 3 *credits*.

Basic principles of microbiology; destruction, removal and inhibition of microorganisms; immunity and allergy; common pathogens. Laboratory.

3:35-36. NATURE STUDY. 3 *credits each semester*.

Common plants and animals of this region, their life, habits and inter-relations. Adapted to use of teachers of nature study. Some field trips.

3:47-48. ANATOMY AND PHYSIOLOGY. 3 *credits each semester*.

Anatomy of human body, chiefly gross study of all organ systems, and their functions. Not open to biology and pre-medical majors. Laboratory.

3:55. INTRODUCTION TO VERTEBRATE ANATOMY. 4 *credits*.

An introductory course in Vertebrate Anatomy, designed to stimulate interest in this area of Biology, and to provide some practical experience in the dissection and display of the major organs in a variety of vertebrates, including fish, amphibians, reptiles, birds and mammals. Laboratory.

3:77. INTRODUCTORY BACTERIOLOGY. 2 *credits*.

Basic principles of morphology, growth and techniques. Offered as a course for engineers, others by permission. Laboratory.

3:82. CONSERVATION OF NATURAL RESOURCES. 3 *credits*.

Principles and practice of conservation of mineral, plant, and animal resources.

3:91. INTRODUCTORY HUMAN PHYSIOLOGY. 4 *credits*.

Physiology or functioning of human body. Processes operating in organ systems. Not open to pre-medical majors. Laboratory.

3:113-114. FIELD BOTANY. 3 *credits each semester*.

Classification and recognition of plants, principally seed plants of the region. 21 is desirable as background. Laboratory.

3:127. HISTOLOGICAL TECHNIQUE. 2 *credits*.

Prerequisite, 22. Methods of preparation of tissues and other specimen materials for microscopical study. Six hours of laboratory work a week.

3:128. HISTOLOGY. 3 *credits*.

Prerequisite, 22. Study of animal tissues. Laboratory.

3:135-136. HUMAN PHYSIOLOGY. 3 *credits each semester*.

Prerequisite, 22 or equivalent, and some beginning Chemistry. Physiology or function of human body, processes going on in all organ systems, including metabolism and blood. Not open to pre-medical majors. Laboratory.

3:141. **INVERTEBRATE ZOOLOGY.** 4 credits.

Prerequisite, 22. Invertebrate groups, their classification, anatomy and life history of representative groups. Laboratory.

3:143. **INTRODUCTION TO PARASITOLOGY.** 4 credits.

Prerequisite, 22. Principles of parasitism; survey of the more important human and veterinary parasitic diseases.

3:144. **GENERAL ENTOMOLOGY.** 4 credits.

Prerequisite, 22. Insects, their nature, structure, life history, and economic importance; insect orders, representative families and types. An insect collection is made (the department reserves the right to retain any specimens).

3:146. **GENERAL GENETICS.** 3 credits.

Principles of heredity illustrated by plant and animal organisms. 22 or equivalent desirable as background.

3:147. **GENETICS LABORATORY.** 1 credit.

Prerequisite or corequisite, 146 or 248. Experiments using selected strains of *Drosophila* (fruit fly) used to illustrate inheritance, will form the basic format of the course. Techniques, using molds and higher plants will also be introduced. Methodology in human genetics research will be treated each time it is offered but will be a larger proportion of the course when offered with 248 Human Genetics.

3:207-208. **BACTERIOLOGY.** 4 credits each semester.

Prerequisites, 22 and Chemistry 5:24. Microorganisms, principles of growth, sterilization, infection, immunity, and public health. The physiology of bacteria and pathogenic organisms. Laboratory.

3:215-216. **PLANT PHYSIOLOGY.** 4 credits each semester.

Prerequisite, 21 and some knowledge of Chemistry. Water, soil and mineral requirements of plants, and their metabolism, growth, response to stimuli. Laboratory.

3:217. **PLANT ANATOMY.** 4 credits.

Prerequisite, 21. Structure of cells, tissues and organs of land plants, relation of structure to utilization of plants. Laboratory.

3:218. **PLANT MORPHOLOGY.** 4 credits.

Prerequisite, 21. Lower plants. The structure, reproduction, evolution and economic and biological significance of algae and fungi.

3:219. **PLANT MORPHOLOGY.** 4 credits.

Prerequisite, 21. Higher plants. As above, for mosses, liverworts, ferns, their allies and seed plants.

3:235. **GENERAL PHYSIOLOGY.** 3 credits.

Fundamental life processes as exhibited in organisms, especially in organ systems of higher vertebrates. Laboratory.

3:237-238. **CELLULAR MICROBIOLOGY.** 4 credits.

Prerequisites, Elementary Biology, Chemistry through Organic, and consent of instructor. Characteristics of cellular and subcellular systems; main emphasis on characteristics common to all living things, most examples from microorganisms. Laboratory.

3:248. HUMAN GENETICS. 2 credits.

Prerequisite, 22. Principles of heredity as illustrated by the human species; eugenics problems.

3:251 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING. 3 credits.

Prerequisites, 22 or 91 or 55 and 24:35. This course, designed for both biology and speech students, considers speech as a basic biological process. It briefly surveys anatomical concepts of bodily organizations, and studies in more detail the anatomy and physiology of body regions and organs, which are both directly and indirectly responsible for speech. Laboratory.

3:255. VERTEBRATE ANATOMY. 4 credits.

Prerequisite, 22. Comparative study of all organ systems from fishes to mammals. Laboratory.

3:256. EMBRYOLOGY OF VERTEBRATES. 4 credits.

Prerequisite, 255. General embryonic development of vertebrates and relatives, detailed embryology of frog and chick. Laboratory.

3:257. EXPERIMENTAL EMBRYOLOGY. 2 credits.

Prerequisite or corequisite, 256. A survey of the field of Experimental Embryology emphasizing basic terminology, definitions, and the principles and experimental methods of investigating basic processes in the various phases of vertebrate embryology. Laboratory.

3:258. VERTEBRATE ZOOLOGY. 3 credits.

Prerequisite, 22. Classification of vertebrates, primitive fishes through mammals, classes, orders, families and representative types. Laboratory.

3:265-266. BIOLOGY SEMINAR. 1 credit each semester.

Discussions and written reports on biological books and papers from current literature.

3:267-268. BIOLOGICAL PROBLEMS. 1 to 3 credits each semester.

Individual problem work of laboratory type. Open to Seniors and in exceptional cases to Juniors. Two continuous semesters are advisable.

3:271. ORGANIC EVOLUTION. 3 credits.

Early concepts of Evolution. Darwinian Theory and supporting evidence, the mechanism of evolution; molecular evolution; evolutionary trends in plants and animals.

GRADUATE COURSES

3:347. CYTOLOGY. 4 credits.

Study of cells, main emphasis will be placed on the characteristics common to all cells and on investigative techniques used to determine these characteristics. Specialized cells will be considered mainly as they demonstrate general cellular principles.

3:367-368. RESEARCH. 3 or more credits each semester.

Individual problem work of advanced nature.

5: CHEMISTRY

5:23-24. INORGANIC CHEMISTRY. 3 credits each semester.

Designed primarily for students in Home Economics and for laboratory technicians. Fundamental laws and theories of chemistry; the more important elements and their compounds. Laboratory.

5:25. CHEMISTRY. 3 *credits*.

Fundamentals of organic, inorganic and physiological chemistry. Filmed Laboratory.

5:27-28. GENERAL INORGANIC CHEMISTRY FOR ENGINEERS. 4 *credits each semester*.

Introduction to basic facts and principles of chemistry, particularly in relation to atomic structure and the periodic table. Laboratory.

5:31. PRINCIPLES OF CHEMISTRY. 4 *credits*.

Introduction to basic facts and principles of chemistry. Structure of the atom and the periodic table. The chemical bond, chemical reactivity and oxidation-reduction reactions. The states of matter. Laboratory.

5:32. PRINCIPLES OF CHEMISTRY AND QUALITATIVE ANALYSIS. 5 *credits*.

Prerequisite, 31. The general theory of aqueous solutions, including acid-base behavior. Electrochemistry and chemical kinetics. The general laws of equilibria in chemical reactions, especially as they apply to qualitative analysis. Laboratory.

5:47-48. ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS. 4 *credits each semester*.

Prerequisite, 32 or 24. Intended primarily for students preparing to become laboratory or hospital technicians. Elementary theory and calculations in qualitative and quantitative analysis, laboratory exercises, methods and instruments used in hospital laboratories.

5:55. ORGANIC CHEMISTRY. 3 *credits*.

Prerequisite, 24. Designed especially for students in Home Economics. Laboratory.

5:56. PHYSIOLOGICAL CHEMISTRY. 3 *credits*.

Prerequisite, 55. Continuation of 55. Chemistry of digestion, absorption, and metabolism. Laboratory.

5:63-64. ORGANIC CHEMISTRY, LECTURE. 3 *credits each semester*.

Prerequisite, 32 or 28 and permission. Covalent bond; structure of organic molecules; aliphatic and aromatic compounds; functional groups, polynuclear hydrocarbons and heterocyclic compounds; mechanisms of simple organic reactions.

5:65-66. ORGANIC CHEMISTRY, LABORATORY. 2 *credits each semester*.

Corequisite, 63-64. Laboratory experiments to develop techniques in organic chemistry and to illustrate principles.

5:113-114. PHYSICAL CHEMISTRY, LECTURE. 3 *credits each semester*.

Prerequisite, 64 and 17:76 or permission. Gases, thermodynamics, thermo-chemistry, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria, and atomic and molecular structure.

5:115-116. PHYSICAL CHEMISTRY, LABORATORY. 2 *credits each semester*.

Corequisites, 113-114. Laboratory designed for illustrating techniques and equipment used in physical chemical investigations.

5:123. ANALYTICAL CHEMISTRY, LECTURE. 3 *credits*.

Prerequisite, 64 or 32 and permission. Introduction to the theoretical principles of qualitative and quantitative analysis. Technique and calculations, gravimetric and volumetric methods.

5:124. ANALYTICAL CHEMISTRY, LECTURE. 3 credits.

Prerequisite, 114 or permission. 123. Advanced treatment of theoretical principles of analytic chemistry. Newer analytical tools and methods. Instrumental analysis.

5:125-126. ANALYTICAL CHEMISTRY, LABORATORY. 2 credits each semester.

Corequisites, 123-124. Laboratory techniques employed in gravimetric, volumetric, and instrumental analysis.

5:163. ADVANCED ORGANIC CHEMISTRY. 3 credits.

Prerequisites, 64, 66. Discussion of organic reaction mechanisms, developed from consideration of reactive intermediates.

5:172. ADVANCED INORGANIC CHEMISTRY. 3 credits.

Prerequisites, 114, 116. A survey of the descriptive chemistry of the elements.

5:181-182. SENIOR PROBLEMS. 2 credits each semester.

Prerequisite, permission. An assignment of special problems to the student, designed as an introduction to research problems. May be of the literature survey or laboratory type.

5:201. BIOCHEMISTRY. 3 credits.

Prerequisites, 64, 66. Constituents of cells and tissues, their organic and fundamental physical chemical properties. Proteins, enzymes, vitamins, carbohydrates, fats, energy relationships, intermediary metabolism.

5:211. PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS. 3 credits.

Prerequisites, 64, 66 and 17:25, 20:26 and permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules, and colloids, special topics in biochemistry, biophysics and molecular biology. Laboratory.

5:221. QUALITATIVE ORGANIC ANALYSIS. 3 credits.

Prerequisites, 64, 66 and either 124 and 126 or permission. Characterization and identification of organic substances, separation and identification of components of organic mixtures. Laboratory.

5:250. INDUSTRIAL CHEMISTRY. 2 credits.

Prerequisites, 64, 66, 124, 126. Chemical engineering unit operations considered in non-mathematical language, basic principles of instrumentation, manufacture of various inorganic and organic chemicals.

GRADUATE COURSES

5:301-302. CHEMISTRY OF POLYMERS. 2 credits each semester.

Prerequisites, 64, 66. Definitions and classification of polymeric substances into fibers, plastics and rubbers. Sources, structures and properties of naturally occurring polymers. Survey of monomers. Methods of preparation, structure and properties of organic and inorganic polymers. Mechanism of condensation and addition polymerization reactions.

5:303-304. CHEMISTRY OF POLYMERS LABORATORY. 2 credits each semester.

Prerequisites, 64, 66. 301-302 must be taken concurrently. Preparation of different polymers to illustrate methods of polymerization and properties of polymers discussed in 301-302.

5:305. VALENCY. 2 *credits*.

Prerequisite, 114. A treatment of chemical bonding and of quantum mechanics, with applications to modern chemical problems. Consideration is given to examples in the mechanics of molecules, atomic and molecular structure and spectra, and valence theory.

5:306. SYNTHETIC METHODS OF ORGANIC CHEMISTRY. 2 *credits*.

Prerequisite, 64. A discussion of synthetic organic chemistry, including recent advances. Standard syntheses of hydrocarbons, alcohols, carbonyl compounds and acids and their derivatives, aromatic substitution, oxidation and reduction methods will be considered, as well as newer techniques.

5:309. MICRO-QUANTITATIVE ORGANIC ANALYSIS. 2 *credits*.

Prerequisites, 64, 66, 124, 126 and permission. Micro-quantitative analytical methods for determination of carbon, hydrogen, nitrogen, sulfur, and halogens in organic substances. Laboratory.

5:310. SPECIAL TOPICS IN ORGANIC CHEMISTRY. 2 *credits*.

Prerequisite, 163. Topics in advanced organic chemistry such as terpenes, dvestuffs, medicinals, alkaloids, heterocyclic compounds, carbohydrates, proteins, etc.

5:313. OPTICAL AND GEOMETRICAL ISOMERISM, AND STEREOCHEMISTRY. 2 *credits*.

Prerequisite, 64. Modern theory of stereochemistry and its application to reactions of organic chemistry.

5:315-316. INSTRUMENTAL METHODS OF ANALYSIS. 3 *credits each semester*.

Prerequisites, 64, 66, 114, 116 or permission. Theory and application of analytical techniques based on electrical, optical and chromatographic methods. Laboratory.

5:319-320. THEORETICAL INORGANIC CHEMISTRY. 2 *credits each semester*.

Prerequisites, 114, 116, 172. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Study of elements and compounds according to periodic grouping.

5:321-322. ADVANCED INORGANIC PREPARATIONS. 1 *credit each semester*.

Prerequisites, 114, 116, 124, 126, 172. Methods for preparing and purifying inorganic compounds, crystallization, distillation, sublimation, precipitation, and liquefaction. Laboratory.

5:325. COLLOID CHEMISTRY. 2 *credits*.

Prerequisites, 64, 66, 124, 126. Properties of colloids, kinetic, interfacial and electrical, stability. Lyotropic series applied to emulsoids and suspensoids. Gels, emulsions and foams, size-shape relationships.

5:331-332. PHYSICAL CHEMISTRY OF HIGH POLYMERS. 2 *credits each semester*.

Prerequisites, 114, 116. Mechanism and kinetics of condensation polymerization, including molecular weight distribution and network formation. Kinetics of addition polymerization and copolymerization, including molecular weight distribution, three-dimensional polymerization and emulsion polymerization. Thermodynamics of dilute and concentrated solutions of high polymers. Solution methods for determination of molecular weight including osmotic pressure, light scattering, sedimentation and viscosity. Dimensions of polymer molecules in solution.

5:333-334. EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS. 2 credits each semester.

Prerequisites, 114, 116; 331-332 must be taken concurrently. Laboratory experiments to illustrate methods and principles discussed in 331-332.

5:335-336. ADVANCED PHYSICAL CHEMISTRY. 2 credits each semester.

Prerequisites, 114, 116. Thermodynamics, fugacity solutions, partial molar quantities, atomic-molecular structure, quantum-statistical principles.

5:337-338. ADVANCED PHYSICAL CHEMISTRY LABORATORY. 1 credit each semester.

Prerequisites, 114, 116; 335-336 must be taken concurrently. Laboratory experiments to illustrate topics listed under 335-336.

5:339. ADVANCED CHEMICAL THERMODYNAMICS. 2 credits.

Prerequisite, 336. Thermodynamics of solutions, calculation of thermodynamic functions from statistical data, activities of electrolytes and Debye-Huckel Theory, reaction kinetics, solution phase.

5:340. SPECIAL TOPICS IN ANALYTICAL CHEMISTRY. 2 credits (May be repeated).

Prerequisites, 114, 116 or permission. Topics in advanced analytical chemistry such as electroanalysis, activation analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid and liquid-solid chromatography, gas chromatography, ion exchange, thermoanalytical methods, separations, standards, sampling, recent developments.

5:341. SPECIAL TOPICS IN INORGANIC CHEMISTRY. 2 credits (May be repeated).

Prerequisites, 114, 116, 172 or permission. A consideration of topics in modern inorganic chemistry, such as: Coordination compounds, the chemistry of the solid state, representative elements, nuclear chemistry, nonaqueous solvents, organo-metallic compounds.

5:342. SPECIAL TOPICS IN PHYSICAL CHEMISTRY. 2 credits (May be repeated).

Prerequisites, 114, 116. Subject matter from the areas of modern physical chemistry, such as: Advanced valence theory, quantum chemistry, introduction to chemical physics, crystallography.

5:343-344. MECHANICAL BEHAVIOR OF POLYMERS. 2 credits each semester.

Prerequisites, 332 or permission. Physical properties and mechanical behavior of elastomers, plastics and fibers. Present-day theories. Physical behavior of polymers related to their molecular constitution.

5:349. CHEMISTRY OF ELASTOMERS. 2 credits.

Prerequisites, 64, 66 or permission. A study of the molecular structure and chemical reaction and properties of natural and synthetic rubbers, as well as the polymerization processes involved in the formation of the synthetic elastomers.

5:350. SPECIAL TOPICS IN POLYMER CHEMISTRY. (Lectures and/or laboratory). 2 credits.

Prerequisites, 64, 66, 114, 116 or permission. Study of topical subjects of current interest in the chemistry of macromolecules, encompassing organic, inorganic or physical chemistry aspects, and including laboratory work where applicable.

5:355. PHYSICAL ORGANIC CHEMISTRY I. 2 credits.

Prerequisite, 305. Discussion of organic reaction mechanisms developed from consideration of reactive intermediates: carbonium ions, carbanions, free radicals, and divalent carbon.

5:356. PHYSICAL ORGANIC CHEMISTRY II. 2 *credits*.

Prerequisite, 355. Extrathermo-dynamic relationships in the study of rates and equilibria of organic reactions.

5:357. THEORETICAL ORGANIC CHEMISTRY. 2 *credits*.

Prerequisite, 356. The application of modern quantum chemistry to problems in organic chemistry.

5:365. MASTER'S RESEARCH. 1 to 6 *credits*.

For properly qualified candidates for Master's degree. Supervised original research in fields of inorganic, analytical, physical, organic and polymer chemistry, depending on availability of staff and facilities.

5:370. CHEMICAL MICROSCOPY AND MICROCHEMICAL ANALYSIS. 2 *credits*.

Prerequisite, 125 and permission. Microscale titrations and physical measurements, phase studies, identifications, microchemical procedures.

5:371. THERMOANALYTICAL TECHNIQUES. 2 *credits*.

Prerequisite, 116 and permission. The methods of differential thermal analysis, thermogravimetric analysis and related techniques are discussed. The methods of heating, programming, amplifying and recording and the effects of atmosphere, heat transfer, dilution, sample size and geometry are described. Applications to inorganic and organic reactions, reversible and irreversible, are discussed.

5:372. ADVANCED ANALYTICAL CHEMISTRY. 3 *credits*.

Prerequisite, 126 or equivalent. One lecture, 2 laboratory periods. Advanced techniques for separation, determination and identification. Classical as well as recent techniques.

5:373. ADVANCED INSTRUMENTAL ANALYSIS. 2 *credits*.

Prerequisite, 316. One lecture, 1 laboratory period. Vapor phase chromatographic packing methods and materials, capillary columns, ionization detectors. Emission and absorption spectrography and photometry. X-ray diffraction. Special electrometric methods.

5:374. ADVANCED INSTRUMENTATION. 2 *credits*.

Prerequisites, 116 and 126 or equivalents. Theory and application of mass spectrometry, nuclear magnetic resonance spectrometry and other instrumental measurements. Interpretation of data.

5:401. DOCTORAL RESEARCH. 1 to 16 *credits each semester*.

Open to properly qualified students accepted as candidates for the degree of Doctor of Philosophy in Chemistry. At the present time, supervised original research may be undertaken in organic, inorganic or physical aspects of polymer chemistry, depending on availability of staff and facilities.

6: ECONOMICS

6:43. INTRODUCTION TO ECONOMIC PRINCIPLES. 3 *credits*.

Prerequisite, Algebra 17:21 recommended. Intensive introduction to the analysis of modern industrial society as well as of the formulation of economic policy. The structure of economic theory and its relation to economic reality. (No credit for persons having completed 45-46.)

6:45-46. PRINCIPLES OF ECONOMICS. 3 credits each semester.

Economic activity in modern industrial society, preparation for responsible participation in process of shaping public policy. No credit to students who have received credit in Economics 43.

6:82. CONSUMER ECONOMICS. 3 credits.

Spending habits of American consumers, influences affecting their spending decisions, personal finance, budget planning, saving programs, installment buying, insurance, investments, housing finance.

6:144. DEVELOPMENT OF ECONOMIC INSTITUTIONS. 3 credits.

Prerequisite, 46. Analytical survey of the origins and growth of the institutional frame of contemporary economic life in all its forms.

6:146. LABOR PROBLEMS. 3 credits.

Prerequisite, 46. Labor economics, principles, and public policy. Development of structure, objectives and policies of unions in the United States. Labor-management relation, negotiations of trade agreements, administration of grievance procedures, economic effects of union activities, problems of public control.

6:148. MONEY AND BANKING. 3 credits.

Prerequisite, 46. Institutions of money, banking, and credit, monetary expansion and contraction, public policies affecting this process, development of our money and banking system.

6:204. MONETARY AND BANKING POLICY. 3 credits.

Prerequisite, 46, 148. Control over currency and credit, policies of control by central banks and governments, U.S. Treasury and Federal Reserve System.

6:208. PUBLIC FINANCE. 3 credits.

Prerequisite, 46. Tax systems and other sources of revenue of federal, state, and local governments; changing patterns of public expenditures; fiscal policy and debt management; economic effects of public policy.

6:210. COMPARATIVE ECONOMIC SYSTEMS. 3 credits.

Prerequisite, 46. Systems of economic organization, ranging from the theoretical extreme of unregulated private enterprise to that of Marxian communism. Comparison of actual system of mixed public and private enterprise in contemporary United States with the state socialism of the Soviet Union.

6:239. LABOR AND THE GOVERNMENT. 3 credits.

Prerequisite, 46, 146. Development of public policy for control of industrial relations, from judicial control of 19th century to statutory and administrative controls of World War II and postwar periods. Economic effects of public control.

6:242. QUANTITATIVE ECONOMICS. 3 credits.

Prerequisite, 46, 40:147. Quantitative relationships. Construction of static and dynamic models and their use in explanation, forecasting and decision-making. Elements of linear-programming, activity analysis, game-theory.

6:245. PRICE THEORY. 3 credits.

Prerequisite, 46. Advanced analysis of consumer demand, production costs, market structures, determinants of factor income.

6:260. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING. 3 credits.

Prerequisite, 46, 146 and 42:264. Principles and organization of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union status and security, wage scales, technological change, production standards, etc.

6:267. ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES. 3 credits.

Prerequisites, 46 and 40:147. Basic problems in economic development. Theories of development. The issues of industrialization and investment. Government planning for development and international efforts for economic development of underdeveloped countries.

6:268. INTERNATIONAL ECONOMIC RELATIONS. 3 credits.

Prerequisite, 46. Theory of international trade and foreign exchange, policies of free and controlled trade, international monetary problems, world economic planning.

6:293. DEVELOPMENT OF ECONOMIC THOUGHT. 3 credits.

Prerequisite, 46. Evolution of theory and method, relation of ideas of economists to contemporary conditions.

6:294. NATIONAL INCOME AND ITS VARIATIONS. 3 credits.

Prerequisite, 46; recommended 40:147. Changes in the national income, production, employment, price levels, long-range economic growth, short-term fluctuations of economic activity.

6:295-296. THESIS. 2 credits each semester.

Prerequisite, 46. Research and writing of thesis. Senior or graduate standing required. Undergraduate students can receive only 2 credits.

6:297. ECONOMIC FORECASTING. 3 credits.

Prerequisites, 46, 40:147. Relationship between facts and explanation. The techniques of making forecasts as basis for decisions in business and government as well as for the verification of hypotheses.

6:298. SEMINAR IN ECONOMICS. 3 credits.

Prerequisite, permission. Opportunity for advanced students to study special fields of Economics.

GRADUATE COURSES

6:341. ECONOMIC ANALYSIS. 3 credits.

Prerequisite, 46, 40:147. Recent developments in partial and general equilibrium theory. Statics and Dynamics. Review of mathematical programming, input-output analysis, activity analysis, game-theory. Decision and control processes in the allocation of resources and the distribution of income.

6:351. MACRO-ECONOMICS. 3 credits.

Advanced analysis of national income, the level of employment, and economic long-term growth.

6:355-356. READING IN ADVANCED ECONOMICS. 3 credits each semester.

Prerequisite, Bachelor's degree or permission. Intensive investigation of selected problem-areas in advanced Economics under the supervision of the instructor. Since the subject matter is decided upon in each case, the course may be taken repeatedly for credit.

7: ENGLISH

Note: Journalism courses may be found at the end of English courses.

7:37-38. REPRESENTATIVE AMERICAN WRITERS. 3 credits each semester.

First semester, to 1865; second semester, 1865 to the present.

7:41. SHAKESPEARE. 3 credits.

Reading of 15 or more plays, with explanatory lectures and discussions.

7:42. THE MAKING OF MODERN ENGLISH. 3 credits.

Modern English usage, historical backgrounds, principles of descriptive grammar.

7:44. APPRECIATION OF DRAMA. 3 credits.

Courses 44, 45, and 46 constitute an approach to critical reading.

7:45. APPRECIATION OF FICTION. 3 credits.

7:46. APPRECIATION OF POETRY. 3 credits.

7:50. APPRECIATION OF DRAMA. 3 credits.

Courses 44, 45, 46 constitute an approach to critical reading.

7:65-66. ENGLISH LITERATURE. 3 credits each semester.

English Literature from Anglo-Saxon to modern times.

7:71. EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE. 3 credits.

Representative French, German, Italian, and Spanish works, medieval to nineteenth century, in translation.

7:72. MODERN EUROPEAN LITERATURE. 3 credits.

Representative European writers from about 1850 to present.

7:73-74. THE ENGLISH BIBLE AS LITERATURE. 3 credits each semester.

Extensive readings in the Bible with reference to literary values. First semester: Old Testament, exclusive of Wisdom Books; second semester, Wisdom Books and New Testament.

7:121-122. ENGLISH FICTION. 3 credits each semester.

First semester, Defoe to Scott; second semester, the Brontes to Hardy.

7:135. PUBLICATIONS SUPERVISION. 2 credits.

Prerequisite, 31 or 34 and 1:2. Basic course for advisers of high school and college newspapers, magazines, and yearbooks as well as those students preparing for those positions. Problems relating to staff selection and administration, supervisory techniques, business and financial operations, and mechanical functions will be covered.

7:143. PROBLEMS IN EXPOSITORY WRITING. 3 credits.

Prerequisite, 42 or permission. Writing advanced papers based on individual literary researchings; careful correction of varied papers to show both errors and means for improvement.

7:150. ADVANCED COMPOSITION. 3 credits.

Training in various forms of writing; frequent consultation with instructor.

7:155. CONTINENTAL DRAMA. 3 credits.

Masterpieces of the drama from the Greeks to the present.

- 7:162. HISTORY OF THE ENGLISH LANGUAGE. 3 credits.
Development of English from Anglo-Saxon period to present.
- 7:163-164. ENGLISH DRAMA. 3 credits each semester.
First semester: from the Middle Ages to 1642; second semester: from the Restoration to Shaw.
- 7:201. CHAUCER. 3 credits.
"The Canterbury Tales" as one of the masterpieces of English poetry and as a reflection of medieval life.
- 7:202. SIXTEENTH-CENTURY LITERATURE. 3 credits.
Non-dramatic literature of Tudor period.
- 7:205. ANGLO-SAXON. 3 credits.
Anglo-Saxon language and literature, linguistic studies of Old English as a predecessor of Modern English, readings in "Beowulf" and in Anglo-Saxon prose.
- 7:207. MIDDLE ENGLISH. 3 credits.
Language and literature of the 11th to the 15th centuries, exclusive of Chaucer.
- 7:212. MILTON. 3 credits.
Concentrated study of selected prose and major poems.
- 7:213. SEVENTEENTH-CENTURY LITERATURE. 3 credits.
Non-dramatic literature from Bacon to Dryden.
- 7:214. EIGHTEENTH-CENTURY LITERATURE. 3 credits.
Work of Pope, Johnson, and other writers of the period.
- 7:215. SHAKESPEARE TO 1601. 3 credits.
Concentrated study of major plays and poems.
- 7:216. SHAKESPEARE AFTER 1601. 3 credits.
Concentrated study of major plays and poems.
- 7:217. NINETEENTH-CENTURY ENGLISH LITERATURE. 3 credits.
Romantic and Victorian literature, exclusive of drama and fiction.
- 7:221. AMERICAN LITERATURE I. 3 credits.
Colonial to early Nineteenth Century.
- 7:222. AMERICAN LITERATURE II. 3 credits.
Hawthorne to Henry James.
- 7:223. AMERICAN LITERATURE III. 3 credits.
Twentieth Century.
- 7:240. TWENTIETH-CENTURY ENGLISH LITERATURE. 3 credits.
- 7:297-298. SEMINAR. 1 or 3 credits each semester.
Special studies, methods of literary research.

GRADUATE COURSES

- 7:303. MODERN LINGUISTICS. 3 credits.
Modern linguistic studies and methodology, particularly as these apply to American English.

7:311. **INDIVIDUAL READING.** 3 *credits*.

To provide opportunity for the student to advance himself by study under the direction of an instructor who will guide his reading and research.

7:322. **SHAKESPEARE'S CONTEMPORARIES IN THE ENGLISH DRAMA.** 3 *credits*.

Readings in such playwrights as Lyly, Marlowe, Jonson, Beaumont, Fletcher and in contemporary writings pertinent to the theatrical scene.

7:328. **VICTORIAN POETS.** 3 *credits*.

Major verse of Tennyson, Browning, and Arnold, related poetry and critical studies.

7:332. **AMERICAN ROMANTIC FICTION.** 3 *credits*.

The meaning of American Romanticism applied to the study of Poe, Hawthorne and Melville.

7:338. **REALISM AND NATURALISM IN AMERICAN FICTION.** 3 *credits*.

Studies in Twain, Howells, James, Crane, Norris and Dreiser.

7:340. **LITERARY CRITICISM.** 3 *credits*.

The development of European literary criticism from classical times to the present.

7:397-398. **SEMINAR.** 3 *credits each semester*.7:401. **RESEARCH.** 3 *credits*.

JOURNALISM COURSES

Courses considered to be part of the English department's Journalism program are:

7:31. **NEWS WRITING.** 2 *credits*.

Prerequisite, 1:2. Writing of news stories; applying theory through discussions, illustrative material; actual writing for publication.

7:33. **RADIO AND TELEVISION NEWS WRITING.** 2 *credits*.

Prerequisite, 1:2. Principles and practice in the preparation of radio and television news. Fundamentals of electronic news writing and news gathering, practice in news delivery techniques and voice control in studio situations.

7:34. **EDITING.** 2 *credits*.

Prerequisite, 31, 1:2 or equivalent. Copyreading, headline writing, proofreading, make-up, type and typography, printing machines and processes, newspaper methods and systems.

7:36. **FEATURE WRITING.** 2 *credits*.

Prerequisite, 1:2. Short newspaper and magazine articles; preparation of articles for publication; human interest situations; extensive writing with class discussions.

7:39. **PUBLICATIONS PRODUCTION.** 2 *credits*.

Prerequisite 1:2. Fundamental course for persons engaged in production of publications and those preparing for a scholastic publication supervisory position. Consideration of a variety of processes for reproducing the printed word and related illustrations including photo-engraving, lithography, letterpress, rotogravure, mimeographing, and other forms of duplication.

8: FRENCH

8:21-22. **BEGINNING FRENCH.** 4 *credits each semester*.

Reading, speaking, writing and understanding; intensive drill in pronunciation, short stories, outside reading.

8:43-44. INTERMEDIATE FRENCH. 3 credits each semester.

Prerequisite, 22. Grammar review, practice in reading, writing and speaking; short stories, plays, novels on intermediate level, outside reading.

8:65-66. FRENCH COMPOSITION AND CONVERSATION. 3 credits each semester.

Prerequisite, 44 (or equivalent). Advanced composition using French models, special attention to words and idioms, development of oral expression and conversational ability.

8:87-88. INTRODUCTION TO FRENCH LITERATURE. 3 credits each semester.

Prerequisite, 44 (or equivalent). Introduction to the study of French literature; the fundamentals of the *explication de texte*; with reading and class discussion in French of representative works.

8:105. FRENCH PHONETICS. 1 credit.

Prerequisite, 44 (or equivalent). Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on articulation and intonation by use of phonograph records and individual tape recordings made by the student.

8:165-166. ADVANCED FRENCH COMPOSITION AND CONVERSATION. 3 credits each semester.

Prerequisite, 66. A continuation of the material considered in 65, 66, at a more advanced level.

8:213-214. THE AGE OF ENLIGHTENMENT. 3 credits each semester.

Prerequisite, 66 or 88 or permission. French literature of the Eighteenth Century.

8:217-218. FRENCH CLASSICISM. 3 credits each semester.

Prerequisite, 66 or 88 or permission. Representative works of the Seventeenth Century writers Malherbe, Théophile, Boileau, La Fontaine, Corneille, Racine, Molière, Descartes, Pascal, Bossuet, La Rochefoucauld, La Bruyère, Mme. de Sévigné and Mme. de la Fayette.

8:219-220. TWENTIETH CENTURY FRENCH LITERATURE. 3 credits each semester.

Prerequisite, 66 or 88 or permission. Representative plays, novels and poems by Gide, Proust, Valéry, Claudel, Bernanos, Péguy, Giraudoux, Cocteau, Anouilh, Malraux, Sartre, Camus and others.

8:221-222. 19TH CENTURY FRENCH NOVEL. 3 credits each semester.

Prerequisite, 66 or 88 or permission. Study of the novel of the 19th Century with reading and class discussion in French of representative works.

8:223-224. 19TH CENTURY POETRY AND DRAMA. 3 credits each semester.

Prerequisite, 66 or 88 or permission. Poetry and drama of the 19th century with emphasis on the works of Lamartine, Hugo, Vigny, Musset, Dumas pere, Scribe, Dumas fils, Baudelaire, Verlaine, Rimbaud, Mallarme, Becque, Le Theatre libre, Rostand and Maeterlinck.

8:231-232. INDIVIDUAL READING IN FRENCH. 1 to 3 credits each semester.

Prerequisite, permission.

GRADUATE COURSES

8:301. ADVANCED FRENCH GRAMMAR AND STYLISTICS. 3 credits.

Advanced study of normative French grammar with translation into French of English texts and practice in free composition.

8:303. ROMANCE LINGUISTICS. 3 *credits*.

Studies in Romance Linguistics with particular emphasis on linguistic developments and methodology in French.

8:304. APPLIED LINGUISTICS IN FRENCH. 3 *credits*.

Application of essential linguistic principles in learning and teaching French.

8:311-312. SELECTED TOPICS IN THE MOVEMENT OF FRENCH IDEAS. 3 *credits each semester*.

Ideas characteristic of various periods in French literature. The first semester will focus on writers before 1750. Second semester topics will be selected from 1750 to the present time. A formal report demonstrating the ability to use essential research techniques will be required in this course.

8:343. CONTEMPORARY FRENCH CULTURE. 3 *credits*.

An anthropological approach to culture emphasizing social and civic institutions, education, value systems, national characteristics, and historical perspectives.

8:344. LITERATURE AS DESCRIPTION OF CONTEMPORARY FRENCH CULTURE. 3 *credits*.

Major themes and patterns of French culture as they are consciously and unconsciously expressed in 19th and 20th century literature.

8:352-353. INDIVIDUAL READING AND RESEARCH SEMINAR. 3 *credits each semester*.

Special studies and methods of research.

10: GERMAN

10:21-22. BEGINNING GERMAN. 4 *credits each semester*.

Reading, speaking, writing and understanding; intensive drill in pronunciation, short stories, outside reading.

10:43-44. INTERMEDIATE GERMAN. 3 *credits each semester*.

Prerequisite, 22. Grammar review, practice in reading, writing and speaking; short stories, plays, novels on intermediate level, outside reading.

10:65-66. GERMAN CONVERSATION AND COMPOSITION. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Advanced composition using German models, special attention to words and idioms, development of oral expression and conversational ability.

10:87-88. INTRODUCTION TO GERMAN LITERATURE. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Introduction to the study of German literature. Readings and class discussions in German of representative works.

10:165-166. ADVANCED GERMAN COMPOSITION AND CONVERSATION. 3 *credits each semester*.

Prerequisite, 66. A continuation of the material considered in 65, 66, at a more advanced level.

10:211-212. THE AGE OF GOETHE. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Representative poems, dramas, essays, and novels of Klopstock, Wieland, Lessing, Goethe and Schiller with emphasis on the achievements of Goethe and Schiller.

10:213-214. MODERN GERMAN DRAMA. 3 *credits each semester*.

Prerequisite, 44 (or equivalent).

10:217-218. GERMAN SHORT STORY. 3 credits each semester.

Prerequisite, 44 (or equivalent).

10:219-220. TWENTIETH CENTURY GERMAN LITERATURE. 3 credits each semester.

Prerequisite, 44 (or equivalent). Representative novels, dramas and poems of Hauptman, Hoffmannsthal, George Rilke, Benn, Kaiser, Werfel, Zuckmayer, Mann, Doblin, Kafka and others with emphasis on ideas and interpretations of life.

10:231-232. INDIVIDUAL READING IN GERMAN. 1 to 3 credits each semester.

Prerequisite, permission.

11: GREEK

Although language and literature are by no means neglected, there is a constant archaeological emphasis in most of these courses. Use is made of slides, photographs, maps and other illustrative material to demonstrate the many aspects of ancient life and thought.

11:21-22. ELEMENTARY GREEK. 4 credits each semester.

Grammar and reading.

(Note: Second-Year Greek, given on demand, may be taken as Individual Reading or Research 231-232.)

11:61. COMPARATIVE LITERATURE. 3 credits.

Study of major Greek writers in translation, their influence on later European literature.

11:99. CLASSICAL MYTHOLOGY. 3 credits.

Legends and folklore of Greece and Rome, their rebirth in later literature and art.

11:113. GREEK ARCHAEOLOGY. 3 credits.

Daily life of Greeks, their achievements in the arts and sciences, archaeological aims and methods.

11:231-232. INDIVIDUAL READING OR RESEARCH. 1 to 3 credits each semester.

May be repeated for credit. Prerequisites depend upon subject, which may be either in language or archaeology.

12: HISTORY

12:41. THE UNITED STATES TO 1865. 3 credits.

American history from period of Exploration and Discovery through the Civil War.

12:42. THE UNITED STATES SINCE 1865. 3 credits.

Reconstruction period to present.

12:43. ORIENTAL AND GREEK CIVILIZATIONS. 3 credits.

Development of Oriental and Greek civilizations; Greek political and historical thought, art and ideals.

12:44. ROMAN CIVILIZATION. 3 credits.

Roman experience, historical, political, and cultural, from rise of Rome to early Christian times.

12:45. MODERN EUROPE TO 1815. 3 credits.

European history from Renaissance to Waterloo.

12:46. MODERN EUROPE SINCE 1815. 3 credits.

Waterloo to present.

12:49. MEDIEVAL EUROPE. 3 credits.

Middle Ages from barbarian invasions to Renaissance; Christianity, Islam, feudalism, rise of nations, medieval heritage.

12:131. AMERICAN ECONOMIC HISTORY. 3 credits.

A survey of economic developments from 1789 to the present with emphasis upon political, social, intellectual, and commercial factors influencing growth and change. Special emphasis on the rise of modern industry and its relationship to public policy.

12:161. THE WESTERN HEMISPHERE. 3 credits.

Latin America, Canada, European possessions in New World from discovery to present, correlating their history with that of United States to show element of unity in American history.

12:218. RENAISSANCE AND REFORMATION. 3 credits.

European history from 1400 to 1648; reawakening of intellectual interest, nation-states, religious struggles.

12:219. ENLIGHTENMENT AND REVOLUTION, 1648-1815. 3 credits.

Europe from Treaty of Westphalia to Treaty of Vienna; absolutism, enlightenment, French Revolution and Napoleon.

12:220. COLONIAL AMERICA, 1607-1754. 3 credits.

The establishment of European colonies in North America; struggle for control of the continent; development of British colonial institutions.

12:221. FOUNDING OF THE UNITED STATES, 1754-1801. 3 credits.

The American Revolution and its aftermath; Confederation; the Constitution; the inauguration of the Republic.

12:222. NEW NATION AND THE JACKSONIAN ERA, 1801-1850. 3 credits.

Jeffersonian politics; constitutional crises; Westward movement; democratic institutions; social reform.

12:223. THE CIVIL WAR AND RECONSTRUCTION. 3 credits.

Slavery controversy, Civil War, Reconstruction.

12:229. THE UNITED STATES IN THE TWENTIETH CENTURY, 1890's TO 1929. 3 credits.

Background of the 1890's, the progressive reform era, World War I, and the "prosperity decade."

12:230. THE UNITED STATES IN THE TWENTIETH CENTURY, 1929 TO THE PRESENT. 3 credits.

The Depression, the New Deal, World War II, and the Postwar World.

12:235. OHIO HISTORY. 3 credits.

The political, social, economic, and intellectual history of Ohio, with special emphasis upon Ohio's relationship to the Old Northwest and to the nation.

12:236. DIPLOMATIC HISTORY OF THE UNITED STATES. 3 credits.

A detailed examination of the growth of America's foreign relations, with emphasis upon the emergence of the United States as a world power and its role in twentieth-century diplomacy.

12:242. HISTORIOGRAPHY. 3 credits.

Prerequisite, 12 credits in history. Historical writing in Europe and America; experience in research.

12:243. NINETEENTH CENTURY EUROPE, 1815-1871. 3 credits.

Europe from the Congress of Vienna to the Franco-Prussian war; the influence of the French and industrial revolutions on the political and social development of European society.

12:244. NINETEENTH CENTURY EUROPE, 1871-1914. 3 credits.

The coming of the modern industrial society; the impact of nationalism, socialism, and imperialism on European civilization; background of World War I.

12:246. TWENTIETH CENTURY EUROPE, 1914-1939. 3 credits.

World War I; postwar adjustments; rise of Fascism, Nazism and Communism.

12:247. TWENTIETH CENTURY EUROPE, 1939 TO THE PRESENT. 3 credits.

World War II; postwar adjustments; Cold War.

12:250. RUSSIA TO 1855. 3 credits.

From the foundation of Kiev through the reign of Nicholas I.

12:251. RUSSIA SINCE 1855. 3 credits.

Factors shaping development of present-day Russia.

12:253. ENGLAND TO 1689. 3 credits.

Development of parliamentary government; constitution and common law.

12:254. ENGLAND AND THE EMPIRE SINCE 1689. 3 credits.

Growth of Great Britain and her role as a world power since 1689.

12:260. CHINA AND THE FAR EAST TO 1840. 3 credits.

Early oriental cultures; contacts with the west; evolution of oriental cultures in response to western influences.

12:261. CHINA AND THE FAR EAST SINCE 1840. 3 credits.

Japanese imperialism; China's relation with Western World; Nationalism and Communism in China.

GRADUATE COURSES

12:311-312. INDIVIDUAL READING OR SEMINAR. 3 credits each semester.

12:331. STUDIES IN AMERICAN ECONOMIC HISTORY. 3 credits.

Selected topics in the development and operation of the American economy.

12:333. STUDIES IN AMERICAN SOCIAL AND INTELLECTUAL HISTORY. 3 credits.

Selected topics will be investigated in depth.

12:335. STUDIES IN THE ECONOMIC AND SOCIAL HISTORY OF EUROPE, 1750 TO THE PRESENT.
3 credits.

Selected topics in European economic and social history.

12:343. STUDIES IN EUROPEAN INTELLECTUAL HISTORY. 3 credits.

Selected topics will be investigated in depth.

12:412. RESEARCH. 3 credits.

12:413. THESIS WRITING. 3 credits.

Writing of thesis for Master of Arts degree.

13: HOME ECONOMICS

13:21. TEXTILES. 3 credits.

Natural and man-made fibers, their color, design, finishes and wearing quality, selection, use and care.

13:23. CLOTHING CONSTRUCTION. 3 credits.

Fundamental principles in use of patterns. Construction and fitting of garments. Line, design, color in relation to choice of material and pattern. Two or three garments will be made.

13:33. FUNDAMENTALS OF NUTRITION. 2 credits.

Basic nutritional principles and their application to self and others with normal nutritional needs; comparative nutritive value of various common foods; planning a well balanced diet with modifications in use of exchange lists. No laboratory.

13:41-42. FOOD FOR THE FAMILY. 3 credits each semester.

For non-majors. Application of nutrition to meal planning; problems in selection and buying of food on a budget; methods of food preparation; table etiquette, meal service, entertaining. One hour lecture, four hours laboratory.

13:43. FOODS AND NUTRITION. 3 credits.

Principles of nutrition and cookery; selection and care of food; dietary requirements on various age levels, analysis of student's own diet, racial differences in dietary habits; cookery for the invalid, tray service. Two hours lecture, two hours laboratory.

13:45. GENERAL FOODS. 3 credits.

Composition of foods and principles involved in selection, purchase, and preparation. One hour lecture, four hours laboratory.

13:46. GENERAL FOODS. 3 credits.

Continuation of 45. Meats, other protein foods, pastries. One hour lecture, four hours laboratory.

13:53. HOME ECONOMICS ORIENTATION. 1 credit.

History and development of home economics. Speakers from different professions open to home economics trained women.

13:58. SELECTION OF HOUSE FURNISHINGS. 3 credits.

Principles which contribute to a satisfactory selection and arrangement of home furnishings; selection of floor coverings, wall and window treatments, lighting, furniture, household textiles, china, glassware, silver, and accessories for the home in relation to styles of decoration, color, design, and cost.

13:62. HOME MANAGEMENT. 3 credits.

Operation and function of the home; human and material resources in the promotion of healthy family living; time, energy, and money management; purchase and use of household supplies and equipment.

13:65. CHILD DEVELOPMENT. 3 credits.

Physical, social, mental, and emotional development of the child in his first five years. Two hours lecture, two hours laboratory.

13:105. TAILORING. 3 *credits*.

Prerequisite, 23. Develops skill through construction of a wool suit, coat or ensemble with lining. One hour lecture, four hours laboratory.

13:106. ADVANCED CLOTHING. 3 *credits*.

Prerequisite, 23. Principles of clothing design in wardrobe planning, selection of ready-to-wear garments and accessories. Advanced construction methods. Basic pattern used to develop skill in fitting garments.

13:107. ADVANCED TEXTILES. 3 *credits*.

Prerequisite, 21. Economic, social, and health aspects of buying and caring for the family wardrobe; selecting ready-to-wear garments.

13:115. EXPERIMENTAL COOKERY. 3 *credits*.

Prerequisite, 46. Techniques and methods used in experimental cooking; group and individual experiments. One hour lecture, four hours laboratory.

13:117. HISTORIC COSTUME. 3 *credits*.

Costume from ancient to modern times and its influence on present-day styles.

13:118. MEAL SERVICE AND DEMONSTRATION FOODS. 3 *credits*.

Prerequisite, 46 or permission. Problems in time, labor, money, and equipment in relation to planning, marketing, care of food, preparation and service of meals for the family group; appropriate forms of service for various types of meals, table etiquette; experience in planning and giving short demonstrations. One hour lecture, four hours laboratory.

13:119. NUTRITION IN HEALTH. 3 *credits*.

Prerequisite, 45-46 and Chemistry 5:55. Composition, metabolism, and physiological functions of foodstuffs; nutritive requirements for individuals in different stages of development, and on various economic levels; results of dietary deficiencies. Two hours lecture, two hours laboratory.

13:120. NUTRITION IN DISEASE. 4 *credits*.

Prerequisite, 119. Application of principles of normal nutrition to diet in disease; construction of diets for specific disease conditions. Two hours lecture, two hours laboratory.

13:121. FIELD WORK. 3 *credits*.

Additional laboratory or apprentice experience in a specialized field of Home Economics. Open to Seniors in Home Economics. One hour conference, six hours practice.

13:122. HOME MANAGEMENT RESIDENCE. 3 *credits*.

Six weeks residence in the Home Management House; practical problems in management of time, energy, and money; experience in group living. Groups limited to four each for six weeks. Open to all upper college women, regardless of major field. Lab fee.

13:212. INSTITUTIONAL MANAGEMENT. 3 *credits*.

Standards for good food service; food purchasing; time, labor, material, cost, equipment, and good will.

13:215. HOUSEHOLD EQUIPMENT. 3 *credits*.

Selection, use, and care of modern household equipment.

13:216. QUANTITY COOKERY. 3 *credits*.

Preparation of all types of food; care of equipment and utensils; layout of different types of food preparation and service centers. Six hours laboratory and conference.

14: RUSSIAN

14:21-22. BEGINNING RUSSIAN. 4 *credits each semester*.

Reading, speaking, writing and understanding; intensive drill in pronunciation, short stories, outside reading.

14:43-44. INTERMEDIATE RUSSIAN. 3 *credits each semester*.

Prerequisite, 22. Grammar review; practice in reading, writing and speaking; short stories, plays, novels on intermediate level, outside reading.

14:65-66. RUSSIAN CONVERSATION AND COMPOSITION. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Advanced composition using Russian models, special attention to words and idioms, development of oral expression and conversational ability.

14:87-88. INTRODUCTION TO RUSSIAN LITERATURE. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Introduction to the study of Russian literature. Readings and class discussions in Russian of representative works.

14:165-166. ADVANCED RUSSIAN COMPOSITION AND CONVERSATION. 3 *credits each semester*.

Prerequisite, 66. A continuation of the material considered in 65-66, at a more advanced level.

14:231-232. INDIVIDUAL READING IN RUSSIAN. 1 to 3 *credits each semester*.

Prerequisite, permission.

14:251. SCIENTIFIC RUSSIAN. 3 *credits*.

Prerequisite, 44 (or equivalent). Intensive reading of scientific articles in Chemistry, Physics, Mathematics, Biology, Medicine, etc.

14:252. RUSSIAN LITERATURE OF THE 20th CENTURY. 3 *credits*.

Prerequisite, 44 (or equivalent). Reading and discussion of selected literary works from Gorky to Evtushenko.

14:253. ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION. 3 *credits*.

Prerequisite, 166 (or equivalent). Advanced work in composition, translation into Russian, and idiomatic use of the spoken language.

15: CLASSICS

15:201-202. INTRODUCTION TO EGYPTOLOGY. 3 *credits each semester*.

Prerequisite, permission. Hieroglyphics in the Classical Egyptian of the Early Empire. Archeology and History of Egypt from the predynastic cultures to the XIXth Dynasty and the decline of Egypt.

15:203-204. INTRODUCTION TO ASSYRIOLOGY. 3 *credits each semester*.

May be repeated. Prerequisite, permission. Cuneiform languages; historical and archeological commentary.

15:205. PRE-CLASSICAL CULTURES OF THE ANCIENT NEAR EAST. 3 *credits*.

Prerequisite, permission. An archeological and historical survey.

15:206. OLD TESTAMENT ARCHEOLOGY. 3 *credits*.

Prerequisite, permission. An evaluation using archeological and extra-biblical information.

16: LATIN

Although language and literature are by no means neglected, there is a constant archaeological emphasis in most of these courses. Use is made of slides, photographs, maps and other illustrative material to demonstrate the many aspects of ancient life and thought.

16:21-22. ELEMENTARY LATIN. 4 *credits each semester*.

Grammar and reading.

16:43-44. SECOND YEAR LATIN. 3 *credits each semester*.

Prerequisite, 21-22, or two years of high school Latin. Inscriptions, Letters of Pliny, selections from Vergil, or other material suited to needs or interests of students.

(Note: Students who have completed two years of high school Latin will enroll in 43. Those who have had one year or less will enroll in 21.)

16:62. COMPARATIVE LITERATURE. 3 *credits*.

Study of major Roman writers in translation, their influence on later European literature.

(Note: Some of the following courses will be given each year, according to demand. Latin 43-44 or equivalent is prerequisite for courses 103 to 111 inclusive.)

16:103. ROMAN SATIRISTS. 3 *credits*.

Horace, Persius, Juvenal, and Martial; history of satire, ancient and modern.

16:104. ROMAN DRAMATISTS. 3 *credits*.

Plautus, Terence, and Seneca; history of comedy and tragedy, stage antiquities.

16:105. ROMAN HISTORIANS. 3 *credits*.

Sallust, Livy, and Tacitus; historiography, philosophy of history.

16:106. ROMAN PHILOSOPHICAL AND RELIGIOUS WRITERS. 3 *credits*.

Lucretius, Cicero, Seneca, and Boethius; pagan syncretism and mystery religions.

16:107. MEDIAEVAL LATIN WRITERS. 3 *credits*.

St. Augustine or the other Fathers, the Goliards or other secular literature, Church Latin, letters of famous Humanists.

16:108. ROMAN LYRIC AND ELEGIAC POETS. 3 *credits*.

Catullus, Horace, Ovid, Propertius, and Tibullus.

16:111. ROMAN NOVELISTS. 3 *credits*.

Petronius and Apuleius, Milesian tale and Alexandrian romance.

16:114. ROMAN ARCHAEOLOGY. 3 *credits*.

No prerequisite. Daily life of Romans, their achievements in the arts and sciences, archaeological aims and methods.

16:231-232. INDIVIDUAL READING OR RESEARCH. 1 to 3 *credits each semester*.

May be repeated for credit. Prerequisites depend upon subject, which may be either in language or archeology.

17: MATHEMATICS

17:21. COLLEGE ALGEBRA. 3 *credits*.

Prerequisite, one year of high school algebra. Sets, factoring, radicals, exponents, functions, graphing, linear and quadratic equations, simultaneous systems, logarithms, variation, binomial theorem.

17:25. ELEMENTARY FUNCTIONS. 4 *credits*.

An introduction to elementary function theory. Sets, number systems; polynomial, absolute value, exponential, logarithmic, and circular functions; matrices and determinants; mathematical induction; Binomial Theorem; basic probability.

17:45. DIFFERENTIAL CALCULUS. 4 *credits*.

Theory of limits, development and use of differentiation formulas, use of derivative and differential in maxima and minima, time rates, curvature, motion, approximate error, expansion of functions in series, partial differentiation.

17:46. INTEGRAL CALCULUS. 4 *credits*.

Prerequisite, 45. Formal integration, definite integral application to areas, volumes, moments of inertia, centroids, approximation methods, multiple integral.

17:52. COMPUTER SCIENCE I. 2 *credits*.

Introduction to stored program digital computers—their application and use. Concepts, computer components, problem solution programming, coding and timing.

17:66. ASTRONOMY. 3 *credits*.

The earth as a body in space, other planets; the moon and other satellites; comets, meteorites; solar system and its motions; analysis of light; the sun and other stars, star clusters, nebulae, Milky Way, external galaxies; structure of universe.

17:74. ANALYTIC GEOMETRY-CALCULUS. 4 *credits*.

Prerequisite, 25 (or equivalent). Equations of functions and their graphical representations—derivatives as applied to tangents and normals; applications involving maxima and minima; introduction to differentiation and integration.

17:75. ANALYTIC GEOMETRY-CALCULUS. 4 *credits*.

Prerequisite, 74. Indefinite integrals and applications of same. Differentiation for transcendental functions. Applications to area—volumes—surface of revolutions. Average value of a function. Moments and center of mass. Methods of integration, such as right triangle substitution. Completing squares. Partial fractions. Infinite series. Solid analytics. Space coordinates.

17:76. ANALYTIC GEOMETRY-CALCULUS. 4 *credits*.

Prerequisite, 75. Hyperbolic functions, vectors, parametric equations, differentiation of vectors, solid geometry and vectors, scalar and vector products, partial differentiation multiple integrals and applications.

17:104. HISTORY OF MATHEMATICS. 3 *credits*.

Prerequisite, 25 (or equivalent). Origin and development of mathematical ideas and processes.

17:114. DIFFERENTIAL EQUATIONS. 3 *credits*.

Prerequisite, 76. Methods of forming and solving some important types of ordinary and partial differential equations, their applications to science.

17:120. ACTUARIAL MATHEMATICS. 3 *credits*.

Prerequisite, 25 (or equivalent). Interest procedures, annuities, amortization, sinking funds, bonds, stocks, depreciation, formulas for life insurance, premiums, valuation procedures, construction of mortality tables.

17:130. EMPIRICAL EQUATIONS AND NOMOGRAPHY. 3 *credits*.

Prerequisite, 74. Correlation of data involving two or three variables by empirical methods, nomographic methods for evaluation of empirical formulas.

17:142. INTRODUCTION TO STATISTICS. 3 *credits*.

Prerequisite, 21 (or equivalent). An introduction to the fundamental ideas of statistics at a pre-calculus level including a brief treatment of the descriptive statistics, discrete distributions, problems of sampling, estimation, tests of hypotheses, regression and correlation, analysis of variance. (For non-mathematics majors.)

17:150. COMPUTER SCIENCE II. 2 *credits*.

Prerequisites, 52, 76. A continuation of 52. Particular emphasis on algorithmic processes, special computer techniques, problem solving, timing and evaluation. An overview of current applications, research and development in computer science and related fields.

17:202-203. ADVANCED CALCULUS. 3 *credits*, 2 *credits*.

Prerequisite, 76. An introduction to the real number system, infinite series, vectors, definite integrals, improper integrals, uniform convergence, multiple integrals.

17:207. HIGHER ALGEBRA. 3 *credits*.

Prerequisite, 75. Mathematical induction, partial fractions, complex number system, binomial theorem, multinomial theorem, summation of series, limits, infinitesimals, convergency and divergency of series, power series, inequalities, continued fractions and applications to indeterminate equations, theory of numbers, probability, method of least squares.

17:208. VECTOR ANALYSIS. 3 *credits*.

Prerequisite, 76. Vector algebra, differential vector calculus integration with applications to problems in geometry of two and three dimensions, differential geometry, mechanics, hydrodynamics and electrodynamics.

17:209. TOPICS IN GEOMETRY. 3 *credits*.

Prerequisite, 75. A historical development of the modern view in geometry emphasizing postulational systems and the introduction of coordinates in various spaces.

17:210. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. 3 *credits*.

Prerequisite, 76. Complex numbers, analytic functions, elementary functions of a complex variable, mapping and geometry of elementary functions, theory of integrals, power series, residues and poles, conformal mapping.

17:212. PARTIAL DIFFERENTIAL EQUATIONS. 3 *credits*.

Prerequisite, 114. Partial differentiation and integration, Lagrange equations, linear partial differential equations, solution in series, Bessel, Legendre and Fourier Series, Laplace transform and its application to the solution of differential equations.

17:213. NUMERICAL ANALYSIS I. 3 *credits*.

Prerequisite, 114. Interpolation, finite difference methods, numerical differentiation and integration, numerical solutions of ordinary differential equations, algebraic and transcendental equations, coding, least squares method.

17:217. THEORY OF NUMBERS. 3 credits.

Prerequisite, 76. Development of an integral domain, prime numbers, Euler's algorithm, congruence, Euler's Phi function, quadratic residues, Pell equation, Waring's problem.

17:218. LAPLACE TRANSFORMS AND SPECIAL FUNCTIONS. 3 credits.

Prerequisite, 114. Applied properties, convolution, differentiation and integration of transforms, transforms of unit, impulse and periodic functions, applications to ordinary and partial differential equations, Fourier series, Bessel functions, Legendre polynomials.

17:222-223. ALGEBRAIC STRUCTURES. 3 credits, 2 credits.

Prerequisite, 74 (or equivalent). An introduction to formal algebraic systems, including number fields, rings, vector spaces, Boolean Algebra, groups, ideals and fields.

17:226. PROJECTIVE GEOMETRY. 3 credits.

Prerequisite, 222 (or equivalent). An introduction to projective linear spaces and coordinate systems: the propositions of incidence, the principle of duality, the theory of forms of the first and second kind, conics.

17:232. TOPOLOGY. 3 credits.

Topological spaces, metrization, homeomorphic invariants to point sets, structure of piano spaces, mappings, homotopy, the fundamental group, introduction to combinatorial topology.

17:250. PROBABILITY AND STATISTICS. 3 credits.

Prerequisite, 76. An introduction to probability theory, probability distributions, mathematical expectation, moment generating functions, sums of random variables, sampling distributions.

17:251. STATISTICAL INFERENCE. 3 credits.

Prerequisite, 250. Point and interval estimation, testing of hypotheses, regression and correlation.

17:255. APPLIED STATISTICS. 3 credits.

Prerequisite, 75. Scientific inference in the physical and engineering sciences using frequency distributions, tests of significance, point and interval estimation, analysis of variance and covariance, linear and multiple regression.

17:256. EXPERIMENTAL DESIGNS. 3 credits.

Prerequisite, 142 or equivalent (Pre-Calculus). Fundamental principle of designs, randomized blocks, Latin squares, factorials, individual comparisons, components of error, confounding, fractional factorials, applications to problems in applied fields.

17:260. SPECIAL TOPICS IN COMPUTER SCIENCE. 3 credits.

Prerequisite, 150. Special topics in computer science oriented toward applications and problem solving.

GRADUATE COURSES

17:312-313. ANALYTICAL FUNCTION THEORY. 3 credits each semester.

Prerequisite, 203. Concepts of number systems, elementary functions, holomorphic functions, continuity, differentiability, power series, complex integration, residue theory, analytic continuation, singularities.

17:314. NUMERICAL ANALYSIS II. 3 credits.

Prerequisite, 213. Least square polynomial approximation, Gaussian quadrature, approximations of types other than polynomial, numerical solution of partial differential equations of various types, integral equations and solutions of systems of equations.

17:317-318. FUNCTIONS OF A REAL VARIABLE. 3 credits each semester.

Prerequisite, 203. Structure of the real number system, sets and their properties, limit theorems, properties of continuous and semicontinuous functions, derivatives of functions, Borel sets and Baire functions, measure, measurable sets, measurable functions, Riemann and Lebesgue integration, the Lebesgue integration as a set function, planar measure and double integration.

17:320. MATRIX ALGEBRA. 3 credits.

Prerequisite, 114. Solution of Cubic and Biquadratic Equations, Matrices, Symmetric-Hermitian, Matrix Algebra, Inverse of Matrix, Rank, Linear Equations, Vector Spaces and Linear transformations, Characteristic Equation of Matrix, Bilinear, Quadratic and Hermitian Forms, Introduction to Algebra of Sets.

17:322-323. ALGEBRAIC THEORIES. 3 credits each semester.

Prerequisite, 223 (or equivalent). Study of abstract mathematical systems, axiomatic set theory, properties of groups and rings, fields, vector spaces, ideas, lattices, and sentential calculus.

17:324. ALGEBRAIC GEOMETRY. 3 credits.

An introduction to the study of systems of algebraic equations in several variables and of the structure which can be associated with such equations.

17:326. DIFFERENTIAL GEOMETRY. 3 credits.

An introduction to the theory of curves and surfaces in 3-dimensions: intrinsic geometry of a surface, the geometry of surfaces in the large.

17:330-331. MATHEMATICAL STATISTICS. 3 credits each semester.

Elementary combinatorial probability theory, chance variables and probability distributions, moment generating functions and limit theorems, small sample distributions, test of hypotheses, point and interval estimation. Analytic theory of least squares, matrix notation, methods of matrix inversion, multiple regression, basic analysis of variance, analysis of covariance, non-parametric statistics.

17:336. REGRESSION AND ANALYSIS OF VARIANCE. 3 credits.

Prerequisite, 330-331. Analytical theory of least squares using matrix notation, methods of matrix inversion, the general linear model, regression models, experimental design models, analysis of variance, randomized blocks, n-way classifications, Latin squares, factorial designs, incomplete block designs, etc.

17:337. ADVANCED TOPICS IN STATISTICS. 3 credits.

Prerequisites, 256 and 330-331 (or permission of instructor). Selected topics in statistics including concepts in non-parametric statistics, multivariate analysis, advanced inference, etc.

17:390-391. MATHEMATICS SEMINAR. 3 credits each semester.

For properly qualified candidates for Master's degree. Seminar type discussions scheduled by the Department and involving special problems dealing with various phases of mathematics. Supervised research project will be included in this course and will lead to the Master's thesis.

18: MUSIC*

ORGANIZATIONS

No fee is charged for enrollment of qualified students in music organizations. Enrollment may be repeated each semester for credit as indicated. Students seeking the B.A. or B.S. degree in Buchtel College may include only four such credits in the minimum 128 credits required for graduation.

18:1. UNIVERSITY SINGERS. 3 hours a week. 1 credit.

A mixed chorus. Membership through audition. Numerous appearances throughout the year, on campus, at various civic organizations, broadcasting stations and social groups, as well as public performances.

18:2. UNIVERSITY CHORUS. 2 hours a week. 1 credit.

Informal choral singing for mixed voices, designed for training and recreation of participants. No audition required. To provide musical experience as one of the options available to Evening Sessions students in the Fine Arts, persons registering for this course during the Evening Sessions would become part of the Akron Symphony which rehearses for two hours Monday evening, and performs with the Akron Symphony two or three times each year.

18:3. UNIVERSITY SYMPHONY ORCHESTRA. 2 hours a week. 1 credit.

An organization devoted to study of orchestral literature, gives fall and spring concert and performs at special programs such as Christmas, Easter, and Commencement. Membership through audition.

18:4. UNIVERSITY BAND. 3-4 hours a week. 1 credit.

University Football Band is organized in the first semester and plays for all games. University Concert Band functions after football season. Study and performance of advanced literature. Membership in concert band through audition.

18:5. CHORAL ENSEMBLE. 1 credit.

18:6. BRASS ENSEMBLE. 1 credit.

18:7. STRING ENSEMBLE. 1 credit.

18:8. OPERA WORKSHOP. 1 credit.

APPLIED MUSIC

No credit hour fee is charged for enrollment in applied music. Fees are based on the number of private lessons per week and are listed in the section on "Fees and Expenses." Credit is given on the basis of two credits per semester for one 30-minute lesson per week and 90 minutes practice per day. Enrollment may be repeated each semester for credit. Students seeking the B.A. or B.S. degree in Buchtel College may include only eight such credits in the minimum 128 credits required for graduation.

* Three music education courses are offered through the College of Education, numbered 27:62, 27:121 and 27:123.

18:21. PERCUSSION INSTRUMENTS	18:31. TRUMPET OR CORNET
18:22. CLASSICAL GUITAR	18:32. FRENCH HORN
18:23. HARP	18:33. TROMBONE
18:24. VOICE	18:34. BARITONE
18:25. PIANO	18:35. TUBA
18:26. ORGAN	18:36. FLUTE OR PICCOLO
18:27. VIOLIN	18:37. OBOE OR ENGLISH HORN
18:28. VIOLA	18:38. CLARINET AND BASS CLARINET
18:29. CELLO	18:39. BASSOON OR CONTRA BASSOON
18:30. STRING BASS	18:41. HARPSICHORD

The final examination in Applied Music courses shall consist of performance before a committee of faculty members.

18:43. THEORY I. 3 *credits*.

Creative harmony and musicianship. Study of scales, intervals, chord formations, basic forms; creative use of these elements: sight-singing, melodic, harmonic and rhythmic dictation, ear training.

18:44. THEORY II. 3 *credits*.

Continuation of Theory I, plus two and three-part dictation. Increase of the harmonic vocabulary through chromatic harmony and modulation.

18:45-46. MUSIC LITERATURE I AND II. 2 *credits each semester*.

Familiarization of student with large body of musical material from all branches of musical writing; for vocal and instrumental, solo and ensemble, symphonic and choral groups. Special attention given to style and structural procedures by principal composers.

18:50. VOICE CLASS. 2 *credits*.

Prerequisite, 44. Technique employed in choral conducting, securing attacks, releases, dynamic and tempo changes, voice classification, methods of securing correct intonation, analysis of choral literature.

18:51. STUDENT RECITAL (*Freshmen and Sophomores*). 1 *credit*.

A weekly meeting of music students with members of the faculty, providing opportunity for experience in public performance before an audience, lecture and discussion of problems in the general area of performance, including ensemble playing and singing, conducting, accompanying, stage deportment, solo performance.

18:55-56. STRING CLASS. 2 *credits each semester*.

Prerequisite, 44. Playing of string instruments with emphasis on violin. Materials and teaching techniques.

18:57. WOODWIND CLASS. 2 *credits*.

Prerequisite, 44. Playing of woodwind instruments with emphasis on clarinet. Materials and teaching techniques.

18:58. BRASS AND PERCUSSION CLASS. 2 *credits*.

Prerequisite, 44. Playing of brass and percussion instruments with emphasis on cornet. Materials and teaching techniques; rudimentary drumming.

18:61. FUNDAMENTALS OF MUSIC. 2 credits.

Functional introduction to music, notation, terminology, scale construction, simple melodic dictation, sight-singing, familiarity with piano keyboard and experience in singing part songs.

18:71. THEORY III. 3 credits.

Prerequisite, 44. Study and composition of sixteenth century modal polyphony and 18th century tonal counterpoint.

18:72. THEORY IV. 3 credits.

Prerequisite, 71. Analysis of form, rhythm, melody, harmony, and polyphony, in music of all eras. Creative work in various styles.

18:101-102. HISTORY OF MUSIC. 2 credits each semester.

Prerequisite, 44. Development of music from ancient to modern times; recordings as illustrative material.

18:110. CONDUCTING. 2 credits.

Prerequisite, 44. Technique and practice in conducting.

18:111. COMPOSITION. 2 credits.

Study and creative use of the major styles and idioms of musical composition of the twentieth century.

18:114. ORCHESTRATION. 2 credits.

Prerequisites, 55, 56, 57, 58, 71. Theory of instrumentation from small ensemble to full band and orchestra arrangements.

18:116. ADVANCED CONDUCTING. 2 credits.

Prerequisites, 110, 114. Baton technique, practice in reading and interpretation of scores; organization of orchestra and band, problems in programming; practice conducting University ensembles.

18:131. SIGHT-SINGING AND EAR TRAINING. 2 credits.

Prerequisite, 44. Vocal mastery of major and minor scales, all intervals convenient to the vocal range, broken chords, problems of rhythm, meter, tempo, dynamics, modulation, and part singing. Singing will be done both with and without syllables and numbers. Aural recognition of these fundamental materials, a necessary adjunct to both accurate vocal performance and general musicianship, will be a part of the study.

18:132. KEYBOARD HARMONY. 2 credits.

Prerequisite, 44. The essential of basic theory and harmony practically applied at the keyboard, accompaniment, improvisation, transposition, modulation and sight reading.

18:151. STUDENT RECITAL (*Juniors and Seniors*). 1 credit.

(See 18:51 for description.)

18:201. INTRODUCTION TO MUSICOLOGY. 2 credits.

Prerequisites, 101, 102. Musical acoustics, psychology of music, comparative musicology, aesthetics and other topics related to music.

18:202. BIBLIOGRAPHY AND RESEARCH. 2 credits.

Prerequisite, 101. Survey of available printed material in the field of music and methods of use. Writing of a research paper.

GRADUATE COURSES

2-4 credits each semester

18:321. PERCUSSION INSTRUMENTS	18:328-2. HORN
18:324. VOICE	18:328-3. TROMBONE
18:325. PIANO	18:328-4. BARITONE
18:326. ORGAN	18:328-5. TUBA
18:327-1. VIOLIN	18:329-1. FLUTE OR PICCOLO
18:327-2. VIOLA	18:329-2. OBOE
18:327-3. CELLO	18:329-3. CLARINET
18:327-4. BASS	18:329-4. BASSOON
18:328-1. TRUMPET OR CORNET	18:329-5. SAXOPHONE
	18:331. HARP

19: PHILOSOPHY

19:55. INTRODUCTION TO PHILOSOPHY. *3 credits.*

Nature of philosophy and philosophical methods, selected problems.

19:56. INTRODUCTION TO LOGIC. *3 credits.*

Problems of meaning and definition; rules of correct reason, particularly the investigation of the syllogism; fallacies. A short survey of other forms of logic will also be given.

19:57. ETHICS. *3 credits.*

Theories of value and moral obligation; inquiry into problems of moral conduct.

19:63. COMPARATIVE RELIGION. *3 credits.*

Basic beliefs and practices of religions of the East.

19:64. HISTORY OF WESTERN RELIGION. *3 credits.*

Development of religious ideas in the Judaeo-Christian tradition.

19:103. HISTORY OF ANCIENT PHILOSOPHY. *3 credits.*

History of Western thought including its connections with scientific, religious, social and political circumstances from Pre-Platonic philosophers to Epicureans, Stoics and Scholastics. Open to Sophomores with approval of department head.

19:104. HISTORY OF MODERN PHILOSOPHY. *3 credits.*

Continuation of 103. From Descartes through Spinoza to Kant and his successors. Open to Sophomores with approval of department head.

19:130. AMERICAN PHILOSOPHY. *3 credits.*

Prerequisites, three credits in Philosophy or permission. The movement of ideas in America from Puritanism to Pragmatism as it reflects the stream of Western ideas, especially as it may be said to contain a particularly American Philosophy in development.

19:156. INDUCTIVE LOGIC AND SCIENTIFIC METHOD. *3 credits.*

An examination of the problem of developing universal knowledge on the basis of particular experience.

19:164. PHILOSOPHY OF RELIGION. *3 credits.*

Prerequisite, 55 or 63 or 64. Basic problems of theology and religion.

19:211. AESTHETICS. *3 credits.*

Nature of art, beauty and aesthetic experience.

19:212. PHILOSOPHY OF ART. 3 credits.

Prerequisite, permission. Divisions and classifications of art, application of principles of aesthetics to the several arts.

19:221-222. PROBLEMS OF PHILOSOPHY. 1-3 credits each semester.

19:224. CONTEMPORARY PHILOSOPHY. 3 credits.

Prerequisites, 103-104 or permission. Nineteenth and 20th century philosophy.

19:229. THEORY OF KNOWLEDGE. 3 credits.

Prerequisite or corequisite, 103-104 or permission. Nature of knowledge; nature and criteria of truth.

19:241. PHILOSOPHY OF SCIENCE. 3 credits.

Prerequisite, approval by instructor, based on a background in both philosophy and science. Origin, development and influence of principles and presuppositions of science.

19:242. PROBLEMS OF SCIENCE. 3 credits.

Prerequisite, 241. Implications of contemporary science for philosophy; implications of contemporary philosophy for science.

19:256. SYMBOLIC LOGIC. 3 credits.

Prerequisite, 56 or permission. Introduction to mathematical logic, propositional and class logic, elementary logico-mathematical problems.

19:258. ADVANCED ETHICS. 3 credits.

Prerequisite, 57 or permission. Continuation of examination of ethical principles.

19:290. COORDINATING SEMINAR. 3 credits.

An individual work course in which the material and insights of the area of concentration are combined into a thesis in the light of the general principles of philosophic criticisms acquired from the area of general philosophy. Open to Philosophy majors by permission of Department Head.

19:301. LOGICAL THEORY. 3 credits.

Prerequisite, 56 or the equivalent and permission. A study of the forms of inductive and deductive inference including the areas of definition, syllogism, quantification, truth functions, nature of formal systems and probability.

19:302. ETHICAL THEORY. 3 credits.

Prerequisite, 57 or the equivalent and permission. An examination of the problems related to human conduct and decision making in the light of the western tradition as well as the contemporary insights of positivism, phenomenology, existentialism, logical analysis, naturalism and pragmatism.

19:311. ANCIENT PHILOSOPHY. 3 credits.

Prerequisite, 103, 104 or equivalent and permission. Beginning with the early cosmological period this course will study the origins and development of Western Philosophy through the 4th Century B.C. synthesis of Plato and Aristotle and the Hellenistic schools of the Epicureans, Stoics and Skeptics to the final synthesis of Greek thought in Plotinus. Emphasis will be placed upon direct acquaintance with primary source material in translation.

19:312. MEDIEVAL AND RENAISSANCE PHILOSOPHY. 3 credits.

Prerequisite 311 and permission. Beginning with the early Christian background and the Patristic period prior to Augustine, this course traces the origins and develop-

ment of Western Philosophy through the 11th and 13th Century synthesis of Anselm and Aquinas; the breakup of medieval thought in Scotus and Occam; the Renaissance humanism of Bruno and Boehme and the Protestant Reformation. Emphasis will be placed upon direct acquaintance with primary source material in translation.

19:313. MODERN PHILOSOPHY. 3 *credits*.

Prerequisite: 311, 312 and permission. Beginning with the rise of the new Renaissance cosmology, this course explores the history of Philosophy in the Age of Reason, the Age of Enlightenment and the 19th Century. In addition to the major conflicts and positions emerging in each period e.g. rationalism and Hegelianism, the foundations and development of moral, social and political philosophy are treated. Emphasis will be placed upon direct acquaintance with primary source material in translation.

20: PHYSICS

20:11-12. CONCEPTS OF PHYSICS I AND II. 4 *credits each semester*.

Prerequisites, high-school algebra and trigonometry, or 17:25 as a corequisite. General physics, intended primarily for liberal arts students who are not science majors; emphasizes the unifying concepts of contemporary physics rather than specific phenomena. Newton's mechanics; electricity and magnetism; interference and diffraction of waves; the nature of heat; space and time in the theory of relativity; indeterminacy in quantum mechanics; recent developments in the study of elementary particles. Three lectures per week, both semesters. Weekly recitation period, first semester; laboratory, second semester.

20:25. MECHANICS, SOUND AND HEAT. 4 *credits*.

Prerequisite, high school algebra (1 year) or 17:21. Vectors; scalars; composition and resolution of vectors; conditions of equilibrium; rectilinear motion with constant acceleration; Newton's laws of motion; friction; rotary motion; work and energy; elastic properties of matter; properties of fluids; temperature; expansion; specific heat and method of mixtures; change of state, gas laws; transference of heat; heat and work; wave motion; properties of sound; vibrating strings and air columns; acoustics. Three recitations and one laboratory period per week.

20:26. ELECTRICITY, LIGHT AND MODERN PHYSICS. 4 *credits*.

Prerequisite, 25. Electric charges; Coulomb's law; electric field and potential; Ohm's law for circuits; resistance laws; Kirchhoff's laws; magnetic effect of an electric current; electrolysis; heating effect; electric energy and power; electric instruments; electromagnetic induction; conduction through gases; cathode rays; X-rays; thermionic effect; photoelectric effect; radioactivity; velocity of light; photometry; images and their formation in mirrors and lenses; prisms; spectra; interference; diffraction; and polarization. Three recitations and one laboratory period per week.

20:27-28. ELEMENTARY CLASSICAL PHYSICS I AND II. 4 *credits each semester*.

Prerequisite, adequate preparation in high-school algebra and trigonometry. An introductory physics course for students of science and engineering. Kinematics and classical mechanics with emphasis on conservation laws, particularly as they relate to contemporary physics. Thermodynamics from the atomic point of view; concepts of order and disorder. Basic laws of electromagnetism. Wave motion, both mechanical and electromagnetic. Interference and diffraction of waves for both coherent and non-coherent sources. Vectors and a limited amount of calculus are introduced as needed.

Weekly recitation period, first semester; laboratory period, second semester. Three lecture periods each week, both semesters.

20:29. ELEMENTARY MODERN PHYSICS. 3 credits.

Prerequisite, 28 or permission of the instructor. Special relativity, introduction to quantum physics, atomic spectra, topics in nuclear and solid state physics. Three lecture periods per week.

20:201. ELECTRONIC DEVICES AND CIRCUITS. 3 credits.

Prerequisite, 28. Corequisite, 17:76. Electron tubes, semiconductors, and their utilization in circuits. Introduction to the mathematical analysis of these circuits. Three lecture recitations per week.

20:202. INTERMEDIATE LABORATORY. 2 credits.

Prerequisite or corequisite, 201. Experiments involving measurements of physical properties of various systems which are most readily made with electronic instruments and circuits. Two laboratory periods per week.

20:203. OPTICS. 3 credits.

Prerequisites, 28 and 17:76. Reflection, refraction; prisms, thin lenses, thick lenses, mirrors; waves and their propagation; interference and diffraction; diffraction gratings; polarization; emissions of light; velocity of light; photometry; lasers. Three lecture recitations per week.

20:204. OPTICS LABORATORY. 1 credit.

Corequisite, 203. Experimental studies of lenses, mirrors, prisms, diffraction gratings, interferometers, photometers, polarization, optical spectra and lasers. One laboratory period per week.

20:211-212. MECHANICS. 3 credits each semester.

Prerequisite, 28; corequisite, 17:114. Introduction to vector analysis, planar statics and kinematics, plane motion of a particle and of a rigid body, plane impulsive motion, moving frames of reference, spatial motion of a particle and of a rigid body. Lagrange's equations, the special theory of relativity.

20:213. ELECTRICITY AND MAGNETISM. 3 credits.

Prerequisite, 28; corequisite, 17:114. Coulomb's law; Gauss's law; dielectrics, Poisson and Laplace equations; electrical images; magnetostatics; Kirchhoff's laws, chemical and thermal electromotive forces; Ampere's laws.

20:214. ELECTRICITY AND MAGNETISM. 3 credits.

Prerequisite, 213. Forces on moving charges, electromagnetic induction, alternating circuits, coupled circuits, filters, Maxwell's equations and electromagnetic waves.

20:217. MODERN PHYSICS. 3 credits.

Prerequisites, 29. Properties of the electron, radioactive radiations and their detection, positive rays, nuclear atom, Rutherford scattering, X-rays, introduction to quantum theory of radiation, special theory of relativity, atomic spectra, the nucleus and its properties, isotopes, atomic masses. Natural radioactivity, nuclear transmutations.

20:218. MODERN PHYSICS. 3 credits.

Prerequisite, 217. Interaction of alpha, beta and gamma rays with matter, nuclear reactions and cross sections, introductory quantum mechanics, molecules, binding and energy bands in solids, electrical, thermal and magnetic properties of solids, imperfections in solids, semi conductors, physical electronics.

20:219. MODERN PHYSICS LABORATORY. 1 *credit*.

Prerequisite, 217. Selected experiments in atomic, nuclear and solid state physics.

20:221-222. COLLOQUIUM. 1 *credit each semester*.

20:227. KINETIC THEORY AND THERMODYNAMICS. 3 *credits*.

Prerequisite, 28 and 17:76. Three lectures each week. Kinetic theory of gases; temperature; thermodynamic systems; work; ideal gases; real gases; law of thermodynamics; entropy, reversibility and irreversibility; Carnot cycle; Kelvin temperature scale; change of phase.

20:228. HEAT AND THERMODYNAMICS LABORATORY. 1 *credit*.

Prerequisite or corequisite, 20:227.

20:231. REACTOR PHYSICS. 3 *credits*.

Prerequisite, 217. Nuclear physics, nuclear reactions, diffusion of neutrons, slowing down of neutrons, diffusion in the general case, reactor statics.

20:240. ADVANCED LABORATORY. 2 *credits*.

Prerequisite, 202 or permission of instructor. Applications of electronic and solid state devices and techniques to research-type projects in modern physics. Two laboratory periods per week.

20:241. PHYSICAL PROPERTIES OF POLYMERS. 1 *credit*.

Prerequisite, 211 or permission of instructor. An introduction to the concepts of polymer molecular dimensions and configurations, rubber elasticity, diffusion and viscosity, polymer chain segmental motions, glass transition temperature, creep, viscoelasticity, partial crystallinity, spherulitic structure, and the mechanical properties of polymers. One lecture per week.

20:242. PROJECTS IN POLYMER PHYSICS. 1 *credit*.

Corequisite, 241. A selection of research-type experimental investigations of the mechanical properties of polymers and rubbers, illustrating some of the phenomena described in the accompanying lecture course, 241.

20:251. ATOMIC SPECTRA AND ATOMIC STRUCTURE. 3 *credits*.

Prerequisites, 29; 17:114 or permission of instructor. Elements of atomic theory; line spectra; electron spin and multiplet structure; the building-up principle and the periodic system of the elements; spectral intensities; hyperfine structure: isotope effect, nuclear spin. Three lectures per week.

20:253. X-RAYS. 3 *credits*.

Prerequisite, 28 or permission of instructor. Properties of X-rays. Theory of X-ray spectra. Absorption and scattering of X-rays. X-ray diffraction. Techniques for the production and utilization of X-rays. Application of X-rays to physical and chemical problems. Interpretation of X-ray diffraction patterns and X-ray photographs. Three lecture periods each week.

20:254. NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY. 2 *credits*.

Prerequisite, 28; 17:114 or permission of instructor. The theoretical basis and experimental techniques of NMR spectroscopy. Classical and quantum mechanical treatments of NMR. The Bloch equations; spin-spin and spin-lattice relaxation times. Steady-state and transient phenomena. Broadline and high-resolution NMR; general features of NMR spectra. The theory and analysis of high-resolution NMR spectra. Applications of NMR spectra to the determination of physical and chemical structures.

20:255. INTRODUCTION TO SOLID STATE PHYSICS. 3 credits.

Prerequisite, 29; 17:114 or permission of instructor. An account of the basic physical processes which occur in solids, with emphasis on the fundamental relation between these processes and the periodicity of the crystalline lattice. Three lectures per week.

20:257. INTRODUCTION TO QUANTUM MECHANICS. 3 credits.

Prerequisites, 212; 17:114 or permission of instructor. A brief introduction to the concepts of quantum mechanics: correspondence principle, uncertainty principle, state functions, Schroedinger's equation, WKB approximation, wave packets, continuum states, postulates of quantum mechanics, central potentials, hydrogen atom. Three lectures per week.

20:261-262. METHODS OF THEORETICAL PHYSICS. 3 credits each semester.

Prerequisites, 28; 17:114, 17:202 and senior or graduate standing in a physical science or engineering. A consideration of many mathematical methods useful in science and engineering. Elliptic integrals, perturbation theory, conformal mapping, variational methods, Poisson equation, wave equation, Fourier transform, eigenfunctions and eigenvalues, solution of boundary value problems using Green's function, inertia tensor. Emphasis on applications to physics and engineering. Three lectures per week.

20:291-292. UNDERGRADUATE RESEARCH. 1 to 6 credits.

Prerequisite, permission of instructor. Participation in a current research project in the department under the supervision of a faculty member.

GRADUATE COURSES

20:321. THEORETICAL MECHANICS. 4 credits.

Prerequisite, 212. Inertial reference frames and Newtonian time scales, non inertial frames, generalized coordinates, Lagrange's equations, theory of small vibrations, normal coordinates, Hamilton equations, principles of least action, Hamilton-Jacobi method, application to atomic systems and origin of quantum mechanics, introduction to tensor analysis.

20:322. THEORETICAL ELECTRICITY AND MAGNETISM. 4 credits.

Prerequisites, 214, 321 or permission. Maxwell's equations, space-time symmetry of the field equations, transformation of the field vectors to moving systems, stress and strain in elastic media, electromagnetic forces on charges and currents, electrostatic energy, magnetostatic energy, Poynting's theorem, forces on dielectrics in an electrostatic field, forces in the magnetostatic field, forces in the electromagnetic field, general properties of an electrostatic field, calculations of an electrostatic field from charge distribution, expansion of the potential in spherical harmonics, dielectric polarization, general properties of the magnetostatic field, calculation of the field of a current distribution.

20:340. SPECIAL TOPICS IN PHYSICS. 1-3 credits.

Prerequisite, permission. To enable students who need information in special areas in which no formal course is offered to acquire knowledge in these areas.

20:341. STATISTICAL THERMODYNAMICS. 3 credits.

Prerequisites, 227, 17:114. Classical statistics of Boltzmann, entropy and probability, Liouville theorem, Maxwell-Boltzmann energy distribution, law of equipartition and specific heats, Debye theory of specific heats, theory of thermal radiation, Bose-Einstein and Fermi-Dirac statistics—Applications.

20:347-348. PHYSICS OF POLYMERS. 2 credits each semester.

Prerequisites, 17:114 or permission. Study of relations between the physical behavior of elastomers, plastics, and fibers and their molecular constitution.

20:352. MOLECULAR SPECTRA. 3 credits.

Prerequisite, 251. Molecular bands and development of theory, rotational, vibrational and electronic bands, Raman effect, Isotopic effect, intensity of bands, methods of determining the molecular constants from wave number measurements.

20:360. MASTER'S RESEARCH. 1-6 credits.

Prerequisite, permission. Properly qualified candidates for a Master's degree may obtain up to six credits for supervised original research depending on the availability of staff and facilities. Up to three credits may be obtained by a student for writing a literature thesis covering some field of Physics selected in consultation with his adviser. Reports of the above work will be the student's thesis.

20:411-412. QUANTUM MECHANICS. 3 credits each semester.

Prerequisites, 212, 214; 17:114 and permission of instructor. A thorough development of ordinary wave mechanics; matrix formulation and unification in the more abstract Dirac formulation. The state function and its interpretation; wave packets; uncertainty relation; the wave equation; dynamical variables and operators; stationary states, Hermitian operators; eigenvalues and eigenfunctions; angular momentum; scattering theory, Green's functions; Born approximation; spin; Pauli matrices; symmetry properties; parity; perturbation methods; spin-orbit interactions; Clebsch-Gordon coefficients; exclusion principle; T-R invariance; S-matrix. Three lectures per week.

20:413-414. SOLID STATE PHYSICS. 3 credits each semester.

Prerequisites, 412, 255 or permission of instructor. Theory of the physics of crystalline solids. Properties of the reciprocal lattice and Bloch's theorem. Lattice dynamics and specific heat. Electron states; cellular method, tight-binding method, Green's function method, orthogonalized plane waves and pseudo potentials. Electron-electron interaction; screening by impurities, Friedel sum rule, and plasma oscillations. Dynamics of electrons, transport properties and the Fermi surface. Three lectures per week.

20:421. ADVANCED NUCLEAR PHYSICS. 3 credits.

Prerequisites, 218, 412 or permission of instructor. Quantum mechanics applied to the nucleus. Interaction of radiation with the nucleus, nuclear scattering, nuclear reactions, energy levels of nuclei. Three lectures per week.

21: POLITICAL SCIENCE

21:31. PRINCIPLES OF GOVERNMENT AND POLITICS. 3 credits.

A study of the major principles, philosophies, institutions and processes of modern government. Illustrative materials derived from American political experience and from contemporary institutions and practices in other governments.

21:41. AMERICAN NATIONAL GOVERNMENT. 3 credits.

Constitution, its distribution of powers; the President, Congress, courts and great administrative organization in its contacts with citizen.

21:42. AMERICAN STATE AND LOCAL GOVERNMENT. 3 credits.

State and local units of government, citizen participation; Akron, Summit County and Ohio history and government.

21:44. AMERICAN DIPLOMACY. 3 *credits*.

Machinery by which United States conducts its foreign relations; policies adopted toward major areas of world.

21:45. THEORY AND PRACTICE OF DEMOCRATIC GOVERNMENT. 3 *credits*.

Principles and politics of democratic government in general, and specifically as practiced in such countries as Great Britain.

21:46. THEORY AND PRACTICE OF DICTATORSHIP. 3 *credits*.

Principles and politics of dictatorship in general, including fascism, communism and despotism, with emphasis on Soviet totalitarianism.

21:103. POLITICAL PARTIES. 3 *credits*.

Party development, organization and functions in United States; individual and group participation in political process.

21:106. THE LEGISLATIVE PROCESS. 3 *credits*.

Examination of the American legislative process on all governmental levels with emphasis on the U. S. Congress. The structure and role of the legislature and of parties and other agencies that affect legislative processes.

21:109. GOVERNMENT AND SOCIAL WELFARE. 3 *credits*.

The part government has come to play in social welfare field.

21:110. GOVERNMENT AND BUSINESS. 3 *credits*.

Relationship of government with business.

21:112. INTERNATIONAL RELATIONS. 3 *credits*.

Political relations among nations; international political scene.

21:117-118. POLITICAL THEORY. 3 *credits each semester*.

First semester, political speculation of Classical Greeks, Romans; English, American and French Revolutions. Second semester, post-revolutionary period to present time; American political speculation.

21:201. MUNICIPAL GOVERNMENT. 3 *credits*.

Development, composition, governmental organization of American city life.

21:202. MUNICIPAL ADMINISTRATION. 3 *credits*.

Organization of city government for performing services to public; police protection, supervised playgrounds, parks, etc.

21:205. CONSTITUTIONAL LAW. 3 *credits*.

The Constitution and American Government in terms of Supreme Court decisions.

21:208. THE JUDICIAL PROCESS. 3 *credits*.

The role of American judges and courts in the context of the political process.

21:210. INTERNATIONAL LAW AND ORGANIZATION. 3 *credits*.

Established rules, practices and conventions governing the relations of the several national states and their citizens with one another. Political organization among nations; United Nations.

21:213-214. PUBLIC ADMINISTRATION. 3 *credits each semester*.

Administrative organization, personnel recruitment, sound budget organization and procedure, public reporting, public relations.

21:217-218. FIELD WORK. 3 credits each semester.

Open to Senior majors with six hours of Public Administration.

21:220. ADMINISTRATIVE LAW. 3 credits.

Rights of a citizen before government agencies, rights and duties of public officials, customary procedures of government agencies, legal recourse of both agency and citizen in accomplishing their objectives.

21:230. THE AMERICAN PRESIDENCY. 3 credits.

The Presidency as the focal point of politics, policy and the exercise of political leadership in the American system of government.

21:243. COMMUNIST GOVERNMENT AND POLITICS. 3 credits.

Communist theory and practice in the governments of the Soviet Union, China and the communist satellites.

21:298. SEMINAR IN POLITICAL SCIENCE. 2 credits.

Required for Senior majors.

GRADUATE COURSES

21:301. READINGS IN WORLD AFFAIRS. 1 to 3 credits.

21:302. READINGS IN PUBLIC ADMINISTRATION. 1 to 3 credits.

21:303. READINGS IN POLITICS AND PUBLIC AFFAIRS. 1 to 3 credits.

(Not more than six credits may be earned in reading courses.)

21:305. PROBLEMS OF METROPOLITAN GOVERNMENT. 3 credits.

Prerequisite, 6 credits of Political Science. This course focuses on the processes of policy formulation and execution in the modern metropolitan community. Function and role of the administrator and implementation of area-wide public policies and the means of bringing about action necessary to meet both the governmental and service needs of the metropolitan region.

21:308. URBAN FISCAL ADMINISTRATION. 3 credits.

Prerequisite, 3 credits of Political Science plus 213. Focuses on the municipal budgetary process, improvements, programming, debt administration, and special fiscal problems such as methods for financing local government services and the administrative implications of various types of municipal taxes and revenue. It considers fiscal problems and principles relevant to all levels of local government.

21:331. SEMINAR IN PROBLEMS OF NATIONAL POLITICS. 3 credits.

Prerequisite, 12 hours of Political Science. Readings and research on the formulation, development and implementation of national policy in one or more selected areas of contemporary significance.

21:344. SEMINAR IN INTERNATIONAL RELATIONS. 3 credits.

Prerequisite, 12 hours of Political Science including 112. Analysis of current problems in the field of international politics and organization.

21:401. RESEARCH AND THESIS IN POLITICAL SCIENCE. 1 to 3 credits.

22: SOCIOLOGY

22:41. GENERAL SOCIOLOGY. 3 credits.

Origin, development, structure and function of social groups.

22:53. SOCIAL PROBLEMS. 3 credits.

Selected contemporary problems in society examined from the viewpoint of sociological concepts which underlie an understanding of social behavior.

22:55. GENERAL ANTHROPOLOGY. 3 credits.

Origin of Man; prehistoric and existent races and cultures. Comparative study of the culture and social organization of simpler societies. Problems of acculturation and social change.

22:101-102. METHODS OF SOCIAL RESEARCH. 3 credits each semester.

A combination lecture and laboratory course. Methods, including statistics and problems of sociological research. Required of all Sociology Majors.

22:107. THE FIELD OF SOCIAL WORK. 3 credits.

Prerequisite, 41. Survey of the field of social work, and of its specialized areas, e.g., public and private agencies, types of services, group and casework techniques. Required of preprofessional social work students.

22:114. CRIMINOLOGY. 3 credits.

Background for delinquency and penology. Cause, treatment and prevention of crime.

22:120. POPULATION. 3 credits.

Introduction to demographic analysis; the numbers, distribution, characteristics, and trends of U.S. and world population.

22:127. SOCIAL STRATIFICATION. 3 credits.

Prerequisite, 41 or permission. An intensive study of the way social rankings occur in societies and how particular rankings affect individual behavior, group relations and social structures.

22:130. INDIVIDUAL READING AND RESEARCH. 1-3 credits.

Prerequisite, permission. Individual study of a problem area of specific interest to the individual student under guidance of a department member. Preparation of a research paper.

22:132. FIELD EXPERIENCE IN A SOCIAL AGENCY. 3 credits.

Prerequisite, 107 and permission. Individual placement in selected community agencies for supervised experience in casework, groupwork, corrections, and similar fields.

22:204. THE FAMILY. 3 credits.

Prerequisite, 41, or permission. Family as a group of interacting personalities.

22:206. COMMUNITY ORGANIZATION. 3 credits.

Structure and function of the community as a social system.

22:207. SOCIAL WORK THEORY. 2 credits.

Prerequisite, 107 and 132 or permission. Analysis of concepts used in the profession of social work: their application in contemporary practice; evaluation of current approaches, theories and research. Required of pre-professional social work students.

22:214. THE HISTORY OF SOCIOLOGICAL THOUGHT. 3 credits.

Prerequisite, 41 or permission. A study of the major thinkers and writers of sociological thought. A critical appraisal of these writers and their contributions to the development of sociology. Emphasis is placed upon historical figures in sociology.

22:216. SOCIAL INSTITUTIONS. 3 credits.

Origin of social institutions, organizations and systems of social thought.

22:222. SOCIOLOGY OF URBANIZATION. 3 credits.

Prerequisite, 41 or permission. An intensive study of the implications of growing density and nucleation of population on attitudes, social structures and social change.

22:223. JUVENILE DELINQUENCY. 3 credits.

Prerequisite, 41 or permission. Concepts of delinquent in law. Social and personal factors in delinquent behavior. Theories of punishment, treatment, and rehabilitation.

22:225. CONTEMPORARY SOCIOLOGICAL THEORIES. 3 credits.

Prerequisite, 41 or permission. An intensive study of sociological theories and schools of thought. A comparison of theoretical positions within the discipline and a consideration of theory building in other sciences.

22:227. MINORITY GROUP RELATIONS. 3 credits.

Prerequisite, 41 or permission. A sociological interpretation of the relationships between dominant and minority groups. An analysis of minority response patterns, the development of prejudice, discrimination, stereotypes, etc.

22:229-230. URBAN RESEARCH METHODS. 3 credits each semester.

Prerequisite, 41 or permission. Advanced research methods applied to problems of urban areas. A research report of publishable quality is required.

22:231. SOCIAL INTERACTION. 3 credits.

Prerequisite, 41 or 30:41 or permission. An intensive study of advanced theory and research in social psychology, particularly, how social interaction and self-conception affect one another.

22:233. SOCIAL ORGANIZATION. 3 credits.

Prerequisite, 41 or permission. Analysis of the social structure at a given point in time: mechanisms of social control, agents of stability, agents of change, and their inter-relationships; impact of social systems on the individual, group, community, and society in terms of values and ideologies.

22:235. CULTURAL ANTHROPOLOGY. 3 credits.

Prerequisite, 55 or permission. History of cultural development; description of preliterate cultures; evolution of culture areas and patterns; acculturation and culture conflict.

22:237. SOCIAL MOVEMENTS. 3 credits.

Prerequisite, 41 or permission. Social movements distinguished from other forms of collective behavior; analysis of social situations likely to produce social movement; focus upon structure and function of movements and their role in social change.

22:238. INDUSTRIAL SOCIOLOGY. 3 credits.

Prerequisite, 41 or 42:162 or permission. Comparison of formal and informal industrial organization; analysis of worker and manager roles; communication patterns; relation of work plant to community and society; social problems in industrial setting.

22:255. CULTURE AND PERSONALITY. 3 credits.

Prerequisite, 41 or 55. A cross-cultural study of the roles and relationships of individual potentials and socio-cultural norms, socialization, and primary groups in the formation of the basic structures of modal and deviant personalities.

22:257. MAGIC, MYTH AND RELIGION. 3 *credits*.

Prerequisite, 41 or 55. Evolutionary transformations of magic and ritual into science and technology. Examination of animism, totemism, and other forms of preliterate religions. Mana, taboo, and other religious and social symbols.

22:259. FACTS AND VALUES IN CULTURE. 3 *credits*.

Prerequisite, 41 or 55. An examination of the independence, ambiguity, and relativity of facts and values from a cultural point of view. Subjective and objective components of the distinction between factual judgments and value judgments. Evaluation of cultural relativism.

GRADUATE COURSES

22:300. SEMINAR IN RESEARCH METHODS. 3 *credits*.

Prerequisite, graduate standing and permission. Application of major statistical techniques and research procedures to various types of sociological data. Assumes a knowledge of statistics at a pre-calculus level. Required of all majors.

22:301. SEMINAR IN RESEARCH DESIGN. 2 *credits*.

A discussion of the techniques and constraints of research design and their implications for intellectual problems in the field. Students are urged to take 303 concurrently. Required of all candidates for the master's degree in Sociology.

22:303. SEMINAR IN THEORY CONSTRUCTION. 2 *credits*.

An intensive study of techniques, rules, and methods for constructing scientific theory. The emphasis is upon the development of theories appropriate to the problems of sociological investigation. The writings of both social and physical scientists are studied in this regard, with a consideration of what philosophers of science have contributed. Taken concurrently with 301. Required of all candidates for master's degree in Sociology.

22:306. THE SOCIOLOGY OF WORK. 2 *credits*.

An examination of human behavior centered around work relationships; types of work, organization of work; problems related to work; work in different societies.

22:309. SOCIOLOGY OF SMALL GROUPS. 3 *credits*.

The study of human social interaction in small groups.

22:312. SOCIOLOGY OF COMMUNICATION. 3 *credits*.

Examination of communication media, content, audiences, and effects; mass communication and public opinion; survey of principles, methods, and application of communication research.

22:316. SOCIAL CHANGE. 3 *credits*.

Analysis of social dynamics; types and directions of changes in society. Change is considered as a normal aspect of social systems. Theories and alternative explanations of social change.

22:320. POPULATION THEORY. 3 *credits*.

Prerequisite, 120 or permission. The field of demography; the historical development of population theory; contemporary theories and their application to existing trends in the nation and world. Relation of population theory to other aspects of society.

22:324. FAMILY STRUCTURE AND THEORY. 3 *credits*.

Prerequisite, graduate standing. Analysis of actual and theoretical organizational patterns and practices of family systems; the relativity of current research activities to the understanding of these systems; and the implications for family theory. The relation of a theory of the family to theories of social systems.

22:330. THE SOCIOLOGY OF POLITICAL BEHAVIOR. 3 *credits*.

Prerequisite, graduate standing. Description, analysis, and interpretation of those aspects of human behavior which become manifest as political behavior through the application of a variety of sociological concepts to them.

22:335. READING IN CONTEMPORARY SOCIOLOGICAL LITERATURE. 2 *credits*.

Prerequisite, 10 hours of Sociology and permission. Intensive reading and interpretation of written material in the student's chosen field of interest. Regular conferences with instructor. May be taken more than once.

22:351. SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS. 3 *credits*.

Major theoretical viewpoints in cultural anthropology. Nature and scope of research problems in anthropology. Survey of methods in field work.

22:370. SEMINAR IN CONTEMPORARY SOCIAL ISSUES. 2 *credits*.

Prerequisite, permission. A graduate level examination of current sociological areas of interest of students and faculty. Intradepartmental participation in regular seminar discussions.

22:399. THESIS. 3 *credits*.

Prerequisite, permission. Writing a thesis for a Master of Arts degree.

23: SPANISH

23:21-22. BEGINNING SPANISH. 4 *credits each semester*.

Reading, speaking, writing and understanding; intensive drill in pronunciation, short stories, outside reading.

23:43-44. INTERMEDIATE SPANISH. 3 *credits each semester*.

Prerequisite, 22. Grammar review; practice in reading, writing and speaking; short stories, plays, novels on intermediate level, outside reading.

23:65-66. SPANISH CONVERSATION AND COMPOSITION. 3 *credits each semester*.

Prerequisite, 44 (or equivalent). Advanced composition using Spanish models, special attention to words and idioms, development of oral expression and conversational ability.

23:87. INTRODUCTION TO SPANISH LITERATURE. 3 *credits*.

Prerequisite, 44 (or equivalent). Direct reading and discussion, in Spanish, of the easier, student editions of Peninsular novels, short stories, and drama in the modern idiom.

23:88. INTRODUCTION TO SPANISH-AMERICAN LITERATURE. 3 *credits*.

Prerequisite, 44 (or equivalent). It is recommended that 87 be completed before enrolling in 88. Direct reading and discussion, in Spanish, of the easier, student editions of the novels, short stories, and drama in the modern idiom of Puerto Rico and the 17 Spanish-American republics.

23:89. INTRODUCTION TO HISPANIC LINGUISTICS. 3 credits.

Prerequisite, 44 (or equivalent). An elementary survey of four approaches to the study of the Spanish language: (a) the history of the language, from late spoken Latin to modern Spanish; (b) the structure of present-day Spanish; its phonology and grammar; (c) the dialects, or regional varieties, of Spanish; (d) applied linguistics, with special emphasis on the problems likely to be met by prospective teachers of Spanish. Lectures and discussion. This course should be taken by all Spanish majors.

23:106. COMMERCIAL CORRESPONDENCE IN SPANISH. 3 credits.

Prerequisite, 44. Translation of business letters from Spanish into English and from English into Spanish, with attention to advertising and the rubber industry.

23:165-166. ADVANCED SPANISH COMPOSITION AND CONVERSATION. 3 credits each semester.

Prerequisite, 66. A continuation of the material considered in 65-66, at a more advanced level.

23:207. MODERN SPANISH LITERATURE OF THE 19TH CENTURY. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures. Study of Neoclassicismo, Romanticismo, Realismo and Naturalismo. Conducted in Spanish.

23:208. MODERN SPANISH LITERATURE FROM 1900 TO 1936. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures. Study of the generations of 1898 and 1927. Conducted in Spanish.

23:211. SPANISH LITERATURE SINCE 1940. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures of the most representative writers of Spain's literary renaissance since 1940. Drama and the short story will be studied. Conducted in Spanish.

23:212. SPANISH LITERATURE SINCE 1940. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures of the most representative writers of Spain's literary renaissance since 1940. The novel and poetry will be studied. Conducted in Spanish.

23:213. LATIN-AMERICAN LITERATURE FROM DISCOVERY TO INDEPENDENCE. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures of the literature of Latin America. Oral and written reports. Conducted in Spanish.

23:214. LATIN-AMERICAN LITERATURE FROM INDEPENDENCE TO PRESENT. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures of the literature of Latin America. Oral and written reports. Conducted in Spanish.

23:215. SPANISH LITERATURE OF THE GOLDEN AGE. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures. Novel and short story. Special emphasis on the works of Miguel de Cervantes. Conducted in Spanish.

23:216. SPANISH LITERATURE OF THE GOLDEN AGE. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Reading, discussion and lectures. Drama, poetry, and essay of the 16th, 17th, and 18th centuries. Conducted in Spanish.

23:217. SPANISH CULTURE AND CIVILIZATION. 3 credits.

Prerequisite, 44 (or equivalent) and permission. It is recommended that 65-66 and 87-88 be completed before enrolling in the course. Particular emphasis on the customs, traditions, literary trends, and artistic tendencies that constitute Spain's specific contribution to Western Civilization. Conducted in Spanish.

23:218. SPANISH-AMERICAN CIVILIZATION AND CULTURE. 3 credits.

Prerequisite, 44 (or equivalent). It is recommended that 65-66 and 87-88 be completed before enrolling in this course. Cultural evolution, including educational and political institutions of Puerto Rico and the 17 Spanish-American republics. Conducted in Spanish.

23:231-232. INDIVIDUAL READING IN SPANISH. 1 to 3 credits each semester.

Prerequisite, permission.

24: SPEECH

24:31. PUBLIC SPEAKING AND ETHICAL PERSUASION. 3 credits.

Training in types of public address; performance and individual criticism.

24:33. ORAL INTERPRETATION. 3 credits.

Oral interpretation from the printed page.

24:35. BASES OF SPEECH. 3 credits.

Introduction to the speech and hearing mechanisms and to the speech problems of the speech handicapped school child.

24:43-44. INTERCOLLEGIATE DEBATE. 1 or 2 credits each semester.

Argument in its application to a particular question debated among universities and colleges each year.

24:45-46. ORAL ARGUMENT. 2 credits each semester.

Theory of argument, analysis of logical processes in speech situations, practice in discussion.

24:61. INTRODUCTION TO THEATRE. 3 credits.

Theatre arts and the variety of crafts involved in dramatic production.

24:73. VOICE AND ARTICULATION. 3 credits.

Study of vocal and articulatory mechanisms.

24:74. APPLIED PHONETICS. 3 credits.

Phonetic transcription using international phonetic alphabet.

24:78. THE PSYCHOLOGY OF SPEECH. 3 credits.

Prerequisite, 35. The nature, origins and purposes of speech. The basic psychological principles involved in the communicative process and their application to both groups and individuals.

24:81. RADIO SPEAKING. 3 *credits*.

Prerequisite, 33. Radio and television speaking, microphone and camera techniques, announcing.

24:144. PUBLIC DISCUSSION AND GROUP PROCEDURES. 3 *credits*.

Prerequisite, permission of instructor. Techniques of discussion in terms of skills of the effective discussion leader and participant.

24:161. PLAY DIRECTING. 3 *credits*.

Prerequisite, permission of Head of Department. A practical course in the principles and techniques of presenting various types of theatrical material to an audience.

24:162. PLAY PRODUCTION. 3 *credits*.

Play analysis in terms of production: stage design, scenery construction, stage lighting, make-up, theatre management.

24:163. ACTING. 3 *credits*.

Admission by permission of Head of Department. Actor's approach to theatre; establishment of his character, his inner resources, stage practices, external acting techniques.

24:167. HISTORY OF THE THEATRE. 3 *credits*.

A survey of significant theatrical eras from ancient Greece to the present: evolution of physical stage, scene design, styles in acting and production, stage lighting, special effects.

24:170. INTRODUCTION TO AUDIOLOGY. 3 *credits*.

Prerequisite, 35. The fundamentals of hearing are surveyed by reviewing the physical basis of sound; the anatomy of the ear; the action of the middle ear transformer; theories of hearing. Basic audiometry is introduced and practicum experience is obtained.

24:173. SPEECH READING. 3 *credits*.

History and methods of lip reading.

24:181. RADIO-TELEVISION PRODUCTION. 3 *credits*.

Prerequisites, 33 and 81. Technique and performance of radio and television broadcasting; practice in dramatic production for radio and television.

24:182. TELEVISION FUNDAMENTALS. 3 *credits*.

Prerequisites, 33, 81, or permission. A study of the history, nature and functions of television broadcasting, with emphasis on production, types of format and directorial styles.

24:183. ADVANCED TELEVISION PRODUCTION. 3 *credits*.

Prerequisite, 182 or permission. Television production problems: The role of TV as an educational force with an examination of its uses, potentialities and limitations.

24:244. PROBLEMS IN GROUP COMMUNICATION. 3 *credits*.

Prerequisite, 31. Current theories of group communication; group dynamics; problems in language; projects; seminar reports.

24:262. EDUCATIONAL THEATRE ORGANIZATION AND MANAGEMENT. 2 *credits*.

The business end of educational theatre; backstage organization on secondary school and university levels.

24:265. SPECIAL PROJECTS IN THEATRE. 2-4 credits (may be repeated for total of 6 credits).

Prerequisite, permission of the instructor. Individual or group projects, relative to a University Theatre production, in any of the following areas: costume, lighting, scene design and construction, acting, directing, make-up, children's theatre or theatre management.

24:267. CONTEMPORARY THEATRE STYLES. 3 credits.

The emergence of Modern Contemporary Theatre; selected examples of 19th and 20th Century plays; writing, scene design and production practices; the departures from Realism.

24:270. SPEECH THERAPY FOR CLASSROOM TEACHERS. 3 credits.

A study of the types and nature of speech defects frequently found in the classroom and the rôle of the teacher in correcting these defects. Available for graduate credit only with approval of Head of Department.

24:271-272. SPEECH PATHOLOGY AND SPEECH THERAPY. 3 credits each semester.

Prerequisite to 271 is 35.

Prerequisite to 272 is 271.

Introduction to the etiology, diagnosis and therapy of speech and language disorders.

24:273-274. CLINICAL PRACTICE IN SPEECH THERAPY. 1-2 credits each semester.

Prerequisite, permission of instructor. Introduction to speech therapy procedures. Observation of and work with clinic cases.

24:277. HEARING CONSERVATION AND AUDIOMETRY. 3 credits.

History of hearing conservation and testing. The administering of audiometric tests.

24:290. SPEECH CRITICISM. 3 credits.

Study of the goals and philosophy of rhetorical evaluation. Available for graduate credit only with approval of Head of Department.

24:297. SPEECH SEMINAR. 2 credits.

Special project relating to a selected area of speech.

GRADUATE COURSES

24:361. ADVANCED TECHNICAL THEATRE. 3 credits.

Prerequisite, permission of instructor. Detailed problems in mounting plays on secondary school or university stages.

24:365. PLAYWRITING. 3 credits.

Prerequisite, permission of instructor. Principles of dramatic construction through (a) an analysis of the playwright's art and (b) the writing of a short play by the individual student.

24:367-368. STUDIES IN DRAMATIC PRACTICE. 3 credits.

Prerequisite, 367. 367: Detailed and selective study of theatre from Greece through the Elizabethan period: plays and playwrights, the physical stage, scenic devices, acting styles, status of theatre. 368: A detailed and selective study of theatre from the Restoration to the 20th century: play and playwrights, the physical stage, scenic devices, acting styles, status of theatre.

24:371-372. ADVANCED SPEECH PATHOLOGY AND SPEECH THERAPY. 3 credits each semester.

Prerequisites, 271 and 272. Background and current thinking in relation to the etiology, diagnosis and therapy of speech and language disorders.

24:373. VOICE PATHOLOGY. 3 credits.

Prerequisites, 271 and 272. Background and current thinking in relation to etiology, diagnosis and therapy for various disorders of voice.

24:374. INTERNSHIP IN SPEECH THERAPY. 2-4 credits (may be repeated for total of 6 credits).

Prerequisite, permission of instructor. Practice in the University of Akron Speech and Hearing Clinic and Community Agencies.

24:375. TOPICS IN ADVANCED AUDIOLOGY AND PROBLEMS IN AUDIOLOGIC SCIENCE. 3 credits

(may be repeated once for an additional 3 credits).

Prerequisite, 6 hours audiology or permission of instructor. Investigation into various problems of speech audiometry, differential diagnosis, cochlea and retrocochlear pathologies; testing for pre- and post-operative surgery; adaptation and fatigue; psychophysical problems in audition; various problems of students' choice.

24:377. TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS. 3 credits

(may be repeated once for an additional 3 credits).

Prerequisite, permission of Head of Department. Differential diagnostic procedures related to specific problems of speech and language. Special emphasis will be placed upon interviewing, the case history and the resultant evaluation.

24:379. SPECIAL PROBLEMS. 1, 2, or 3 credits each semester (for not more than 2 semesters).

Prerequisite, permission of Instructor. The etiology and therapy for aphasia, cerebral palsy, stuttering, cleft palate, and others.

24:390. CRITICAL STUDIES IN RHETORICAL THEORY. 2 credits.

Principles of speechmaking from the time of Plato and Aristotle to the present.

24:391-392. CRITICAL STUDIES IN AMERICAN PUBLIC ADDRESS. 2 credits each semester.

Rhetorical criticism of speeches by Webster, Clay, Calhoun and through contemporary American speakers.

24:393. CRITICAL STUDIES IN BRITISH PUBLIC ADDRESS. 2 credits.

Rhetorical criticism of speeches by Fox, Pitt, Burke and other British speakers to 1865.

24:394. RESEARCH AND THESIS. 3 credits.

27: EDUCATION

27:41. HANDICRAFTS IN ELEMENTARY SCHOOL. 2 credits.

A broad range of experiences through the manipulation of various craft mediums which will enrich the curriculum of the elementary school.

27:56. EDUCATION IN AMERICAN SOCIETY. Either semester. 2 credits.

Nature and purposes of education in American society including description of its distinctive features and analysis of factors determining its character.

27:57. HUMAN DEVELOPMENT AND LEARNING. 3 credits.

Prerequisite, 30:41. A study of the principles underlying the intellectual, emotional, social and physical growth and development of the human organism; and of the learning process with its implications for the instructional procedures.

27:62. ELEMENTARY SCHOOL MUSIC LITERATURE AND APPRECIATION. 2 credits.

Prerequisite, 18:61. Materials and methods for teaching music appreciation in the grades, beginning with rote and reading song correlation with children's activities and progressing to the enjoyment of familiar serious music through recordings and concerts.

27:86. CHILDREN'S LITERATURE. 3 credits.

A survey of materials for children in prose, poetry and illustrations from early historical periods to modern types; criteria of selection and methods of presentation are critically examined.

27:113. PRINCIPLES AND PRACTICES IN SECONDARY EDUCATION. *Either semester.* 3 credits.

Prerequisite, 57. Four units of study carried on concurrently: (1) basic principles of teaching; (2) a working knowledge of methodology in a specific field; (3) observation and participation; (4) preparation of teaching materials.

27:114. TEACHING OF SPEECH. 2 credits.

Methods to improve speech of elementary and secondary school children.

27:121. ART FOR THE GRADES. *Either semester.* 2 credits.

Prerequisite, 2:21. Art requirements in elementary grades; laboratory work to give teachers a knowledge of materials and mediums and skill in handling them.

27:124. TEACHING AND SUPERVISION OF MUSIC IN THE ELEMENTARY SCHOOL. 2 credits.

To prepare vocal and instrumental music teachers for organizing, teaching, and supervising music education in the primary and elementary grades.

27:125. TEACHING AND SUPERVISION OF MUSIC IN THE SECONDARY SCHOOL. 2 credits.

Procedures that should be employed to give the adolescent a well-balanced participation in applied and theoretical music.

27:131. EARLY ELEMENTARY EDUCATION. *First semester.* 3 credits.

Prerequisite, 57. Aims to develop a forward-looking viewpoint in the education of young children. Materials, techniques and practices are examined which furnish opportunities for cooperative enterprise and serve as a background for democratic living.

27:132. EARLY ELEMENTARY EDUCATION. *Second semester.* 3 credits.

Prerequisite, 131. Continuation of course 131 with emphasis on teaching of language arts, science and social studies at the primary level.

27:133. SCIENCE FOR THE ELEMENTARY GRADES. 3 credits.

Prerequisite, 57. For the prospective teacher of science in the elementary school; development of a point of view toward science teaching and a study of methods of presenting science material.

27:135. THE TEACHING OF READING. *First semester.* 3 credits.

Prerequisite, 57. Reading program for the elementary school, together with modern methods of teaching reading at the various levels.

27:136. ARITHMETIC IN THE ELEMENTARY GRADES. 3 credits.

Prerequisite, 57. Trends in arithmetic instruction in elementary school. Procedures for the development of mathematical concepts and skills.

27:137. TEACHING THE LANGUAGE ARTS. 3 credits.

Prerequisite, 57. Materials, grade allocations and methods for teaching oral and written expression, spelling and handwriting in elementary grades.

27:138. THE TEACHING OF SOCIAL STUDIES. 2 credits.

Prerequisite, 57. Social studies program in the elementary school and the varied means of implementing the program.

27:140. SEMINAR IN TEACHING MODERN FOREIGN LANGUAGES. 3 credits.

Prerequisites, 57 and 30:41. An elective course for those students who major in modern foreign languages.

27:150. TESTS AND MEASUREMENTS. *Either semester.* 2 credits.

Prerequisite, 57. Various methods and devices employed in comprehensive and continuous evaluation. Some attention given to treatment and interpretation of scores.

27:151. HOME ECONOMICS EDUCATION. *First semester.* 3 credits.

Organization of home economics in secondary schools. Two hours observation, two hours lecture.

27:173. PRINCIPLES OF TYPEWRITING INSTRUCTION. 1 credit.

Prerequisite, Typewriting 67:54 and a quality point ratio of 2 in the field. Methods of presentation in typewriting. Demonstrations and observations required. A theory test in the field must be passed before credit will be given for the course.

27:174. PRINCIPLES OF SHORTHAND INSTRUCTION. 1 credit.

Prerequisite, Shorthand 67:62 and a quality point ratio of 2 in the field. Methods of presentation in shorthand and transcription. Demonstrations and observations required. A theory test in the field must be passed before credit will be given for the course.

27:175. PRINCIPLES OF BOOKKEEPING INSTRUCTION. 1 credit.

Prerequisite, Accounting 39:22 and a quality point ratio of 2 in the field. Methods of presentation in bookkeeping, business cycle, practice sets and lesson plans. A theory test in the field must be passed before credit will be given for the course.

27:191. METHODS IN TEACHING ART. *First semester.* 3 credits.

Prerequisite, completion of the required course for art teachers and quality point ratio of 2 in the field. Study of trends and procedure in teaching and in supervision; relation of art to the home, school and community; observation in selected schools is required.

27:201. PROBLEMS IN EDUCATION. *Either semester.* 3 credits.

Prerequisite, Senior status in Education. To assist the Senior student in developing a personal philosophy of education upon which he will base his professional practices; to deepen personal commitment to teaching as a profession.

27:202. STUDENT TEACHING AND SEMINAR. 4-6-8 credits.

Prerequisite, 113 or equivalent. Student teaching under supervision of supervising teacher and University supervisor; includes 2-hour seminar per week or equivalent.

27:205. INDEPENDENT STUDY. 2-3 credits each semester.

Designed for students who have demonstrated high academic achievement and who wish to do special work in education.

27:210. PERSONNEL SERVICES IN SCHOOL AND SOCIAL WORK. 2 credits.

Prerequisite, Senior standing. A basic introduction to the background, role and function, techniques, and selected issues in the personnel field. Particularly helpful for students who may be considering entering the field of social work, pupil personnel or college personnel at the graduate level.

27:220. SUPERIOR STUDENTS—THEIR GROWTH PATTERNS AND EDUCATION. 2 *credits*.

Designed to provide students with knowledge of the developmental characteristics of superior students, unique problems they encounter in an educational setting and various dimensions of superiority. (Can be taken for graduate credit.)

27:225. READING PROGRAMS IN SECONDARY SCHOOLS AND COLLEGES. 3 *credits*.

Relationship of reading to human development; materials, class organization and procedures for developing reading improvement programs for high school and college students.

27:234. AUDIO-VISUAL EDUCATION. 2 *credits*.

To acquaint teachers of all levels with the wide variety of visual and auditory aids available and the techniques for their respective use. Learning to operate projectors and sound reproducers, to locate materials available and to construct materials for one's own specific use.

27:235. WORKSHOP IN ECONOMIC EDUCATION. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:236. WORKSHOP IN READING. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:237. WORKSHOP IN ARITHMETIC. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:238. WORKSHOP ON EXCEPTIONAL CHILDREN. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:239. WORKSHOP IN PHYSICAL SCIENCE. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:240. WORKSHOP IN SOCIAL STUDIES. 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:241-244. WORKSHOP. (*Elementary or Secondary School*). 2 or 3 *credits*.

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:251. ELEMENTARY EDUCATION. *Evening and Summer sessions*. 3 *credits*.

Evaluation of recent trends and practices in elementary education. Language Arts and Social Studies will be emphasized.

27:260. DEVELOPMENTAL CHARACTERISTICS OF SLOW LEARNING CHILDREN. 3 *credits*.

Comparative study of the physical, emotional, intellectual and social development of normal and slow learning children from infancy through adolescence.

27:261. PRINCIPLES OF TEACHING EXCEPTIONAL CHILDREN. 3 *credits*.

Basic principles underlying the instruction of exceptional children—slow learners, gifted, physically handicapped, etc.

27:262. METHODS AND MATERIALS FOR TEACHING SLOW LEARNERS. 2 credits.

A study of the understandings, techniques, skills and materials unique in the instruction of the slow learner.

27:263. ARTS AND CRAFTS FOR THE SLOW LEARNER. 2 credits.

Arts and crafts especially suited to the unique characteristics of slow learners.

27:264. READING AND LANGUAGE ARTS FOR THE SLOW LEARNER. 2 credits.

Program and techniques especially suited to slow learners; diagnosing problems and planning remedial and corrective measures.

27:265. SOCIAL STUDIES FOR THE SLOW LEARNER. 2 credits.

A study of the methods and materials designed to meet the unique needs of a varying slow learner school population.

27:266. NUMBER CONCEPTS FOR THE SLOW LEARNER. 2 credits.

A study of the procedures and sequential learnings appropriate for the teaching of number concepts to the slow learning child.

27:268. OCCUPATIONAL ORIENTATION AND JOB TRAINING FOR EXCEPTIONAL CHILDREN. 2 credits.

A study of the developmental understandings related to the post-school adjustment of exceptional youth.

27:270-279. EDUCATIONAL INSTITUTES AND FOUNDATION PROGRAMS. 3 credits each.

Special courses designed as in-service up-grading programs in various fields, frequently provided with the support of national foundations.

27:280. INTERNATIONAL SCHOOL STUDY. 3-6 credits.

On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

27:290. DIAGNOSIS AND CORRECTION OF READING DIFFICULTIES. 3 credits.

Prerequisite, 27:135 and teaching experience. Relation of growth to reading development and reasons for retardation. Formal and informal techniques for screening reading difficulties. Study of materials and procedure for improving reading performance.

27:291. LABORATORY PRACTICE IN READING IMPROVEMENT. 2-4 credits.

Prerequisite, 27:290 or permission, and teaching experience. Laboratory experience with school-wide, classroom, small groups and individual situations. Students diagnose and develop programs of improvement for individuals experiencing difficulty. Supervised practice; independent work; case studies; written reports.

GRADUATE COURSES

Prerequisite to graduate courses in Education: At least 12 credits of undergraduate work in Education or the equivalent, the Bachelor's degree or equivalent and the provisional certificate for teaching.

27:300. PHILOSOPHIES OF EDUCATION. 3 credits.

A survey and analysis of educational ideas and their relationship to society throughout the history of Western Culture, with some emphasis on contemporary philosophies.

27:301. DEVELOPMENTAL PROCEDURES IN LEARNING. 2 credits.

Basic concepts in the areas of human development and learning and their practical application by the classroom teacher in working with individuals and groups.

27:302. **ORIENTATION TO GUIDANCE SERVICES. 2 credits.**

Background and development of pupil personnel services, basic concepts related to pupil personnel work, current programs in elementary and secondary schools and present status and trends in pupil personnel services.

27:303. **TECHNIQUES OF RESEARCH. 2 credits.**

Research methods and techniques commonly used in education and psychology; preparation of research reports.

27:305. **SEMINAR IN GUIDANCE. 2 credits.**

(To be taken by counseling candidates in conjunction with 302 or immediately thereafter.) A series of individual and group experiences designed to evaluate and select applicants for graduate preparation in counseling.

27:306. **GUIDANCE IN THE ELEMENTARY SCHOOL. 2 credits.**

Foundations of guidance in the elementary school, guidance services in the elementary school and the utilization of guidance and counseling in the elementary school.

27:307. **PATTERNS OF CAREER DEVELOPMENT. 2 credits.**

Prerequisite, 308. Traces career development from early childhood through retirement and provides fundamental knowledge necessary in elementary and secondary counseling in the area of careers.

27:308. **TECHNIQUES OF GUIDANCE. 2 credits.**

Study of the following guidance tools and techniques and their application in guidance programs, objective and subjective measurement devices, cumulative record systems, case study and case conference, the interview.

27:309. **VOCATIONAL GUIDANCE AND OCCUPATIONAL INFORMATION. 2 credits.**

Sources, organization and uses of occupational information; principles, practices and techniques of group instruction and individual guidance in studying, evaluating and choosing an occupation.

27:310. **THE COUNSELING INTERVIEW—APPROACHES, PROCEDURES AND EVALUATIONS. 2 credits.**

Prerequisite, 308 or permission. Emphasis is placed upon the characteristics and interviewing role of the guidance counselor, various counseling approaches, the counseling interview and the philosophy of counseling within an educational institution. (Should be elected preceding 315).

27:311. **STATISTICS IN EDUCATION. 3 credits.**

Statistical methods and techniques used in the field of measurement and by research workers in education.

27:312. **GROUP AND EDUCATIONAL GUIDANCE. 2 credits.**

The first half of the course deals with the place of group guidance in schools, techniques the counselor uses in group guidance and materials appropriate to group guidance. The second half of the course deals with educational guidance, especially the planning of an educational program from junior high school through senior high school and college or the appropriate post-high school plan.

27:314. **EVALUATION AND DIAGNOSIS OF LEARNING PROBLEMS. 3 credits.**

Study and measurement of factors leading to learning problems with some attention to remedial procedures.

27:315. PRACTICUM IN COUNSELING. 3 credits.

Prerequisite, 308. 100 credits of supervised experience per credit distributed as follows: 20 credits in selecting, evaluating, administering, scoring and interpreting tests; 20 credits in counseling with children and youth in such areas of concern as personal and home problems, health, scholastic achievement, school adjustment; 20 credits in educational guidance, time-budgeting, choice of activities, vocational choice, guidance in self-appraisal; 20 credits in counseling with parents, in programs of in-service education of teachers, in community service and public relations; 20 credits in record-keeping, case conferences, administration of school social program, student activities, group guidance.

27:317. SUPERVISION OF STUDENT TEACHING. 2 credits.

Primarily for supervising teachers in the guidance of student teachers. Topics include: readiness for student teaching; student teacher, directing teacher and college supervisor relationships; use of the conference, demonstration and observation; helping student teachers through evaluation.

27:319. SECONDARY SCHOOL CURRICULUM AND INSTRUCTION. 2 credits.

Application of the findings of recent research to curriculum building and procedures in teaching.

27:320. SECONDARY SCHOOL ADMINISTRATION. 2 credits.

Prerequisite, 345. Problems, procedures and principles of organization and administration in secondary schools.

27:321. ADULT EDUCATION. 2 credits.

A survey course for public school teachers and administrators as well as for those engaged full time in Adult Education. Historical background including European influences and their relation to rapid developments in the field during the last decade. Emphasis on current programs throughout the United States.

27:322. PRINCIPLES OF EDUCATIONAL SUPERVISION. 3 credits.

Study of the principles, organizations and techniques of supervision with a view to the improvement of instruction.

27:330. ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION. 2 credits.

Application of the findings of recent research to curriculum building and procedures in teaching.

27:331. ELEMENTARY SCHOOL ADMINISTRATION. 2 credits.

Prerequisite, 345. Problems, procedures and principles of organization, administration and supervision in elementary schools.

27:345. PRINCIPLES OF EDUCATIONAL ADMINISTRATION. 3 credits.

Theory and practices of educational administration in state and county systems, cities and rural districts. School law, organizing, administration, finance, pupil accounting, planning and completion of school buildings.

27:350. LEGAL BASIS OF EDUCATION. 2 credits.

Prerequisite, 345. The legal principles underlying American education as reflected in statutory provisions and the decisions of our courts. Some specific attention given to Ohio law.

27:352. PRINCIPLES OF SCHOOL FINANCE. 2 credits.

Prerequisite, 345. Study of financial operations of school systems including tax and other income, expenditures and budgeting.

27:354. SCHOOL AND COMMUNITY RELATIONS. 2 *credits*.

Principles and practices in maintaining cooperative relationships between the schools and the public.

27:356. EDUCATION AND SOCIAL TRENDS. 2 *credits*.

Study of contemporary political, economic and social trends and their effects on educational policies and practices.

27:360. HISTORY OF EDUCATION IN AMERICAN SOCIETY. 3 *credits*.

The historical development of education in the American social order, with special emphasis on the social, political, and economic setting.

27:362. INTERDISCIPLINARY SEMINAR. 3 *credits*.

Concepts, principles, and points of view derived from the areas of sociology, economics, political science, and labor-management relations, designed to strengthen the background of specialists in professional education.

27:364. PRINCIPLES OF CURRICULUM DEVELOPMENT. 3 *credits*.

An overview of the instructional programs of a school in terms of basic purposes, functions and structures necessary to study and interpret these instructional programs.

27:392. ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION. 3 *credits*.

Prerequisites, 27:135 or 27:225; 27:303 and teaching experience. Survey of research, comparison and evaluation of programs, design and development of projects in reading through group and individual study.

27:393. SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION. 2 *credits*.

Prerequisite, 27:319 or 27:330, and teaching experience. Study of reading relative to total curriculum; procedures for developing reading program in all curriculum areas; examination of children's literature and related instructional reading by supervisors and consultants.

27:400. SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL. 2 *credits*.

A study of the supervisory role of the elementary principle and other supervisory personnel. Consideration of the particular aspects of supervision at the elementary school level in relation to general supervisory practices.

27:402. SUPERVISION OF INSTRUCTION IN THE SECONDARY SCHOOL. 2 *credits*.

Consideration of the unique elements of the secondary school organization and purpose which make supervision of instruction within its framework a special case. Definition of the supervisory leadership role in improving instruction at the secondary school level and development of a practical theory of secondary school supervision.

27:406. ADVANCED EDUCATIONAL STATISTICS. 3 *credits*.

Prerequisite, 311. A second level statistics course related to quantification in the behavioral sciences. General areas included are testing of statistical hypotheses, experimental design, analysis of variance and nonvariance, factor analysis and introduction to nonparametric statistics.

27:420. SCHOOL BUILDING AND CONSTRUCTION. 2 *credits*.

Prerequisite, 345. Designed mainly for the potential superintendent, executive head or post-Master's student in administration.

27:422. SCHOOL BUSINESS ADMINISTRATION. 2 credits.

A study of school business administration as a part of the total administrative pattern, and as a creative planning process designed to facilitate instruction.

27:426. ADMINISTRATION OF STAFF PERSONNEL. 2 credits.

Guidelines, techniques, and procedures for helping the administrator to become a democratic leader. Duties and responsibilities of the staff as participants in administrative activity.

27:428. FIELD EXPERIENCE. 3 credits (may be repeated once for a maximum of 6 credits).

On the job experience in a public school system working with administrators and/or supervisors.

27:433. COMPARATIVE EDUCATION. 2 credits.

Educational philosophy and organization in foreign countries.

27:436. SEMINAR IN ELEMENTARY EDUCATION. 2 credits.

27:437. SEMINAR IN SECONDARY EDUCATION. 2 credits.

27:441. EVALUATING EDUCATION INSTITUTIONS. 2 credits.

Laboratory course in which the evaluation of educational institutions will be made by use of up-to-date techniques and criteria.

27:445. ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES. 2 credits.

Study of the principles and practices in the organization and administration of pupil personnel programs, roles and functions of the counselor, school psychologist, and other pupil personnel workers, problems peculiar to this area, and evaluation and research as it pertains to pupil personnel services.

27:448. ADVANCED PRACTICUM IN STUDENT COUNSELING. 2 credits (may be repeated once for 4 credits).

Supervised experiences in individual and group counseling of students in the field and in the pupil personnel center. Periodic counseling sessions with the practicum supervisor are also provided for candidates.

27:450. SEMINAR IN SCHOOL GUIDANCE AND COUNSELING. 3 credits.

An examination and discussion of topics related to major areas in this field such as the counselor as a professional, the counselor as a person and issues in guidance and counseling.

27:452-453. SEMINAR IN PUPIL PERSONNEL RESEARCH. 2 credits each semester.

Prerequisite, 311, 406, approval of Doctoral Committee. Provides an extensive background in selected areas of pupil personnel services and includes criteria for evaluation and application of research findings.

27:459. SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST. 2 credits.

A seminar and independent study course on the role and function of the School Psychologist. Part of the course will be tailored to meet individual needs of trainees. Enrollment will be concurrent with the trainee's internship.

27:460-461. INTERNSHIP IN SCHOOL PSYCHOLOGY. 3 credits each semester.

Full time work under the supervision of a qualified school psychologist for a complete academic year according to the provisions of the State Department of Education. Additional readings and activities required.

27:464-465. INTERNSHIP IN COUNSELING SUPERVISION. 2 *credits each semester*.

Experience in supervising the counseling done by master's degree candidates in guidance and counseling. Further supervised experiences in individual and group counseling of students in the field and in the pupil personnel center are also provided.

27:468. INTERNSHIP IN FIELD RESEARCH. 2 *credits*.

Prerequisite, 303, 453, Seminar in Pupil Personnel Research and approval of Doctoral Committee. Designed for Ph.D. candidates nearing completion of their program, the course provides advanced research experience related to practical problem situations in the public school system.

27:490. RESEARCH PROJECTS IN SPECIAL AREAS. 2 *credits*.

Study, analysis and reporting of an educational problem.

27:499. RESEARCH IN EDUCATION. 2-20 *credits*.

Thorough study and analysis in depth of an educational problem; field projects in special areas; synthesis of existing knowledge in relationship to a specific topic.

28: GEOGRAPHY AND GEOLOGY

GEOGRAPHY COURSES

28:21. WORLD CULTURAL GEOGRAPHY. 3 *credits*.

An introduction to geography of the world. The treatment is regional and emphasizes how various cultures have reacted to physical and economic forces.

28:33. PHYSICAL GEOGRAPHY. 3 *credits*.

Climate, landforms, soils and vegetation. Emphasis will be placed on the nature and distribution of these physical elements and their significance to man.

28:43. ECONOMIC GEOGRAPHY. 3 *credits*.

The geographical basis for the production, exchange, and consumption of goods. The effect which economic patterns have on man's culture and on the adjustment of man to his environment.

28:45. RURAL AND URBAN SETTLEMENT PATTERNS. 3 *credits*.

A study of the function and origin of settlement patterns which man has evolved in the process of occupying various areas.

28:55. MAPS AND MAP READING. 3 *credits*.

Designed to develop competence in map use and evaluation. Use and interpretation of globes, cartograms, block diagrams, topographic sheets, and geologic maps.

28:72. GEOGRAPHY OF ANGLO AMERICA. 3 *credits*.

Natural regions, climate, natural resources, work patterns and industries of the continent.

28:73. GEOGRAPHY OF LATIN AMERICA. 3 *credits*.

South American continent: its climate, products, types of inhabitants, various kinds of government and relation to North American neighbors.

28:74. GEOGRAPHY OF EUROPE. 3 *credits*.

Natural regions, uneven distribution of resources among the several political units and an evaluation of some of the problems faced by countries of the continent.

28:76. GEOGRAPHY OF THE U.S.S.R. 3 *credits*.

A regional and topical analysis of the Soviet Union considering how the Russian cultural and economic patterns relate to the physical environment of northern Eurasia.

28:77. GEOGRAPHY OF MONSOON ASIA. 3 *credits*.

To help develop an understanding of the various countries of Asia, their economic-geography regions, major commodities, industries and commerce. Study of space relationships, climate, relief and natural resources as well as significant political, racial and social factors which have a bearing upon industrial and commercial activities.

28:79. GEOGRAPHY OF AFRICA. 3 *credits*.

This course will consider Africa's geographical background as an environment for human activity and study the responses which have been evoked from its African inhabitants and those who, in the last few centuries, have penetrated its fastness and molded its fortunes. Classes will attempt to evaluate the most cogent geographic, historical, social and economic factors which have led to the present stage of development.

28:135. CLIMATOLOGY. 3 *credits*.

Prerequisite 33. A study of the controls of weather and climate. Acquaints the student with the types of climates and their world pattern of distribution.

28:141. URBAN LAND USE ANALYSIS. 3 *credits*.

A study of the internal structure of the city with particular emphasis on the methods of defining and mapping the various parts.

28:146. THE GEOGRAPHY OF WORLD MANUFACTURING. 3 *credits*.

Manufacturing activities as they evolve under different resource and cultural conditions. Particular emphasis on factors which lead to concentration of manufacturing in specific areas and methods used to measure intensity of concentration.

28:150. GRAPHIC AND CARTOGRAPHIC REPRESENTATION. 3 *credits*.

Prerequisite, 55 or permission. A laboratory course covering the use of cartographic principles and techniques as well as other forms of graphic representation, as a means of recording information. Emphasis is placed on cartographic theory, use of cartographic tools and equipment.

28:233 GEOGRAPHY OF VEGETATION AND SOILS. 3 *credits*.

Prerequisite, 28:33 or permission. Examination of the various types of natural vegetation, together with soil types, which are found over the surface of the earth. Discussion of the geographic relationships between soils and vegetations, and climate and land-forms. The interrelationship of soils and natural vegetation on the one hand, and man's activities on the other, is also stressed.

28:241. THE GEOGRAPHY OF THE METROPOLITAN AREA. 3 *credits*.

Association of phenomena within the metropolitan areas expressed in land use and occupancy features. The changing function of the urban area; relationships between urban centers.

28:245. PROBLEMS OF INDUSTRIAL AND COMMERCIAL SITE SELECTION. 3 *credits*.

Prerequisite, 43 or permission. The relationship between geographic facts of relief, climate, resources, population, and transportation, and the industrial and commercial location process. Case studies in the effects of transportation networks, rates, sources of materials, labor supply, location of markets, etc., on the selection and evaluation of potential sites.

28:250. STATISTICAL MAPPING. 3 *credits*.

Prerequisite, 55 or permission. The problems of cartographic statistical representation. Methods of data manipulation are stressed as well as techniques of presentation. Problems of symbolization are covered in detail.

28:264. RESEARCH TECHNIQUES. 3 *credits* (may be repeated).

Prerequisite, 12 hours of Geography. This course may be directed (1) toward field work in the local area so that the student may familiarize himself with the proper approach to collecting, organizing and analyzing data while carrying out a field research project, or (2) toward an introduction to the techniques and source materials of geographic research to be applied in individual research projects.

28:269. RESEARCH PROBLEMS. 3 *credits*.

Prerequisite, departmental approval. Directed reading and research in special field of interest chosen by student in consultation with the instructor.

28:270. ADVANCED REGIONAL STUDY. 3 *credits*.

Admission by permission of instructor only. A detailed examination of the geographical features of one of the major realms of the world. The treatment is regional and systematic, culminating with a written analysis by the student of one of the geographical regions under discussion. The regional concept of geographical investigation is stressed.

GEOLOGY COURSES

28:61. INTRODUCTORY PHYSICAL GEOLOGY. 4 *credits*.

The materials, structures, surface features of the earth and processes which have produced them. Laboratory.

28:62. INTRODUCTORY HISTORICAL GEOLOGY. 4 *credits*.

The geologic history of the earth and the succession of the major groups of plants and animals as based on the geologic interpretation of rock formations and fossils. Laboratory.

28:163. INTRODUCTORY INVERTEBRATE PALEONTOLOGY. 4 *credits*.

Prerequisite, 62 or permission. An introductory course emphasizing morphology and evolution of the major invertebrate groups with a consideration of the practical applications of paleontology. Laboratory.

28:164. GEOMORPHOLOGY. 3 *credits*.

Prerequisite, 61. The landforms of the earth. Description of the various types, their geographical distribution, and an explanation of the geological processes which have produced them.

28:165. SEDIMENTATION AND STRATIGRAPHY. 4 *credits*.

Prerequisite, 62 or permission. A study of the principles of sedimentation and their application to the interpretation of stratigraphic sequences. Laboratory.

28:166. STRUCTURAL GEOLOGY. 3 *credits*.

Prerequisite, 61 or permission. Identification and interpretation of common and important structural geologic features including the construction and use of structural maps and cross sections.

28:167. MINERALOGY AND CRYSTALLOGRAPHY. 4 credits.

Prerequisite, 61 or permission. Study of morphological crystallography, general and optical mineralogy, including elementary introduction to common mineral parageneses and some aspects of economic geology of the non-silicates. Laboratory emphasis on mineral recognition based on simple physical tests, thin section and polished section analysis. Laboratory.

28:168. PETROGRAPHY. 4 credits.

Prerequisite, 167 or permission. A basic course in which igneous, sedimentary and metamorphic rocks are described and classified. Laboratory.

28:269. RESEARCH PROBLEMS. 3 credits.

Prerequisite, departmental approval. Directed reading and research in special field of interest chosen by student in consultation with the instructor.

29: PHYSICAL EDUCATION

29:45-46. BASIC COURSE IN PHYSICAL EDUCATION ACTIVITIES. 2 credits each semester.

Separated sections for men and women majoring in Physical Education. Learning rules and skills in sports, games and activities commonly included in Physical Education programs.

29:70. ORGANIZATION AND ADMINISTRATION OF RECREATION. 2 credits.

Administration, budgets, management of individual playgrounds, the neighborhood recreation center and community activities.

29:93-94. THEORY AND PRACTICE OF PHYSICAL EDUCATION (for men). 2 credits each semester.

Prerequisite, 46. To develop personal technique and skill in presenting calisthenics, marching, gymnastic activities and officiating in sports; history; general lesson plans suitable for elementary and secondary school programs. Observation at all school levels.

29:95-96. THEORY AND PRACTICE OF TEAM AND INDIVIDUAL SPORTS (for women). 2 credits each semester.

Prerequisite, 46. Analysis of skills essential to selected sports, techniques of organizing and teaching classes in these sports, laboratory experience through supervised teaching in service courses, application of current rules in officiating.

29:97. APPLIED ANATOMY. 3 credits.

Study of the human body; origin, insertion, action, innervation and blood supply of the important muscles of the body in relation to Physical Education and health.

29:98. APPLIED PHYSIOLOGY. 3 credits.

General laws of life; functional activity of tissues, organs, systems; what they can do and how they work in everyday life.

29:103. THEORY AND PRACTICE OF PHYSICAL EDUCATION (for women). Second semester. 2 credits.

Historical development, methods and practice in the teaching of apparatus, gymnastics, stunts and tumbling (first nine weeks). Tests and measurements in Physical Education (second nine weeks).

29:105-106. THEORY AND PRACTICE OF ATHLETICS (for men). 2 credits each semester.

Interpretation of rules, techniques and practice in officiating in team and individual sports.

29:108. THEORY AND PRACTICE OF DANCE. *Second semester. 2 credits.*

Analysis of the basic dance steps for folk, square and social dance; square dance calling; modern dance technique and improvisations; methods and materials of teaching dance. Supervised teaching in service courses.

29:111. RED CROSS FIRST AID. *1 credit.*

Standard American Red Cross course which gives instruction and practice in the immediate and temporary care of injuries and sudden illness.

29:112. ATHLETIC INJURIES AND MASSAGE (men). *Second semester. 1 credit.*

Theory and practice in scientific manipulation of the muscles as related to therapeutic exercise.

29:114. THEORY AND PRACTICE OF SWIMMING. *Second semester. 2 credits.*

Analysis of strokes, dives and related skills; methods and practice in teaching of swimming.

29:115. ADAPTIVE PHYSICAL EDUCATION. *2 credits.*

Prerequisites, 97 and 98. Current theories and practices relating to the needs of physically handicapped children; emphasis is given to underlying philosophy, purpose and administration.

29:119. COMMUNITY HYGIENE. *3 credits.*

Personal and community hygiene, nutrition, disease prevention and control, mental and emotional health and problems of medical care. For health and Physical Education majors and minors.

29:120. CAMPING AND OUTDOOR EDUCATION. *2 credits.*

Camping skills and counseling techniques. Camp administration, school camping and outdoor education.

29:121-122. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. *2 credits.*

Organization and administration of Physical Education programs.

29:125. ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH. *3 credits.*

Organization of health education, with special reference to national, state and local control. Staff, program, budget, health and safety, facilities and other phases of administration.

29:133. METHODS AND MATERIALS IN TEACHING HEALTH EDUCATION. *3 credits.*

Current materials for elementary and secondary school grades; integration and correlation of health education in the education of school children; survey of community, state and federal agencies concerned with health of school-age children.

29:134. GAMES AND RHYTHMS FOR ELEMENTARY GRADES. *2 credits.*

One lecture and two laboratory periods each week. Lectures on theories of play, child development and supervision responsibilities with classroom teachers in the program of Physical Education. Laboratories give an opportunity for analysis and teaching games for the various age groups. For majors in Physical Education.

29:138. HEALTH AND PHYSICAL EDUCATION ACTIVITIES FOR ELEMENTARY GRADES. *3 credits.*

(Previously Physical Education 131 and 132.)

Two lectures and two laboratory periods each week. Philosophy and objectives of health and Physical Education programs on the elementary level. Practice in teaching

games and rhythms of low organization; planning health and Physical Education programs based upon needs, interests and development of elementary children; common communicable and non-communicable diseases; methods of organization; study of source materials available.

GRADUATE COURSES

29:301. ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, ATHLETICS AND RECREATION. 3 credits.

Organization, administration, and evaluation of health and physical education programs in school or community. Administrative policies and problems of athletic programs, varsity and intramural, at the elementary, secondary and collegiate levels. Organization and administration of recreation programs.

29:303. CURRICULUM PLANNING IN HEALTH AND PHYSICAL EDUCATION. 2 credits.

Analysis of the objectives, procedures and trends in health and physical education curricula and the principles and procedures for developing sound programs.

29:305. PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE. 2 credits.

A study of the functions of body systems and the physiological effects of exercise. Laboratory experiences will accompany lectures and discussions.

29:306. MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION. 2 credits.

Prerequisite, 27:303. A critical analysis of existing laboratory testing and a discussion and study of measurement and evaluation in terms of future needs.

29:308. SUPERVISION OF PHYSICAL EDUCATION. 2 credits.

Principles involved in the supervision of physical education service programs. Procedure and techniques of supervision of service classes at the three levels: elementary, junior high and senior high school.

30: PSYCHOLOGY

30:41. GENERAL PSYCHOLOGY. 3 credits.

Basic facts and principles in the scientific study of behavior.

30:43. APPLIED PSYCHOLOGY. 3 credits.

Prerequisite, 41. Applications of psychology to business and industry, education, clinical problems and law.

30:45. QUANTITATIVE METHODS IN PSYCHOLOGY. 3 credits.

Prerequisites, 41 and either 17:21 or 1:11. Presentation of data, descriptive statistics, correlation, hypothesis testing and introduction to quantitative methodologies in psychology.

30:47. INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY. 3 credits.

Prerequisite, 41. Laboratory procedures and quantitative methods in psychology. Lectures, reference reading and experiments, including statistical treatment of data obtained. Two hours of lecture and two hours of laboratory work per week.

30:51. DEVELOPMENTAL PSYCHOLOGY. 3 credits.

Prerequisite, 41. A study of developmental changes from infancy through senescence and the typical adjustment problems of individuals of different ages in our culture.

30:107. PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE. 3 credits.

Prerequisite, 41. Development of the individual from birth through the adolescent period; emphasis on needs and problems of typical children and adolescents; preparation of case histories.

30:110. EXPERIMENTAL PSYCHOLOGY. 3 credits.

Prerequisites, 47 and a course in Statistics or permission. Scientific methods and tools of modern experimental psychology; group and individual laboratory experiments in sensory processes, attention and perception and learning. One lecture and two 2-hour laboratory periods a week.

30:115. SOCIAL PSYCHOLOGY. 3 credits.

Prerequisite, 41. Responses of the individual in relation to group situations and social influences of modern life.

30:116. INDUSTRIAL PSYCHOLOGY. 3 credits.

Prerequisite, 41. Survey of psychology of industrial selection, training, performance evaluation and environmental arrangements.

30:120. PHYSIOLOGICAL AND COMPARATIVE PSYCHOLOGY. 3 credits.

Prerequisite, 47. The relationship between the behavior of organisms and the physiological processes mediating the behavior. Conditioning, language, discrimination, etc. Inter-species studies. Biology 91 is desirable as a background.

30:203. PERSONALITY. 2 credits.

Prerequisite, 41. Consideration of current concepts of the normal personality with emphasis on methods of measurement, experimental findings, and research techniques.

30:204. PSYCHOLOGY OF EXCEPTIONAL CHILDREN AND ADOLESCENTS. 3 credits.

Prerequisite, 107. Atypical or exceptional conditions in the development of children and adolescents; diagnostic and treatment procedures in the clinical approach to helping these individuals in their adjustment.

30:207. PSYCHOLOGICAL TESTS AND MEASUREMENTS. 3 credits.

Prerequisites, 41 and a statistics course or permission. The nature, proper use and construction of tests and measurements in industry, government and education. Aptitude and achievement tests, rating scales, attitude and opinion analysis.

30:208. TECHNIQUES IN GUIDANCE AND COUNSELING. 2 credits.

Prerequisite, 207. The use of tests, interviews and personal history data in vocational and academic counseling and guidance.

30:211. PSYCHOLOGICAL FACTORS IN MARITAL AND HOME ADJUSTMENT. 2 credits.

Prerequisite, Senior or adult status. Psychology of sex adjustment in adolescence, adulthood and marriage; factors which are important to successful marriage and parenthood.

30:212. PSYCHOLOGY OF LEARNING. 3 credits.

Prerequisite, 47. Problems of conditioning and learning; acquisition of individual responses; reinforcement, drive, frequency, transfer, retention, problem solving.

30:217. HISTORY AND SYSTEMS OF PSYCHOLOGY. 3 credits.

Psychology in the pre-scientific period and the details of the development of systematic viewpoints in the 19th and 20th centuries.

30:220. HUMAN FACTORS. 3 *credits*.

Prerequisite, 41 plus 12 credits in psychology, engineering or industrial management. Application of experimental psychology methodology to problems of equipment design, and the operation, design, and management of man-made systems.

30:230. ABNORMAL PSYCHOLOGY. 3 *credits*.

Prerequisite, 6 credits in Psychology. The nature, development, diagnosis, and treatment of the major psychopathological conditions ranging from the neuroses to the psychoses.

GRADUATE COURSES

30:302. ADVANCED PSYCHOLOGICAL STATISTICS, CORRELATION ANALYSIS. 3 *credits*.

Prerequisite, 45 or permission. Theory and techniques of correlation analysis in the behavioral sciences; linear and curvilinear correlation, and multiple regression.

30:303. ADVANCED PSYCHOLOGICAL STATISTICS—ANALYSIS OF VARIANCE. 3 *credits*.

Prerequisite, 45 or permission. Theory and applications of statistical tests of significance in psychology underlying experimental designs.

30:304. ADVANCED DEVELOPMENTAL PSYCHOLOGY. 3 *credits*.

Prerequisite, nine credits of psychology. Influence of developmental stages upon individual and group behavior throughout the life span with implications for educational, clinical and industrial counseling.

30:306. INDIVIDUAL INTELLIGENCE TESTING I: STANFORD-BINET. 2 *credits*.

Prerequisite, 207 and permission. Lectures and practice in the administration and scoring of the Stanford-Binet.

30:307. INDIVIDUAL INTELLIGENCE TESTING II. WECHSLER SCALES. 2 *credits*.

Prerequisite, 207 and permission. Lectures and practice in the administration and scoring of the Wechsler Adult Intelligence Scale (WAIS) and the Wechsler Intelligence Scale for Children (WISC).

30:310. THEORIES OF PSYCHOTHERAPY. 2 *credits*.

Prerequisite, 312 or permission. Contemporary theories of psychotherapy; client centered therapy; Freudian, Rankian, Adlerian and Jungian systems.

30:311. THE PSYCHOLOGY OF INDIVIDUAL DIFFERENCES. 3 *credits*.

Prerequisite, nine credits of psychology. Significance, nature and role of inter- and intra-individual differences; applications to educational, industrial and clinical situations; group differences and their measurement.

30:312. THEORIES OF PERSONALITY. 3 *credits*.

Prerequisites, 203 and 230. Historical considerations of personality. Psychoanalysis and deviations from it. Contemporary theoretical formulations; personality dynamics, structure and organization.

30:313. THEORIES OF PSYCHOTHERAPY. 3 *credits*.

Prerequisite, 312 or permission. Major psychotherapeutic theories and methods including classical psychoanalysis, neo-Freudian systems, learning psychotherapies, client-centered therapy, chemotherapy, and related techniques.

30:318. GRADUATE SEMINAR IN PSYCHOLOGY. 1, 2, or 3 *credits*.

Prerequisite, 20 graduate credits of psychology. Special topics in the major areas.

30:319. SURVEY OF PROJECTIVE TECHNIQUES. 3 credits.

Prerequisites, 203, 207, 312 and 313 recommended. Introduction to projective rationale and assumptions. Elementary scoring and interpretation of the Rorschach and survey of other selected projective techniques.

30:320. PRACTICUM IN CLINICAL AND COUNSELING PSYCHOLOGY. 3 credits.

Prerequisites, 20 hours of psychology including 203, 207, 312 and 313 and permission (306 and 307 are recommended). Lectures and practice in diagnostic techniques and personal counseling.

30:330. ADVANCED GENERAL PSYCHOLOGY. 3 credits.

Prerequisites, 45 and 47. The methods of traditional experimental design contrasted with the techniques of individual subject analysis. Specific experiments selected from journals for study and replication.

30:403. THESIS-DISSERTATION SEMINAR. 3 credits.

Prerequisite, permission. Review and discussion of contemporary research and thesis preparation. Professional ethics and responsibility.

30:404. THESIS RESEARCH. 2, 3, or 4 credits.

Prerequisite, 403. Research analysis of data and preparation of thesis for the Master's Degree.

30:405. COMPUTER TECHNIQUES IN PSYCHOLOGICAL MEASUREMENT. 2 credits.

Prerequisite, 302 or permission. Information about the computer and its application to research on typical problems in psychology.

30:406. ADVANCED TESTS AND MEASUREMENTS. 2 credits.

Prerequisite, 207 or permission. Advanced techniques in test construction and analysis.

30:410. THEORIES OF LEARNING. 3 credits.

Prerequisite, 212. Empirical evaluation of the bases of major theoretical positions.

30:413. PERCEPTION. 2 credits.

Prerequisites, 120 and 212 or permission. The neural and physiological correlates of behavior in organisms.

30:415. PHYSIOLOGICAL PSYCHOLOGY. 2 credits.

Prerequisites, 120 and 212. Treatment of neural and physiological correlates of behavior with special emphasis on research in conditioning.

30:417. PSYCHOLOGY OF MOTIVATION. 2 credits.

The role of primary and secondary motives in behavior.

30:430. SEMINAR IN INDUSTRIAL PSYCHOLOGY. 2 credits each semester.

Prerequisite, permission. Intensive examination of special topics per offering. May be repeated to a total of six credits but not under same topic listing. Topics such as consumer behavior, leadership, morale, etc.

30:433. RESEARCH IN INDUSTRIAL PSYCHOLOGY. 2 credits each semester.

Prerequisite, 302 or permission. Research on data gathered in industrial settings or data relevant to important problems in industrial psychology. May be repeated to a total of 6 credits.

30:436. LITERATURE SURVEY, SELECTED TOPICS. 2 credits each semester.

Prerequisite, permission. Readings in psychology according to the needs of the student. May be repeated to total of 6 credits.

30:439. SOCIAL-INDUSTRIAL PSYCHOLOGY. 2 credits.

Prerequisite, permission. Principles of social psychology applied to the industrial setting. Nonfinancial incentives, leadership, communication, morale, and evaluation in social-industrial psychology.

30:442. PSYCHOLOGY OF INDUSTRIAL SELECTION. 2 credits.

Prerequisite, 302 or permission. The analysis, development, and use of objective and subjective criteria in industry for use in performance appraisal, environmental arrangements.

30:445. PERFORMANCE EVALUATION. 2 credits.

Prerequisite, 302 or permission. The analysis, development, and use of objective and subjective criteria in industry for use in performance appraisal, test validation, training and validation of environmental arrangements.

30:451. PSYCHOLOGY OF TRAINING IN INDUSTRY. 2 credits.

Prerequisite, 212 or permission. The nature of industrial training, needs for training, methods and techniques, evaluation of training, training and learning theory.

30:454. FACTOR ANALYSIS. 2 credits.

Prerequisite, 302 or permission. Theory and techniques in identifying independent variables through the use of factor analysis.

30:457. NON-PARAMETRICS. 2 credits.

Prerequisite, 45 or permission. Theoretical bases and relationships among various nonparametric techniques compared with parametric ones in Psychology.

30:460. SCALING TECHNIQUES. 2 credits.

Prerequisite, 302 or permission. Consideration of scales of measurements, use of curve fitting, psychophysical methods and psychological scaling methods.

30:463. PSYCHOLOGICAL EXPERIMENTAL DESIGN. 2 credits.

Prerequisite, 303 or permission. Theory and application of statistical tests of significance to more complex psychological experimental designs than in 303.

30:490. DISSERTATION RESEARCH. 15 credits.

Open to properly qualified students accepted to candidacy for the degree of Doctor of Philosophy in Psychology. Supervised research on a topic deemed suitable by the dissertation committee.

31: NURSING EDUCATION

31:59. HISTORY OF NURSING. 2 credits.

Nursing from prehistoric times to present day. An effort is made to show the relationship of the methods in care of the sick to political and economic conditions, and to show the professional heritage of the present day nurse and the ethical backgrounds of the profession.

31:100. NURSING TRENDS. 3 credits.

Current developments and problems in the various fields of nursing; attention to developments in other fields affecting nursing.

31:105. PRINCIPLES AND METHODS OF TEACHING NURSING. 3 credits.

Open to registered nurses or Seniors in the five-year program. Principles of learning and methods of teaching, through which the student may understand and apply these to instruction in the nursing field. Discussion of classroom and clinical instruction; preparation of a plan for teaching an area of nursing according to major interest of the student.

31:106. WARD MANAGEMENT AND TEACHING. 3 credits.

Open to registered nurses or Seniors in the five-year program. An introductory course planned to guide thinking and preparation basic to the organization and management of a hospital division as a head nurse. Principles of administration, supervision and teaching will be explored, discussed and developed as they relate to nursing service and the guidance of all workers in the division as well as inter-departmental relations.

31:113. PUBLIC HEALTH NURSING PRACTICE. 3-6 credits.

Open to registered nurses or Seniors in the five-year program. Supervised visitation of homes in connection with the service rendered by the Visiting Nurse Service—the practice of public health nursing under supervision. (Six weeks experience for 3 credits)

31:114. COMPREHENSIVE NURSING CARE. 3 credits.

Prerequisite or concurrent 113. Analysis and planning of nursing needs of patients. Discussion of the applications of principles of psychology, sociology, natural sciences, community organization and nursing as they affect nursing care. Planned around needs of the students.

31:115. COMPREHENSIVE NURSING PRACTICE. 3 credits.

Prerequisite or concurrent 114. Practice in planning and executing comprehensive nursing care for selected patients and directing the members of the nursing team in providing this care. Field experience provided in local hospitals and selected to meet needs and interests of the individual student. Field work, nine hours per week.

33: COOPERATIVE WORK COURSES**33:151. COOPERATIVE WORK PERIOD I. 0 credits.****33:152. COOPERATIVE WORK PERIOD II. 0 credits.****33:153. COOPERATIVE WORK PERIOD III. 0 credits.****34: CIVIL ENGINEERING COURSES**

First number in parenthesis indicates hours in recitations; second number indicates hours of lab work.

34:47. SURVEYING I. 2 credits. (1-1)

Prerequisite, 17:25. Principles of plane surveying. Use of tape, level and transit. Computation of areas. Field problems involving measurement of horizontal and vertical distances and angles.

34:48. APPLIED MECHANICS I. 3 credits. (3-0)

Prerequisite or corequisite, 17:76. Forces. Resultants. Couples. Equilibrium of force systems. Friction. First moments and centroids. Second moments of areas. Moments of inertia of bodies.

34:100. ADVANCED SURVEYING. 3 credits. (2-1)

Prerequisite, 47. Precise leveling, triangulation, topographic surveying, astronomic observations pertinent to surveying, horizontal and vertical alignment of transportation routes, earthwork computations.

34:101. MECHANICS OF MATERIALS. 3 credits. (3-0)

Prerequisite, 48. Stress and strain caused by tension, compression, torsion and flexure. Riveted and welded joints. Shear and moment diagrams. Beams of two materials. Deflection of beams. Combined direct and flexural stresses. Stresses at a point by Mohr's circle. Columns.

34:103. APPLIED MECHANICS II. 3 credits. (3-0)

Prerequisites, 48, 17:114. Kinematics. Kinetics of the particle and the rigid body. Impulse and momentum. Work-energy methods. Euler's equations of motion. D'Alembert's principle.

34:105. STRUCTURAL ANALYSIS. 2 credits. (2-0)

Prerequisite, 101. Analysis of roof trusses, mill bents and bridge trusses. Fixed and moving loads. Influence lines.

34:106. INDETERMINATE STRUCTURES. 3 credits. (3-0)

Prerequisite, 105. Indeterminate beams, frames and trusses. Moment-area, energy, slope-deflection, moment distribution, Williot-Mohr and column analogy methods.

34:108. HYDROLOGY. 3 credits. (3-0)

Prerequisite, 36:171. Factors affecting ground water and stream flow. Application of principles to problems of water supply and flood routing.

34:111. HYDRAULICS. 2 credits. (1-1)

Prerequisite, 36:171. Application of fluid mechanics principles to water flowing in pipes and open channels. Verification of fluid mechanics and hydraulics concepts in the laboratory.

34:114. HIGHWAY MATERIALS. 3 credits. (1-2).

Standard test of aggregates, cement, concrete, bituminous materials and bituminous mixtures to determine their properties. Design of concrete and bituminous mixes.

34:115. WATER SUPPLY. 3 credits. (3-0)

Prerequisites, 108, 111. Quality and quantity requirements. Development of surface and ground water supplies. Treatment of domestic and industrial supplies. Distribution systems, including reservoirs and pumping stations. Principles of water works finance.

34:119. PHOTOGRAMMETRY. 2 credits. (1-1)

Prerequisite, 100. Photogrammetry. Fundamental principles involved in surveying by aerial or other photography, including the reduction of the photograph to a map. Laboratory exercises in the photographic study of a prepared geometric landscape. Experience with the basic photogrammetric instruments.

34:120. SOIL MECHANICS AND FOUNDATIONS. 3 credits. (2-1)

Prerequisite, 36:171. Soil identification and physical properties. Subsurface investigation. Types of foundations, basis of design, methods of construction. Laboratory tests of soil samples to determine physical properties and structural behavior.

34:122. SEWERAGE. 3 credits. (3-0)

Prerequisites, 108, 111. Hydraulics of sewers. Quantity of domestic sewage and storm water. Collection by separate and combined systems. Treatment of domestic sewage.

34:123. SANITARY LABORATORY. 2 credits. (1-1)

Corequisites, 115, 3:77. Selected physical, chemical and bacteriological tests on raw and treated water and sewage.

34:125. HIGHWAYS. 3 credits. (3-0)

Prerequisites, 114, 119, 120. Administration, planning and finance of modern highways. Highway economy. Traffic capacity and control. Geometric and structural design of flexible and rigid pavements. Drainage. Stabilization. Surfaces. Maintenance.

34:126. URBAN PLANNING. 3 credits. (3-0)

Prerequisite, Senior standing or permission. Land use, inventory and control. Transportation planning and traffic management. Engineering aspects of planning for city or regional development.

34:137. ENGINEERING MATERIALS LABORATORY. 1 credit. (0-1)

Corequisite, 37:115. Experimental understanding of the behavior of engineering materials.

34:144. STEEL DESIGN. 4 credits. (4-0)

Prerequisite, 106. Tension members, compression members, beams. Combined axial and flexural loads. Plate girders. Plastic design. Riveted, bolted and welded connections. Complete design.

34:145. REINFORCED CONCRETE DESIGN. 4 credits. (4-0)

Prerequisite, 106. Design of flexural members by elastic and ultimate strength procedures. Columns, footings, retaining walls. One-way, two-way, and flat slabs. Creep, shrinkage, and temperature effects. Pre-stressed concrete beams.

34:200. ADVANCED MECHANICS OF MATERIALS. 3 credits. (3-0)

Prerequisite, 101. Stresses and strains at a point, strain rosettes, theories of failure. Thick-walled pressure vessels. Torsion of other than round sections. Advanced topics in flexure. Impact loading.

GRADUATE COURSES

34:300. THEORY OF ELASTICITY. 3 credits. (3-0)

Prerequisites, 101, 17:114. Planar stress-strain relationships. Two-dimensional problems in rectangular and polar coordinates. Strain-energy methods. Spatial stress-strain relationships.

34:301. THEORY OF PLASTICITY. 3 credits. (3-0)

Prerequisite, 300. Deformation of solids. Analysis of stress and strain. Yielding of metals under simple states of stress. Elastic, very viscous, and ideally plastic materials.

34:303. PLASTIC DESIGN OF STEEL STRUCTURES. 3 credits. (3-0)

Prerequisite, 144. Principles of plastic behavior of steel and aluminum. Plastic analysis of metal structures by the mechanism and equilibrium methods. Design of structural elements and connections. Advantages and limitations of plastic considerations.

34:304. PRESTRESSED CONCRETE DESIGN. 3 credits. (3-0)

Prerequisite, 145. Ultimate strength design of reinforced concrete members. Analysis and design of pre-stressed concrete beams and frames.

34:306. THEORY OF PLATES. 3 credits. (3-0)

Prerequisites, 17:114 and permission. Pure bending of plates, small deflection theory, solutions for various edge conditions, plates on elastic foundations, large deflection theory.

34:307. SHELL STRUCTURES. 3 credits. (3-0)

Prerequisites, 17:114 and permission. General theory of thin shells. Analysis of domes, and shell walls. Shells of double curvature. Practical design problems.

34:308. DYNAMICS OF STRUCTURES. 3 credits. (3-0)

Prerequisite, permission. Analytic, numerical, and approximate methods of solution for structural dynamics problems. Earthquake analysis and design.

34:310. SPECIAL PROBLEMS. 1 to 6 credits.

Prerequisite, permission of Department Head. For qualified candidates for the Master's degree. Supervised research or investigation in student's major field of training or experience. Credit dependent upon nature and extent of project as determined by Supervisor, Department Head and Dean.

34:311. ADVANCED SOIL MECHANICS. 3 credits. (3-0)

Prerequisite, 120. Study of clay mineralogy, water flow in soils, deformations, failure conditions, and plastic equilibrium.

34:312. THEORY OF SEEPAGE. 3 credits. (3-0)

Prerequisites, 36:171, 17:210 or permission. Physical and mathematical concepts of percolation. Analytic and numerical methods of solution or potential flow problems with specific applications to seepage.

34:313. GEOTECHNICS. 3 credits. (3-0)

Prerequisite, permission. Advanced methods of foundation construction including dewatering and soil stabilization. Tunnel design. Geophysical methods as applied to Civil Engineering. Drilling and blasting techniques.

34:314. FOUNDATION ENGINEERING. 3 credits. (3-0)

Prerequisites, 120 and permission. Design of shallow and deep foundations. Foundation failure analysis.

34:320. SANITARY ENGINEERING PROBLEMS. 3 credits. (1½-1½)

Prerequisites, 115 and 122. The application of both laboratory methods and theory to the solution of sanitary engineering problems involving water hardness, steam pollution, special industrial wastes, detergents, and others.

34:321. INDUSTRIAL WASTE TREATMENT I. 3 credits. (3-0)

Prerequisite, permission. General discussion of the problems arising from industrial water pollution. Methods of treatment of industrial wastes with specific applications to various industries.

34:322. INDUSTRIAL WASTE TREATMENT II. 3 credits. (3-0)

Prerequisite, 321. A continuation of 321.

34:330. ADVANCED ENGINEERING MATERIALS. 3 credits. (3-0)

Prerequisite, 37:115 or permission. The behavior of solid materials used by engineers. Principles which explain, describe, and define such behavior.

34:340. ADVANCED HYDRAULICS. 3 credits. (3-0)

Prerequisites, 36:171, 17:114. Multi-phase flows in open and closed conduits analyzed in a semi-empirical manner.

34:341. ADVANCED FLUID MECHANICS. 3 credits. (3-0)

Prerequisite 36:171. Navier-Stokes equation, its solution with various simplifying assumptions; slow viscous flow, potential flow, etc. Theoretical methods for the solution of typical fluid mechanics problems. Analysis of turbulence.

35: ELECTRICAL ENGINEERING COURSES

First number in parenthesis indicates hours in recitations; second number indicates hours of lab work.

35:90. ALTERNATING CURRENT CIRCUITS I. 3 credits. (2-1)

Prerequisite, 17:75. Average and effective values of periodic waveforms. Phasor notation applied to alternating current and voltage. Real and apparent power. Methods of circuit analysis. Polyphase systems.

35:100. ANALOG COMPUTERS. 1 credit. (1/2-1/2)

Corequisite, 17:114. Basic concepts involved in the operation of analog computers. Application to engineering type of problems.

35:132. ELECTRICAL MACHINERY. 3 credits. (2 1/2-1 1/2)

Prerequisite, 90. For M.E. and C.E. students. Study of principles, characteristics and applications of A.C. and D.C. machinery.

35:134. ALTERNATING CURRENT CIRCUITS II. 3 credits. (2 1/2-1 1/2)

Prerequisite, 90. Balanced and unbalanced polyphase circuits. Study of circuit response to voltages having harmonic components.

35:139. ELECTRICAL MEASUREMENTS. I. 3 credits.

Prerequisite, 90. A.C. and D.C. instruments. Potentiometers and bridges. Introduction to transducers.

35:140. ELECTRICAL MEASUREMENTS II. 3 credits. (2-1)

Prerequisite, 139. Analysis of transducers outputs. Study of unbalanced bridges and potentiometers. Interpretation and presentation of scientific data. Introduction to Power Spectral Density concept.

35:141. ALTERNATING CURRENT CIRCUITS III. 2 credits. (2-0)

Prerequisite, 134. Solution of general impedance function equation to establish steady state and transient responses of complex circuits. Use of operational methods.

35:142. ALTERNATING CURRENT CIRCUITS IV. 2 credits. (2-0)

Prerequisite, 141. Use of Bessel Functions and Functions of a Complex Variable in the solution of the more complicated problems in Electrical Engineering.

35:145. ILLUMINATION. 2 credits. (2-0)

Fundamentals of illumination and principles underlying specifications and designs for adequate electrical lighting.

35:152. ELECTROMAGNETIC FIELDS. 3 credits. (3-0)

Prerequisite, 17:114. Laws of static electric and magnetic fields on vector basis. Time variable fields and Maxwell's equations. Effects of electromagnetic fields on charged particles in motion.

35:153. ELECTRONIC FUNDAMENTALS. 3 credits. (2-1)

Prerequisite, 132. For M.E. students. Characteristics of vacuum and gas tubes. Amplifiers, power supplies, oscillators, polyphase rectifiers. Industrial electronic control circuits.

35:155. ELECTRICAL MACHINERY I. 4 credits. (3-1)

Prerequisite, 90. Principles of D.C. machinery, including construction characteristics, operation and control. Transformer theory and connections.

35:156. ELECTRICAL MACHINERY II. 4 credits. (3-1)

Prerequisite, 155. Theory application and control of synchronous and asynchronous machines. Theory of fractional horsepower motors.

35:157. CONTROL AND APPLICATION OF ELECTRICAL MOTORS. 3 credits. (2-1)

Prerequisite, 156. Magnetic control of motors, accelerating and decelerating time, duty cycles, control theory and application for given problems.

35:159. TRANSMISSION LINES AND NETWORKS. 3 credits. (2-1)

Prerequisite, 142. Steady-state and transient analysis of distributed parameter circuits. Application of transmission lines at power, audio and radio frequencies. Networks for transmission.

35:163. ELECTRICAL ENGINEERING PROBLEMS. 1 credit. (0-1)

Prerequisite, Senior standing. Selected comprehensive problems. Supervised discussion and computation periods.

35:165. ELECTRONICS I. 4 credits. (3-1)

Prerequisites, 134 and 152. Physics of electron devices. Semi-conductors, vacuum tubes and gas tubes. Rectification. Control devices and the application in industrial electronics. Equivalent circuits.

35:166. ELECTRONICS II. 4 credits. (3-1)

Prerequisite, 165. Circuit analysis of electron devices in the frequency domain. Amplifiers and oscillators. Time domain analysis. Modulation, demodulation, wave-shaping and waveform generation. Pulse techniques.

35:168. ULTRA HIGH FREQUENCIES. 4 credits. (3-1)

Maxwell's equations. Wave equations. Field analysis of wave-guides. Microwave components. Klystron and magnetron oscillators.

35:171. ELEMENTS OF SERVO-MECHANISMS. 2 credits. (2-0)

Prerequisite, 142. Calculation and use of transfer functions. Introduction to closed loop systems involving feedback and methods used to determine stability.

35:172. ANALYSIS OF CONTROL SYSTEMS. 4 credits. (3-1)

Prerequisites, 171 and Senior standing. Study of systems through dynamic equations. Application of servo-mechanism principles. Introduction to the concepts of adaptive control.

35:173. SYMMETRICAL COMPONENTS. 4 credits. (3-1)

Principles of symmetrical components as applied to the analysis of unbalanced electrical circuits.

35:174. COMPUTER CIRCUITRY. 3 credits. (3-0)

Prerequisite, 171. Fundamentals of Boolean Algebra as used in switching circuit design, and logical circuitry. Analysis of analog computer circuits involving diodes. Use of computer elements for complex applications.

GRADUATE COURSES

35:300. ADVANCED CIRCUIT THEORY. 3 credits. (3-0)

Prerequisites, 134, 17:114 and one additional mathematics course. Steady state and transient response of circuits and filters to continuous and pulse voltages. Use of time vs. frequency domain analysis. Introduction of pole and zero concept in circuit analysis.

35:301. SERVO-MECHANISMS. 3 credits. (3-0)

Prerequisite, 300. Formulation of integro-differential equations of linear electrical and mechanical systems, the LaPlace transform, dynamics of closed loop systems, the K G locus, representation of the G function, the stability problem and Nyquist criterion.

35:302. NETWORK ANALYSIS. 3 credits. (3-0)

Prerequisite, 300. Use of pole and zero concept in the analysis of active and passive two and four terminal networks. Stability considerations.

35:303. ELECTROMAGNETIC FIELD THEORY. 3 credits. (3-0)

Prerequisite, 300. Analysis of distributed parameter devices such as lines, wave guides and antennas by application of Maxwell's equations.

35:304. SEMICONDUCTOR ELECTRONICS. 3 credits. (3-0)

Prerequisite, 300. Concepts of semiconductor physics, circuit design and application.

35:306. DATA ANALYSIS. 3 credits. (3-0)

Prerequisite, 17:114. Analysis, interpretation and smoothing of engineering data through application of statistical and correlation theory. Use of probability papers in design for extremes. Study of measurement accuracy and reliability. Methods for deriving composite relations from empirical observations of segmental nature. Lectures, problems.

35:307. ADVANCED CONTROL THEORY. 3 credits. (3-0)

Prerequisite, 301. Methods of non-linear system analysis such as phase-plane methods describing function treatments and methods of Liapunov.

35:308. ANALYSIS OF RANDOM PROCESSES. 3 credits. (3-0)

Control system analysis using statistical concepts and power spectral density techniques.

35:310. SPECIAL PROBLEMS. 1 to 6 credits.

Prerequisite, permission of Department Head. For qualified candidates for the Master's degree. Supervised research or investigation in student's major field of training or experience. Credit dependent upon nature and extent of project as determined by Supervisor, Department Head or Dean.

35:311. POWER SYSTEM ANALYSIS I. 3 credits. (3-0)

Prerequisite, B.S. degree in electrical engineering. Study of transient conditions in electrical machinery and unbalanced three-phase networks.

35:312. POWER SYSTEM ANALYSIS II. 3 credits. (3-0)

Prerequisite, 311, or permission of instructor. Steady and transient state considerations of electrical networks and special problems in the power field.

35:313. ENGINEERING APPLICATIONS OF COMPUTERS. 3 credits.

Prerequisite, 17:52 or equivalent, or permission. Types of engineering problems best suited for computer use. Organization of problems for computer adaptation. Interrelated use of engineering principles for different problems. Subject matter will be selected from all branches of engineering.

35:314. ENGINEERING SYSTEMS ANALYSIS. 3 credits. (3-0)

Prerequisite, 17:114. Discussion of various techniques used to analyze engineering systems. Application of operations research methods to engineering problems. Optimization considerations.

36: MECHANICAL ENGINEERING COURSES

First number in parenthesis indicates hours in recitations; second number indicates hours of lab work.

36:23. ENGINEERING GRAPHICS. 3 credits. (1-2)

Geometric drawing. Orthographic projection. Graphical methods of solving three-dimensional problems involving lines and planes. Sections and conventional practices. Dimension placement. Pictorial and working drawings. Interaction and development of lines, planes and curved surfaces.

36:101. NUCLEAR ENGINEERING FUNDAMENTALS. 3 credits. (3-0)

Prerequisite, 17:76. Lectures on atomic and nuclear structure, radio-activity, nuclear transformation, radiation protection, instrumentation, nuclear fission, reactor principles and types. Demonstrations with nuclear reactor and instrumentation.

36:128. ENGINEERING ECONOMY. 3 credits. (3-0)

Principles of engineering economy including equivalence, alternatives, costs, depreciation, valuation and selected project studies.

36:140. HEATING AND AIR CONDITIONING. 2 credits. (2-0)

Prerequisites, 184, 171. A comprehensive study of comfort conditioning of buildings and other structures.

36:150. PRODUCTION ENGINEERING. 2 credits. (2-0)

An analysis of the various tools and processes necessary in the design operation of modern industrial production facilities.

36:169. ENGINEERING ADMINISTRATION. 2 credits. (2-0)

Organization and coordinated administration of functional engineering groups required in research, development, production and distribution. Legal phases of engineering. Professional ethics.

36:170. KINEMATICS. 3 credits. (2-1)

Prerequisite: 17:114. Displacements, velocities, accelerations, and static and inertia forces in plane-motion mechanisms. Introduction to analysis and design of gears and gear trains. Introduction to design of cams.

36:171. FLUID MECHANICS. 3 credits. (3-0)

Prerequisite, 34:103. Properties and behavior of gases and liquids at rest and in motion. The energy equation. Flow in conduits. Forces on body submerged in moving fluid. Characteristics of turbines, pumps and fluid couplings.

36:175. COMPRESSIBLE FLUID MECHANICS. 2 credits. (1½-1½)

Prerequisite, 171. Ideal flow, flow with friction, flow with heat transfer. Shock.

36:176. MECHANICAL MEASUREMENTS. 3 credits. (2-1)

Prerequisites: 17:114, 35:90. Dimensionless analysis. Data reduction. Measurement of force, torque, displacement, velocity, acceleration, mass, temperature, pressure, heat, light, sound, fluid flow, vibrations. Instrument location and response. Analysis of data and results.

36:177. THERMODYNAMICS I. 3 credits. (3-0)

Prerequisite, 17:114. Fundamental concepts including the first and second laws, entropy, gas and vapor properties.

36:178. KINEMATIC DESIGN OF MECHANISMS. 2 credits. (2-0)

Prerequisite, 17:114. Displacement and velocities in plane-motion mechanisms. Gears, gear tooth action, gear cutting. Kinematic design of simple and epicyclic selective speed gearboxes. Programming of non-uniform motion. Graphical and analytical design of linkages to generate non-uniform motion. Design of cams. Limitations of cams.

36:181. THERMODYNAMICS II. 3 credits. (2½-1½)

Prerequisite, 177. Cycles. Fluid flow. Combustion machines.

36:184. HEAT TRANSFER. 3 credits. (2½-1½)

Prerequisite, 181. Fundamentals of heat transfer by conduction, convection, radiation and combinations of these.

36:187. MECHANICAL DESIGN I. 3 credits. (2-1)

Prerequisites, 189, 37:115. Limit dimensions. Materials and design stresses. Various projects which require fundamentals to be applied to actual design situations to achieve practical solutions.

36:188. MECHANICAL DESIGN II. 3 credits. (2-1)

Continuation of Mechanical Design I.

36:189. DYNAMICS OF MACHINERY. 3 credits. (2-1)

Prerequisites: 178, 34:101. Free, damped and forced vibrations in systems having a single degree of freedom. Balance of rotating and reciprocating masses.

36:193. HEAT MACHINES. 3 credits. (2-1)

Prerequisite, 175. Actual performance of cycles and machines.

36:195. AUTOMATIC CONTROLS. 3 credits. (2-1)

Prerequisites, 176, 17:114. Feedback concept; Laplace transforms, transfer characteristics of laboratory equipment; stability criterion including Routh's, Nyquist, Bode and Root locus; system accuracy and error co-efficients. Performance improvement with series compensation and with minor loops.

36:197. MECHANICAL ENGINEERING PROBLEMS. 1-3 credits (may be repeated for a maximum of 3 credits).

Prerequisite, Senior standing. Investigation of a project by individual or small student group. Detailed formal report required.

36:199. MECHANICAL ENGINEERING SEMINAR. 1 credit. (1-0)

The reading and study of selected technical articles and their presentation in class for group discussions.

36:201. EXPERIMENTAL STRESS ANALYSIS. 3 credits (3-0)

Prerequisites, 188 or 34:106. Experimental methods including use of brittle lacquer, strain gages, photoelasticity and membrane analogy. Advantages and limitations of each method.

36:210. ELEMENTS OF VIBRATIONS. 2 credits. (2-0)

Prerequisite, 188. Vibrations. Preliminary design of an assigned project.

GRADUATE COURSES

36:300. VIBRATION ISOLATION. 3 credits. (3-0)

Prerequisites, 210, 17:114. Vibrations and vibration isolation in simple and complex systems of free and forced vibrations with or without damping. Shock loading and its isolation. Design characteristics of isolators with selected applications.

36:302. FLUID DYNAMICS. 3 credits. (3-0)

Prerequisites, 171, 181. Fluid flow as affected by thermodynamic considerations. Study of shock and shock areas. Application of dynamic fluid flow.

36:303. HEAT TRANSFER PROBLEMS. 3 credits. (3-0)

Prerequisites, 184, 17:114. Selection of methods and development of techniques in analysis and design problems.

36:304. ENGINEERING ANALYSIS. 3 credits. (3-0)

Prerequisite, 17:114. The engineering method as typified by selection, application, execution and comparison of effective solution procedures. Accuracy considerations. Methods of checking. Analysis and interpretation of results. Lectures, discussions, problems.

36:305. JET PROPULSION PRINCIPLES. 3 credits. (3-0)

Prerequisites, 171, 181. Fundamentals of propulsion systems. Analysis of ramjet, turbojet, rockets and thrust augmentation.

36:310. SPECIAL PROBLEMS. 1 to 6 credits.

Prerequisite, permission of Department Head. For qualified candidates for the Master's degree. Supervised research or investigation in student's major field of training or experience. Credit dependent upon nature and extent of project as determined by Supervisor, Department Head and Dean.

36:312. POLYMER PROCESSING. 3 credits. (3-0)

Prerequisite, 171 or permission. Study of process engineering in the polymer conversion industry, emphasizing the mathematical and analytical treatments of heat transfer, mass flow, mixing, shaping and molding of polymeric materials.

36:313. DESIGN OF RUBBER COMPONENTS. 2 credits. (2-0)

Prerequisite, 34:101 or permission. Study of the principles of the design of elastomeric products, emphasizing the mathematical and analytic treatments of the elastic behavior and mechanisms of failure of resilient mountings, springs, seals, bearings and tires.

37: CHEMICAL ENGINEERING

First number in parenthesis indicates hours in recitations; second number indicates hours of lab work.

37:100. PROCESS CALCULATIONS. 3 credits. (3-0)

Prerequisites, 17:75, 5:28. Introduction to chemical engineering calculations. Dimensions and units; mass balance, energy balances, and methods of systematic analysis and computation.

37:110. TRANSFER OPERATIONS. 3 credits. (3-0)

Prerequisite, 100. Introduction to chemical engineering transfer operations. Momentum, heat and mass transfer fundamentals. Fluid flow, heat transfer, distillation, and extraction calculations.

37:115. MATERIALS SCIENCE. 3 credits. (3-0)

Prerequisite, 5:28. Study of the basic atomic and molecular structures and properties of engineering materials and their behavior in various types of environment.

37:120. CHEMICAL PROCESS INDUSTRIES. 3 credits. (3-0)

Prerequisites, 5:64, 66, 114 and 116. Technology of the principal chemical process industries. Process descriptions, flow sheets, economics and unit operations.

37:125. TRANSPORT PHENOMENA I. 4 credits. (4-0)

Prerequisite, 5:114, 116. Theory and application of momentum and energy transport phenomena in chemical engineering operations.

37:126. TRANSPORT PHENOMENA II. 4 credits. (4-0)

Prerequisites, 125, 5:114, 116. Theory and application of mass transport phenomena. Includes evaporation, distillation, absorption, extraction, and other diffusional operations.

37:140. CHEMICAL ENGINEERING THERMODYNAMICS. 3 credits. (3-0)

Prerequisites, 100, 5:114, 116. Study of the fundamental laws of thermodynamics as applied to chemical engineering operations.

37:145. CHEMICAL ENGINEERING OPERATIONS LABORATORY I. 2 credits. (0-2)

Prerequisite, 125. Experimental studies of selected chemical engineering operations. Emphasis on systematic collection and analysis of data and report writing.

37:146. CHEMICAL ENGINEERING OPERATIONS LABORATORY II. 2 credits. (0-2)

Prerequisite, 126. Continuation of 145.

37:150. PROCESS DESIGN. 2 credits. (2-0)

Prerequisite, 126. Equipment selection and design, cost estimation and economic analyses of chemical processes.

37:151. PLANT DESIGN. 3 credits. (0-3)

Prerequisite, 150. Chemical plant design project. Selection of a process, design of equipment, plant layout, site selection, cost estimation and product cost analysis.

37:160. REACTION KINETICS. 3 credits. (3-0)

Prerequisite, 126. Application of kinetics to the design of chemical reactors. Reaction mechanism, rate equations. Study of batch plug flow, back-mix, and non-ideal reactors.

37:165. PROCESS CONTROL. 2 credits. (2-0)

Prerequisite, 126. Process instrumentation and control theory as applied to the chemical process industries.

37:180. CHEMICAL ENGINEERING RESEARCH. 1 to 4 credits. (0-1 to 4)

Prerequisites, Senior standing and permission. Research project on a specific phase or area of chemical engineering. Progress reports and final report required.

GRADUATE COURSES

37:300. TRANSPORT PHENOMENA. 3 credits. (3-0)

Prerequisite, B.S. Degree in Engineering and permission. Incompressible and compressible flow through conduits. Effect of heat transfer on fluid friction. Two-phase flow. Flow through packed beds, fluidized beds and microporous media.

37:301. ADVANCED REACTION KINETICS. 3 credits. (3-0)

Prerequisite, B.S. Degree in Chemical Engineering, or permission. Study of homogeneous and heterogeneous chemical reactions. Rate equations. Plug and back-mix flow. Nonideal flow. Emphasis on applications to reactor design.

37:302. ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS. 3 credits. (3-0)

Prerequisite, B.S. Degree in Chemical Engineering, or permission. Laws of thermodynamics. Physical properties of fluids. Equations of state. High pressure effects. Physical equilibria. Chemical equilibria. Heat and energy requirements. Application to process design and engineering.

37:303. ENERGY TRANSPORT PHENOMENA. 3 credits. (3-0)

Prerequisite, B.S. in Engineering and permission. Mathematical and engineering treatment of conductive, convective, and radiant energy transmission processes.

37:304. PROCESS DYNAMICS & CONTROL. 3 credits. (3-0)

Prerequisite, B.S. in Engineering and permission. Basic theory of automatic control and its application to the chemical process industries. Study of the principles of operation of instruments and controllers. Emphasis is placed on the dynamic behavior of equipment and controllers in the overall control loop rather than on the constructional features of the instruments.

37:305. MASS TRANSPORT PHENOMENA. 3 credits. (3-0)

Prerequisite, B.S. in Engineering and permission. Study of advanced concepts involved in various mass transport processes such as forced diffusion, distillation, extraction, and leaching operations.

37:310. SPECIAL TOPICS IN MASS TRANSFER. 3 credits. (3-0)

Prerequisite, B.S. degree in Chemical Engineering or permission. Topics in advanced mass transfer operations of chemical engineering such as multi-component distillation, absorption, extraction, leaching, diffusion, etc.

37:320. SPECIAL TOPICS IN DESIGN. 3 credits. (3-0)

Prerequisite, B.S. degree in Chemical Engineering or permission. Topics in advanced chemical engineering plant or process design such as catalysis, cryogenics, high pressure technology, high temperature technology, multiphase flow, high vacuum design, estimation of physical properties for design, special unit operations.

37:321. DISTILLATION. 3 credits. (3-0)

Prerequisite, B.S. degree in Engineering and permission. Binary, multicomponent, extractive and azeotropic distillation operations. Theory and application.

37:330. SPECIAL TOPICS IN ADVANCED CALCULATIONS. 3 credits. (3-0)

Prerequisite, B.S. degree in Chemical Engineering or permission. Advanced calculation techniques applied to the solution of complex problems in chemical engineering operations.

37:333. ANALOG COMPUTATION FOR CHEMICAL ENGINEERS. 3 credits. (3-0)

Prerequisite, B.S. in Engineering and permission. Analog computer programming, function generation, transfer function simulation, as applied to chemical engineering. Actual computer operation.

37:335. ADVANCED CALCULATION METHODS. 3 credits. (3-0)

Prerequisite, B.S. in Engineering and permission. Formulation and solution of differential equations as applied to engineering problems.

37:340. NON-NEWTONIAN FLOW. 3 credits. (3-0)

Prerequisite, B.S. degree and permission. Fluid dynamics of non-Newtonian flow, including classification, characterization, viscometry, and application to common flow fields.

37:350. CHEMICAL ENGINEERING OF POLYMERS. 3 credits (3-0)

Prerequisite, B.S. degree and permission. Study of the plastics industry and the special chemical engineering operations involved in the production of the principal commercial plastics.

37:360. SOLIDS PROCESSING. 3 credits. (3-0)

Comprehensive problems in sedimentation, filtration, drying, and other operations involving the treatment of solid materials.

37:395. CHEMICAL ENGINEERING RESEARCH. 1 to 6 credits. (0-1 to 6)

For properly qualified candidates for Master's degree. Supervised original research in a specific area of Chemical Engineering to be selected on the basis of availability of staff and facilities.

39: ACCOUNTING**39:21-22. ACCOUNTING. 3 credits each semester.**

Accounting concepts and techniques essential to administration of a business enterprise; principles of corporation, partnership and proprietorship accounting; analysis and interpretation of financial statements and reports.

39:121. ACCOUNTING SURVEY. 3 credits.

No prerequisite. Organized for engineers and other non-accounting majors who want an understanding of accounting fundamentals. Clerical work is minimized.

39:123. BUDGETING. 3 credits.

Prerequisite, 121 or 127. Sales production and distribution budgets; comparison of budget with financial statements; accounting problems involved.

39:124. MANAGERIAL ACCOUNTING. 3 credits.

Prerequisite, 22 and 3 credits of Economics. For non-accounting majors only. Interpretation of accounting data in granting credit, effecting necessary control of business operation and in formulating business policy.

39:127. COST ACCOUNTING. 3 credits.

Prerequisites, 22 or 121 and 3 credits of Economics. Theory and practice of accounting for material, labor and overhead expenses, with particular reference to budgeting and standard costs.

39:143-144. INTERMEDIATE ACCOUNTING. 3 credits each semester.

Prerequisite, 22. Accounting theory and problems of statement preparation and interpretation for asset, liability and equity accounts; financial statement analysis; statement of application of funds.

39:228. ADVANCED COST ACCOUNTING. 3 credits.

Prerequisite, 127. Emphasis on standard cost procedure and other advanced cost accounting problems.

39:230. ACCOUNTING SYSTEMS. 3 credits.

Prerequisites, 127, 144 and permission of instructor. Systematizing order, billing, accounts receivable, accounts payable, payrolls and various distribution procedures. Field trips and term project.

39:233-234. TAXATION. 3 credits each semester.

Prerequisite, 144. First semester deals with the current tax law as it applies to individuals and proprietorships. Second semester discusses federal income tax problems of partnerships and corporations and includes a survey of state and local taxes. Accounting 233 is a prerequisite for 234.

39:236. ACCOUNTING PROBLEMS. 3 credits.

Prerequisite, 144 and permission of instructor. Individual research on an advanced accounting problem in area of student's particular interest.

39:237. AUDITING. 3 credits.

Prerequisites, 127, 144. A study of the problems of the auditor as a member of the staff (internal) and as an external or public accountant, with particular emphasis on auditing standards and procedures.

39:239. CONTROLLERSHIP PROBLEMS. 3 credits.

Prerequisite, 127, 144. An examination of accounting and control techniques, including budgetary control, direct costing, and problems requiring the use of advanced tools of decision making.

39:241. GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING. 3 credits.

Prerequisite, 144. Application of accounting principles and procedures to problems of budgets, appropriations, and funds in governmental units, educational institutions, and hospitals.

39:251. ADVANCED ACCOUNTING. 3 credits.

Prerequisite, 144. Accounting for partnerships, ventures, receiverships, estates and trusts, agencies and branches, and consolidations.

39:299. SEMINAR IN ACCOUNTING. 1-3 credits.

GRADUATE COURSES

39:399. CPA PROBLEMS. 4 credits.

Prerequisites, 233, 237 and approval of instructor. Application of accounting and auditing theory through the study of advanced problems.

39:421. ADVANCED ACCOUNTING THEORY. 3 credits.

This course invites a critical examination of accounting concepts and standards. The controversial aspects of these and other problems are considered in the light of terminology, the limitation of concepts and statutory requirements, and current trends.

39:427. ACCOUNTING MANAGEMENT AND CONTROL. 3 credits.

Emphasis is placed on the rôle of accounting as a tool of management planning and control in the areas of production, finance, marketing and general administration.

39:461. INTERNATIONAL ACCOUNTING. 3 credits.

Prerequisite, 251. International variations in accounting standards and reporting problems; auditing problems in the multinational firm.

39:498. SEMINAR IN ACCOUNTING. 3 credits.

Research projects, group reports and discussions.

40: MARKETING AND FINANCE

40:61. BUSINESS ORGANIZATION AND MANAGEMENT. 3 credits.

Survey of modern business procedures, including kinds of business organizations, production systems, personnel problems, wage payment plans, product design, purchasing, marketing and advertising.

40:62. PRODUCTION MANAGEMENT. 3 credits.

Prerequisite, 61, and Sophomore standing. Place of management in business; economics of industrial production; factors of production; and control of the production processes.

40:83. MARKETING. 3 credits.

Prerequisite, 3 credits of Economics. Functions involved in marketing goods and services, distribution channels, buying behavior, retailer and wholesaler characteristics, marketing cost factors, price and brand problems and marketing legislation.

40:141-142. BUSINESS LAW. 3 credits each semester.

Origin of commercial law, operation and discharge of contracts; law of sales, agency, negotiable instruments; partnerships and corporations; recent court cases integrated with the text material to demonstrate how principles apply to concrete cases.

40:144. LAW OF CREDIT AND COLLECTIONS. 2 *credits*.

Types and characteristics of sales contracts; law of collection procedure, liens, and other legal recourses of creditors.

40:146. REAL ESTATE LAW. 2 *credits*.

Legal problems connected with property transfer and acquisition, landlord and tenant relationships, trusts, etc.

40:147. ECONOMIC STATISTICS. 3 *credits*.

Prerequisite, 6 credits in Economics. Nature and uses of statistical data, ratio analyses, distribution curves, central tendencies, index numbers, correlation.

40:151. TRANSPORTATION. 3 *credits*.

Prerequisite, 3 credits of Economics. A basic course in the economics of transportation, requirements of an effective transportation system, rate-setting, etc.

40:152. TRAFFIC MANAGEMENT. 2 *credits*.

Prerequisite, 151. Classification of commodities, setting tariffs, routing, traffic claims.

40:153-154. INTERNATIONAL COMMERCE. 2 *credits each semester*.

Prerequisite, 3 credits of Economics. Principles of international trade, balances, distribution machinery; characteristics and potentials of various foreign markets. Credit not given for both Foreign Trade and International Commerce.

40:156. FOREIGN TRADE. 3 *credits*.

Prerequisite, 3 credits of Economics. Economics and practices of foreign trade with emphasis on world trade from the standpoint of United States.

40:158. PRINCIPLES OF INSURANCE. 3 *credits*.

Prerequisite, 171. Underlying principles on which all forms of insurance are based. Beginning with the theory of probabilities, the principles are developed as they apply to the divisions of insurance—life, fire, marine, casualty and security bonds.

40:171. BUSINESS FINANCE. 3 *credits*.

Prerequisite, 6 credits of Economics. Principles and practices used in financing large and small organizations. Forms of organization, raising of capital by means of stocks and bonds, investing the capital in fixed and working assets, conservation of capital, failures and reorganization.

40:174. CREDITS AND COLLECTIONS. 2 *credits*.

Prerequisites, 61 and 3 credits of Economics, or experience. Nature and fundamentals of credit, credit investigation and analysis, credit and collection operations, collection aids and problems.

40:176. BANKING PRACTICE AND MANAGEMENT. 3 *credits*.

Prerequisite, 171. Surveys work of the more important credit institutions, including commercial banks, finance companies, savings banks and consumer credit and government credit agencies. Rôle of each type of institution in the economic system. Function of bank reserves; bank portfolio policy; capitalization and earning power; impact of public policy upon organization, structure, and operation of the credit system.

40:185. PRINCIPLES OF ADVERTISING. 3 *credits*.

Prerequisite, 83 or by permission. Study of place, objectives and tools of modern advertising. Creation and development of a campaign based upon research and trade requirements.

40:188. SALES PROMOTION AND MARKET DEVELOPMENT. 3 *credits*.

Prerequisite, 83. The development of local, regional and national markets. Covers planning, execution of specific promotions directed to the manufacturer's marketing division, the dealer organization and the consumer.

40:189. PURCHASING. 2 *credits*.

Prerequisite, 3 credits of Economics. Includes the individual phase of purchasing, its significance, scope, procedure and such topics as buying the right quality, inspection, quantity control, sources and assurance of supply.

40:191. INTRODUCTION TO ELECTRONIC DATA PROCESSING. 3 *credits*.

An introduction to the fundamentals of data processing, including a survey of computer applications in management.

40:194. PRINCIPLES OF MERCHANDISING. 3 *credits*.

The development and application of the basic concepts of moving merchandise toward the customer. The relationship of market availability and product research to merchandising.

40:247. ADVANCED STATISTICS. 3 *credits*.

Prerequisite, 147. Emphasis is placed upon the analysis of time series, dispersions, correlations and the reliability of estimates. The application of statistical techniques to such fields as quality control, operations research, linear programming is also considered.

40:250. BUSINESS AND SOCIETY. 3 *credits*.

Prerequisite, Senior standing and permission. Primarily a conceptional course which considers the economic and social implications of modern business in society and the norms and values by which their functioning is or might be directed.

40:268. BUSINESS POLICY. 3 *credits*.

Prerequisite, final semester Senior standing. Required of all Business Administration majors. Philosophy of scientific management; evaluation of objectives and aims of management; policy requirements in terms of external and internal factors of business; use of statistical, cost and other tools in the determination of sales, financial, personnel, expansion and control problems.

40:272. INVESTMENTS. 3 *credits*.

Prerequisite, 171. Formulation of investment policies for various types of individual and institutional investors, consideration of principles and techniques applicable to analyzing securities of industrial corporations, railroad utilities and municipalities and to development of workable criteria for the selection or rejection of issues.

40:277. SECURITY ANALYSIS. 3 *credits*.

Prerequisite, 272. Comparative study of organized security markets. Principles and practices of organized stock exchanges and over-the-counter markets. Protecting the public interest through regulation and control of promotions, the issue of securities, underwriting practices and stock-trading practices.

40:279. PROBLEMS IN FINANCE. 3 *credits*.

Prerequisite, 171. Financing of large corporations. Use of different types of securities as instruments of finance; internal financing by reserve accruals and by retention of net income; mergers, consolidation; and holding syndicates; influence of taxation on corporate policy; and reorganization under the Federal Bankruptcy Act.

40:284. PROBLEMS IN RETAIL MANAGEMENT. 3 *credits*.

Prerequisite, 194. Problems involved in the application of management principles to the retail organizations of various types. Also implication on social trends on retail management.

40:286. PROBLEMS IN ADVERTISING. 3 *credits*.

Prerequisite, 188 or permission of instructor. Advertising problem analysis and creation of layouts and copy.

40:291. SALES ADMINISTRATION. 3 *credits*.

Prerequisites, 83, 188 or 185. Place of distribution in marketing scheme; determination of marketing objectives and policies and their implementation and control.

40:293. PROBLEMS IN MARKETING. 3 *credits*.

Prerequisite, 291 or its equivalent. Problems involved in determining marketing channels, methods and sales are applied to specific situations.

40:296. MARKETING ANALYSIS. 3 *credits*.

Prerequisites, 83 and 147. A study of the objectives, techniques and methods of analyzing market behavior and market forces.

40:299. SEMINAR. 1-3 *credits*.

Enables the student to make up a deficit in major area in his senior year.

GRADUATE COURSES

40:450. ADMINISTRATING COSTS AND PRICES. 3 *credits*.

The purpose of the course will be to provide an understanding of the techniques used by managers in reaching both short and long-run decisions in these areas. The course will explore the areas of decision-making on costs and prices which determine business profitability.

40:465. COMPARATIVE INDUSTRIAL RATIONALE. 3 *credits*.

An institutional approach to the study of industrial organization. Consideration is given to the determinants of these industrial structures and an effort will be made to evaluate the market relationship between structure and market performance. Industrial organization under various economic and political systems will be considered.

40:466. MANAGEMENT—BEHAVIOR AND METHODS. 3 *credits*.

Consideration is given to the sociological and anthropological backgrounds determining group organization, behavior and motivation. Emphasis is placed on the dynamics of control, direction, communication and coordination.

40:469. ORGANIZATIONAL THEORY AND POLICY FORMULATION. 3 *credits*.

Following a critical examination of the development of organizational theory, the principles of organization and scale will be critically evaluated and trends noted. The latter half of the course will be devoted to the investigation and solution of complex case problems involving competitive behavior, internal controls and industry and government business relationships.

40:474. FINANCIAL MANAGEMENT AND POLICY. 3 *credits*.

Working capital management, controlling inventory investments, administering costs and funds, managing investment in plant and equipment, administering business income and forecasting for financial management.

40:478. CAPITAL BUDGETING. 3 credits.

This course attempts to integrate the various theories of capital budgeting into a comprehensive conceptual scheme. Theoretical concepts and practical applications will be blended for a better understanding of capital problems.

40:490. MARKETING MANAGEMENT AND POLICY. 3 credits.

Company functions in relation to demand and consumer factors and the cost and operational elements that determine profitable operation. The corporate and integrated viewpoints are emphasized. Quantitative analysis and programming are considered.

40:494. MARKETING THEORY. 3 credits.

A course designed (1) to acquaint the student with those theoretical works from the areas of marketing, economics, psychology, sociology and cultural anthropology which have some relevance to a general theory of marketing; (2) to assess the available empirical works in terms of their theoretical implication; and (3) to project the practical significance of a general marketing theory to the management of the firm and the use of marketing as an instrument for national economic development.

40:498. SEMINAR IN MARKETING AND FINANCE. 3 credits.

Research projects, group reports and discussions.

42: INDUSTRIAL MANAGEMENT

42:101. INDUSTRIAL PLANTS. 3 credits.

Prerequisites, 40:62 and 3 credits of Economics. Study of manufacturing principles and processes, economic considerations, and planning methods, from product specifications to a final layout for manufacturing.

42:149. BUSINESS OPERATIONAL PLANNING. 3 credits.

Prerequisite, 40:147. The use of current statistical and economic techniques for planning the over-all operation of a business firm. Consideration is given to both internal and external factors which influence the short-run and long-range economic plans of a business firm.

42:150. PRINCIPLES OF MANAGEMENT. 3 credits.

This course is a comprehensive introduction to modern management practice which examines conceptually the management process, the management environment, management principles, and the knowledge and skills required of today's manager.

42:162. PERSONNEL MANAGEMENT. 3 credits.

Prerequisites, 40:61 and 6 credits of psychology. Phenomena of individual and group behavior in the business environment with emphasis on the firm, its employees, objectives and technology. Structuring and control of specific personnel programs in selection, development, supervision and compensation with reference to behavioral and economic forces.

42:165. MOTION AND TIME STUDY. 3 credits.

Prerequisites, 40:62 and 40:147. Design and evaluation of work systems. Characteristics of man in performance as related to input and output requirements. Motion study, time-standard development and applications, establishment of performance criteria.

42:169. JOB EVALUATION AND MERIT RATING. 2 credits.

Prerequisites, 162 and 6 credits of Economics or its equivalent. Job descriptions; installing and maintaining the plan; determining the wage scale; types of merit rating and developing a merit rating plan.

42:203. PRODUCTION PLANNING AND CONTROL. 3 credits.

Prerequisite, Senior standing and 40:147. Production planning and forecasting; centralized production control; scheduling; routing and dispatching; types of manufacture in relation to types of production control. Representative systems of production control. Application of quantitative methods to production control.

42:205. QUALITY CONTROL. 3 credits.

Prerequisites, 101 and 40:147. Quality control and inspection in the organization structure; the inspection function; collection and use of inspection data; application of statistical methods to quality control and use of control charts.

42:256. INDUSTRIAL MANAGEMENT PROBLEMS. 3 credits.

Prerequisites, 203 and Senior standing. Modern practices and principles applied to an actual problem from industry.

42:260. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING. 3 credits.

Prerequisite, 6:146 or equivalent. Meaning, process, principles and organization of collective bargaining; collective bargaining agreements; issues presented in labor disputes and settlements dealing with union status and security, wage scales, technological changes, production standards, etc. Administered jointly by Economics and Industrial Management Departments.

42:264. PERSONNEL RELATIONS. 3 credits.

Prerequisite, 162 or equivalent. Analysis of management, union and employee objectives, attitudes and strategies as they affect the conduct of business. Stress placed on individually assigned readings and reports.

42:299. SEMINAR. 1-3 credits.

Enables the student to make up a deficit in major area in his senior year.

GRADUATE COURSES

42:448. APPLIED INDUSTRIAL STATISTICS. 3 credits.

Prerequisite, 40:247. A review of control charts and sampling plans with consideration of the use of the control chart as a research technique in process capability studies. The major part of the course includes industrial experimentation, analysis of variance, analysis of covariance and regression analysis.

42:449. EXECUTIVE DECISIONS AND OPERATIONS RESEARCH. 3 credits.

Theory underlying decision-making is considered with particular attention given to the quantification of the decision-making process. Operations Research is considered from the point of view of the manager supervising its use and how it can be used to aid in making executive decisions.

42:463. INDUSTRIAL RELATIONS. 3 credits.

The purpose of the course is to present the rights and duties of management in dealing with labor. Intensive study will be made in selected areas of personnel administration. The course will deal with administrative activity in terms of human relationships involved.

42:467. MANUFACTURING ANALYSIS. 3 *credits*.

This course develops an approach to the handling of manufacturing problems and explores such production management functions as process analysis and organization, the control of production operations, inspections, plant layout, production planning and control. The course integrates management and economic principles governing production.

42:498. SEMINAR IN INDUSTRIAL MANAGEMENT. 3 *credits*.

Research projects, group reports and discussions.

U.S. AIR FORCE R.O.T.C.

46: AEROSPACE STUDIES

46:13-14. FIRST YEAR BASIC AEROSPACE STUDIES (AS-100). 1½ *credits each semester*.

Three 1-hour classes each week. Required of Freshmen not taking 47:15-16.

46:53-54. SECOND YEAR BASIC AEROSPACE STUDIES (AS-200). 1½ *credits each semester*.

Prerequisite, 46:14. 53-54 or 47:45-46 is required of second-year men.

46:103-104. FIRST YEAR ADVANCED AEROSPACE STUDIES (AS-300). 3 *credits each semester*.

Prerequisite, 46:54 second year. Four 1-hour classes each week. The Professional Officer Course.

46:153-154. SECOND YEAR ADVANCED AEROSPACE STUDIES (AS-400). 3 *credits each semester*.

Prerequisite, 46-104. The Professional Officer Course.

U.S. ARMY R.O.T.C.

47: MILITARY SCIENCE

47:15-16. FIRST YEAR BASIC MILITARY SCIENCE. 1½ *credits each semester*.

Three 1-hour classes each week. Required of Freshmen not taking 46:13-14.

47:45-46. SECOND YEAR BASIC MILITARY SCIENCE. 1½ *credits each semester*.

Prerequisite, 16. 45-46 or 46:53-54 are required of second year men.

47:101-102. FIRST YEAR ADVANCED MILITARY SCIENCE. 3 *credits each semester*.

Prerequisite, 46.

47:151-152. SECOND YEAR ADVANCED MILITARY SCIENCE. 3 *credits each semester*.

Prerequisite, 102. For Seniors.

50: COLLEGE OF LAW

50:202. DEVELOPMENT OF LAW AND LEGAL INSTITUTIONS. 2 *credits*.

An historical introduction to the development of the Anglo-American legal system.

50:203. LEGAL METHOD AND LEGISLATION. 3 *credits*.

Legal method; the formulation and operation of legal arguments based on cases and statutes.

50:205. CONTRACTS I. 3 *credits*.

Formation of simple contracts. Consideration. Discharge. The seal and the written obligation. Mistake. The statute of frauds. The parol evidence rule.

50:206. *CONTRACTS II. 2 credits.*

Prerequisite, 205. Impossibility. Frustration. Conditions. Breach. Beneficiaries. Assignments.

50:214. *PROPERTY I. 3 credits.*

Ramifications of the possession concept, means by which title may be obtained, what constitutes a fixture and the rights and duties of various parties with respect to emblements.

50:215. *LEGAL RESEARCH AND WRITING. 1 credit.*

Integration of methods of research and skill in legal problem solving, with communicative skills in the preparation of legal memoranda and briefs.

50:217. *TORTS I. 3 credits.*

A survey of basic tort law with consideration given to the impact of insurance and modern notions of allocating the cost of unintentionally caused harm on tort doctrines keyed to negligence.

50:218. *TORTS II. 2 credits.*

Prerequisite, 217. Continuation of Torts I.

50:219. *AGENCY. 2 credits.*

Vicarious liability. Relationships of master and servant, principal and agent and problems of the independent contractor. Scope of employment. Authority and apparent authority. Misrepresentation by an agent. Undisclosed principal. Ratification.

50:220. *BUSINESS ASSOCIATION. 4 credits.*

Prerequisites, 205 and 219. Elements of Partnership and other unincorporated business associations. A study of the allocation of corporate risk, control and profits, with attention given to the divergent problems of the public issue and the close corporation.

50:222. *ADMINISTRATIVE PROCESS. 3 credits.*

Prerequisite, 236. Traditional politico-legal theories of separation of powers and the administrative process; procedure for rule-making and adjudication; conclusiveness of administrative determination.

50:225. *PROPERTY II. 3 credits.*

Prerequisite, 214. History of land law (beginning with the Norman Conquest); the types of estates in land, freehold and nonfreehold; concurrent ownership; future interests before and after the Statute of Uses; the Statute of Frauds; methods of conveyance; the mortgaging of real estate; recording, title registration; covenants; and adverse possession.

50:226. *PROPERTY III. 2 credits.*

Prerequisite, 225. Landlord-tenant relationship, the scope and character of legislation restricting land use, easements, profits, licenses, rights incident to land ownership and law applicable to the insuring of real estate.

50:228. *LEGAL PROFESSION. 1 credit.*

The legal profession as an institution. Professional responsibility. Duties and privileges of members of the legal profession.

50:231. COMMERCIAL TRANSACTIONS I. 3 *credits*.

Prerequisites, 205 and 206. Transactions involving chattels and intangibles, and the instruments used in those transactions. Two and three party arrangements. Warranties. Security. Risk at loss. Negotiability concept. Formal requirements of negotiable instruments. Endorsements. Rights and liabilities of the parties to the instruments. Uniform Commercial Code and prior uniform acts.

50:232. COMMERCIAL TRANSACTIONS II. 2 *credits*.

Prerequisite, 231. Continuation of Commercial Transactions I.

50:233. EVIDENCE I. 2 *credits*.

Determination of facts: judicial notice, burden of proof and presumptions. Problems of remoteness and prejudice. Examination of witnesses. Competency and privilege. Opinion evidence. Hearsay rule and its exceptions. Principles relating to writings. Parole evidence rule. Illegally obtained evidence.

50:234. EVIDENCE II. 2 *credits*.

Prerequisite, 233. Continuation of Evidence I.

50:235. PLEADING AND JOINDER. 3 *credits*.

Pleading under modern codes and rules. Petition. Answer. Reply. Motions and demurrers. Parties. Joinder. Amendment. General rules of pleading.

50:236. CONSTITUTIONAL LAW. 3 *credits*.

Judicial function in constitutional cases. The federal system. Powers delegated to the national government. Powers of the states as affected by delegation to national government. Limitations of powers of government. Political and civil rights. Amendments.

50:237. REMEDIES. 4 *credits*.

A comparison of the relief afforded through actions traditionally designated as at law and in equity; the relationships among actions for damages, for restitution (including quasi-contract, constructive trust, equitable lien, and equitable and legal accounting), and for specific performance, injunction, rescission, reformation, bill of peace, interpleader, quiet title, and declaratory judgment.

50:238. CRIMINAL LAW. 3 *credits*.

Nature and source of criminal liability. The act. Mental conditions requisite to criminal responsibility. Specific crimes and defenses thereto. These materials are studied in the light of modern trends and needs.

50:239. JURISDICTION AND JUDGMENTS. 3 *credits*.

Prerequisite, 202. The basic concepts of jurisdiction of courts over the subject-matter and person, and the control and effect of judgments.

50:241. TRUSTS. 3 *credits*.

Nature of a trust. Creation and elements. Comparison with other devices. Charitable trusts. Resulting and constructive trusts. Administration of trusts. Liabilities to third persons. Transfer of beneficial interests. Termination.

50:243. WILLS. 2 *credits*.

Testate disposition of property. Testamentary capacity. Execution and revocation of wills. Some phases of administration of estates. Intestacy.

50:244. FEDERAL JURISDICTION AND PROCEDURE. 3 *credits*.

Prerequisite, 235. The operation of the federal courts. Jurisdictional problems regarding the subject matter of the action, the amount in controversy and removal of actions from state courts. Relationships between state and federal courts. Special procedural problems regarding process, venue and joinder of parties and claims. Appellate jurisdiction and procedure. Original jurisdiction of the Supreme Court.

50:245. PROBLEMS IN TRIAL ADVOCACY. 1 *credit*.

Prerequisite, 239. Assigned problems requiring the application of rules of procedure and professional considerations in typical trial contexts.

50:246. TRIAL AND APPELLATE PRACTICE. 2 *credits*.

Prerequisites, 235 and 239. A survey of the trial of a case from selection of a jury to judgment, and the procedure and problems of review.

50:252. CREDITORS' RIGHTS. 3 *credits*.

Enforcement of judgments. Execution, attachment and garnishment. Creditors' bills. Fraudulent conveyances. General assignments for benefit of creditors. Creditors' agreements. Bankruptcy.

50:253. MUNICIPAL CORPORATIONS. 2 *credits*.

Nature of municipal corporations. Home rule. Creation. Annexation. Powers. Officers. Zoning. Rights of abutters. Contractual and delictual liability. Dissolution.

50:254. DOMESTIC RELATIONS. 2 *credits*.

To instruct the student in the major areas of family law and to acquaint him with the theories that have influenced its development. Functions performed by various agencies which seek to effect a nonjudicial settlement of domestic problems.

50:255. RESEARCH PROBLEMS. 1 to 3 *credits*.

Prerequisite, 215. Individual research of a problem mutually agreeable to the student and the faculty member to whom the student is assigned. Admission is with the consent of the Dean.

50:257. TRADE REGULATIONS. 3 *credits*.

Competition and monopoly under federal and state antitrust laws. Restraints of trade; monopolization; unfair methods of competition; mergers; refusals to deal; exclusive arrangements; patents; and antitrust aspects of foreign commerce.

50:258. SECURITY TRANSACTIONS. 3 *credits*.

Prerequisites, 206 and 225. A study of the principles of mortgage and suretyship relationships.

50:259. PROBLEMS IN CONFLICT OF LAWS. 2 *credits*.

Prerequisite, 239. Problems of law applicable in situations involving more than one state.

50:260. SEMINAR IN SELECTED LEGAL PROBLEMS. 1-2 *credits*.

Analysis of special or current problems arising in the field of law from time to time offering opportunities for legal research, effective integration of legal and relevant non-legal materials, and expository legal writing.

50:262. SEMINAR IN ESTATE PLANNING. 3 *credits*.

Prerequisite, 264. Analysis of relevant tax and nontax problems in planning estates and an examination of dispositive devices in accomplishing the objectives of estate planning. Project: drafting of an estate plan of some complexity.

50:263. SEMINAR IN PATENT, TRADEMARK AND COPYRIGHT LAW. 2 *credits*.

A study of the prerequisites to federal protection of patents, trademarks and copyrights, registration procedures, appeals from administrative actions, rights of patentees, trademark owners and copyright holders, grants, licenses and assignments, infringements, plagiarism and unfair competition.

50:264. FEDERAL INCOME TAXATION. 3 *credits*.

A consideration of the law of federal income taxation and a survey of federal tax practice.

50:265. SEMINAR IN LAND USE PLANNING. 3 *credits*.

Prerequisites, 214, 225 and 226. This represents an examination of the assumptions, doctrines, and implications of city planning law. The aim is to enable the student to analyze effectively the legal and administrative problems involved in allocating and developing land located in metropolitan areas.

50:266. SEMINAR IN JURISPRUDENCE. 2 *credits*.

The course is designed to examine and to evaluate principal theories of legal philosophy. The theories are frequently considered in connection with concrete problems and are evaluated in the light of various goal values.

50:267. SEMINAR IN COMPARATIVE SYSTEMS. 3 *credits*.

A study of contemporary foreign legal systems by a discussion of basic problems in specific areas on a comparative basis.

50:268. SEMINAR IN LABOR LAW. 2 *credits*.

Establishment of collective bargaining processes, including representation procedure under the Labor-Management Relations Act and the duty to bargain. The collective bargaining process together with grievance arbitration. Legal limitation on economic pressures of both management and unions, including interference with bargaining, strikes, picketing and boycotts and the use of the restraining order. Reporting procedures. Internal union control.

50:269. WORLD LAW. 3 *credits*.

Nature and substance of the law governing relationships of states with other states.

60: COMMERCIAL ART

60:20. VISUAL FUNDAMENTALS. 3 *credits*.

A foundation course for the visual arts. Experimentation in control of materials for production of visual statements. Development of visual sensibility. Introduction to the process of visual designing.

60:21. PHOTOGRAPHY I. 3 *credits*.

Prerequisite, 20. An introductory course in the fundamentals of photography. Camera techniques, development, printing, lighting, optical theory and design analysis in photography.

60:22. PHOTOGRAPHY II. 3 *credits*.

Prerequisites, 21, 2:45. Creative use of photographic materials and equipment. Photography is studied as a fine art. Photosilkscreen, photolithography, color photography. Student must own or have use of a camera with controllable shutter, lens diaphragm and focus.

60:24. COMMERCIAL ART STUDIO MECHANICS. 3 *credits*.

Prerequisites, 20, 62:21, 66:21; corequisite, 21. Craftsmanship is stressed in exercises using the specialized tools, materials and techniques of the commercial art studio.

60:40. TYPOGRAPHY AND LETTERING. 3 *credits*.

Prerequisite, 2:45. Letter symbols studied in terms of communication and esthetic considerations. History of letter forms, hand lettering, alphabet design, contemporary type faces.

60:42. COMMERCIAL ART PROBLEMS I. 3 *credits*.

Prerequisites, 21, 24, 2:45. Problems in commercial graphic designs. Analysis, research, visual experimentation and finished art. Emphasis on craftsmanship and visual problem-solving.

60:43. COMMERCIAL ART PROBLEMS II. 3 *credits*.

Prerequisite, 22, 40, 42, 2:35, 2:69. Continuation of Commercial Art Problem I.

60:45. DESIGN IN COMMERCIAL ART. 3 *credits*.

Prerequisites, 22, 40, 42, 2:35, 2:69. Advanced design for commercial artists. Properties of materials. Basic production methods. The sense of sight. Experimentation with visual form. Creative problem-solving in visual designs.

60:47. PACKAGING AND DISPLAY DESIGN. 3 *credits*.

Prerequisites, 22, 40, 42, 2:35, 2:69. Visual design and development of protective devices for packaging, shipment and display of consumer products.

60:48. PRESENTATION TECHNIQUES. 3 *credits*.

Prerequisites, 22, 40, 42, 2:35, 2:69. Techniques of visual communication and presentation of design concepts. Illustration, charts, models, layout and sketches. Development of personal portfolio.

61: ELECTRONIC TECHNOLOGY

61:22. CIRCUIT THEORY. 3 *credits*. (3-0-3)

Prerequisite, 53. Solution of networks, network theorems, three phase systems, magnetic and electric field concepts.

61:23. ELECTRONICS. 4 *credits*. (3-1-4)

Prerequisite, 53. Theory and characteristics of vacuum, gas and photo tubes, semiconductors, rectifier circuits, amplifier circuits.

61:24. ELECTRONICS. 4 *credits*. (3-1-4)

Prerequisite, 23. Amplifier circuits continued, oscillators, modulation.

61:26. MEASUREMENTS. 3 *credits*. (2-1-3)

Prerequisite, 22. Principles of some of the important measuring circuits and instruments.

61:27. ELECTRONIC DRAFTING. 3 credits. (1-2)

Corequisite, 23. Fundamentals of electronic drafting: practice in the preparation of various types of electronic drawings. Survey of the sources of electronic material standards and experience in searching such sources.

61:37. DIGITAL COMPUTERS. 3 credits.

Prerequisite, 24. Operation of various circuits used in a digital computer.

61:42. MACHINERY. 3 credits. (2-1-3)

Corequisite, 22. Operating principles of A.C. and D.C. machinery including fractional sizes.

61:45. ANALOG-COMPUTER. 3 credits.

Prerequisites, 23 and 24. Theory and operation of analog computer with emphasis on circuit operation rather than design.

61:49. INDUSTRIAL ELECTRONICS. 3 credits. (3-0-3)

Prerequisites, 24 and 42. Investigation of electron circuits used in industry such as motor control, timers, photo controllers, chopper amplifiers, etc.

61:50. ELECTRONICS PROJECT. 2 credits. (1-1)

Prerequisite, final semester or permission of instructor. Design, construction, and testing by student of electronic circuit of his choice. Progress reports and final report required. Discussion of electronic design and fabrication techniques.

61:51. COMMUNICATIONS SYSTEMS. 3 credits. (3-0)

Prerequisite, 24. Principles of radio-wave propagation, modulation, and demodulation. Fundamentals, components, and circuits of communications systems including radio, radar, and television.

61:53. ELECTRICITY AND MAGNETISM. 3 credits. (3-0-3)

Corequisite, 65:32 and Physics 20:26. General laws of A.C. and D.C. circuits, effective values, phasors, resistance, inductance, capacitance, complex numbers, analysis of series and parallel circuits.

62: MECHANICAL DESIGN

62:21. TECHNICAL DRAWING I. 3 credits.

Lettering and proper use of drawing instruments. Geometric drawing. Orthographic projections. Free hand sketching. Auxiliary views and graphs. Emphasis on accuracy and technique with pencil and pen.

62:22. TECHNICAL DRAWING II. 3 credits.

Prerequisite, 21. Sections and conventions, pictorial drawings. Detailed dimensioning. Screw threads. Intersections and Developments. Working drawings with tracings and prints.

62:23. STATICS AND DYNAMICS. 3 credits. (3-0-3)

Prerequisite, Physics 20:25. Prerequisite or corequisite, 65:32. Forces, resultants and couples. Equilibrium of force systems. Trusses. Friction. Moments of inertia. Motion of particles and rigid bodies.

62:41. STRENGTH OF MATERIALS. 3 credits. (3-0-3)

Prerequisite, 23. Corequisite, 65:33. Stress-strain relationships. Stresses. Beams. Columns.

62:42. DESIGN MATERIALS. 3 credits. (3-0-3)

Prerequisite, 65:31. The fundamental properties of materials and their uses in Engineering. Instrumentation and testing of materials. Application of methods used to vary properties of materials to meet specific design conditions.

62:43. MECHANICAL DESIGN. 4 credits. (1½-2½-4)**

Corequisites, 41 and 42, 65:33. Design of machine elements. Motion in machines. Velocities. Special mechanisms. Determination of design dimensions. Bolts and screw design. Springs, shafting and cranks. Couplings, brakes and clutches. Bearings.

62:44. MECHANICAL DESIGN. 4 credits. (1½-2½-4)**

Prerequisite, 43. Complete overall design of a simple machine including detail and assembly drawings for each part or sub-assembly.

62:45. SHOP METHODS AND PRACTICE. 3 credits.

A study of various machine tools and operations that can be performed on them. Use of hand tools, lathes, shapers, milling machine, grinders and drill press. Manufacturing processes of casting, forging and welding. Heat treatment.

62:46. APPLIED THERMAL ENERGY. 3 credits. (2½-½-3)*

Prerequisites, 65:33 and Physics 20:26. Thermodynamic principles. Study of cycles involving gases, vapors and mixtures. Applications in I.C. engines, compressors, steam plants and refrigeration.

62:47. ELEMENTARY FLUID MECHANICS. 3 credits.

Prerequisite, 65:33. Fundamental concepts including statics, kinematics, viscosity, energy and momentum equations. Application of these concepts to flow, measurement and fluid machines.

63: CHEMICAL TECHNOLOGY

63:21. BASIC CHEMISTRY (INORGANIC). 4 credits.

Basic facts and principles of chemistry. Nomenclature and introduction to the reactions of the various elements. Important industrial applications.

63:22. BASIC CHEMISTRY II (ORGANIC). 4 credits.

Prerequisite, 21. Nomenclature, classification, chemical properties, and preparation of organic compounds.

63:23. BASIC CHEMISTRY (ANALYTICAL). 4 credits.

Prerequisite, 21. Elementary theory and calculations in analytical chemistry, with emphasis on laboratory methods for identifying various chemical systems, both inorganic and organic in nature.

63:24. BASIC CHEMISTRY (PHYSICAL). 4 credits.

Prerequisites, 21 and 23. Fundamental theoretical principles governing chemical behavior. Introductory thermodynamics, solution chemistry, chemical equilibrium, phase rule, electrochemistry, chemical kinetics, and structure.

* Three one-hour lectures odd number weeks.

Two one-hour lectures and one three-hour lab even weeks.

** Two one-hour lectures and two three-hour labs odd number weeks.

One one-hour lecture and three three-hour labs even number weeks.

63:41. INSTRUMENTAL METHODS. 4 *credits*.

Prerequisites, 21 and 23. Instrumentation employed by the chemist, particularly in analysis of chemical systems. Emphasis is centered on equipment, its use, and the interpretation of results given by the equipment.

64: TRANSPORTATION

64:20. SURVEY OF TRANSPORTATION. 3 *credits*.

Prerequisite, 3 hours of economics. The economic characteristics of the transportation industries; the regulation of the industries by governmental bodies; the bases and problems in establishing rates; and current problems and recommendations in transportation policies.

64:21. ELEMENTS OF TRANSPORTATION, I. 3 *credits*.

A study of the principles and practices related to rates, charges, and claims in the rendering of services. Special emphasis is on the problems, principles and practices of classification rules, freight rates and tariffs, rate making, shipping documents, freight claims, loss and damage claims and overcharge claims.

64:22. ELEMENTS OF TRANSPORTATION, II. 3 *credits*.

Prerequisites, 64:20 and 21. The theory and practice of the transportation industry in regard to freight tariffs, rates, special services and claims for loss and damage, and overcharge and undercharges. Emphasis is on industry practices in these matters.

64:23. RATE MAKING. 3 *credits*.

A detailed analysis of carrier rates, practices, regulations, tariff and classification interpretation.

64:41. INTERSTATE TRAFFIC, PRACTICES AND PROCEDURE, I. 3 *credits*.

The legal and constitutional aspects of Federal regulation of the transportation industry. Emphasis is on the original act to regulate interstate commerce, including its purpose and interpretation of its various provisions, the amendatory, related acts enacted during the several legislative periods.

64:42. INTERSTATE TRAFFIC, PRACTICES AND PROCEDURE, II. 3 *credits*.

Prerequisite, 64:41. A study of the nature, function, and organization of the Interstate Commerce Commission and remedial action available to shippers and carriers under the Interstate Commerce Act. Emphasis is given the procedural handling of rate and traffic controversies before the Commission and the Courts as provided for in the legislation and general rules of practice and procedure of the Commission.

64:43. TERMINAL OPERATION. 3 *credits*.

A study of the management problems, practices, and decision making in regard to facilities, personnel programs and controls. Emphasis is on the problems and practices of managing physical facilities at the terminal, docks, local routes, and equipment, and over-the-road routes and equipment. The personnel problems of driver selection and training and safety practices are also emphasized.

65: ASSOCIATE STUDIES

65:20. ENGLISH. 3 *credits*.

A course to improve reading and writing skills. Reading and writing assignments are integrated to a considerable extent; however, part of the reading is aimed specifically at developing skill in dealing with facts, ideas and opinions.

65:22. TECHNICAL REPORT WRITING. 3 credits.

Practice in preparing and writing those technical and industrial reports most likely to be required of technicians, engineers, scientists, and writers.

65:31. MATHEMATICAL ANALYSIS. 3 credits.

Prerequisite, 1 unit of algebra; 1 unit of plane geometry. The number system of algebra; elements and operations of algebra; equalities and inequalities; logarithms, trigonometry of the right triangle and applications; functions and variation.

65:32. MATHEMATICAL ANALYSIS. 3 credits.

Prerequisite, 31. Plane trigonometry; numerical and analytical; trigonometric functions of the general angle, reduction formulas, identities and equations, graphical analysis, solution of oblique triangles, special formulas. Various topics from the algebra of Mathematical Analysis 31 will be extended; binomial theorem.

65:33. MATHEMATICAL ANALYSIS. 3 credits.

Prerequisite, 32. Analytical geometry of the straight line, circle and conics; functions and limits, differentiation and integration of simple functions with applications; the definite integral with geometric applications; introduction to Boolean Algebra; inequalities; theory of equations.

65:40. HUMAN RELATIONS. 3 credits.

A study of principles and methods which will aid in understanding the interpersonal relations of people on the job, in the community, and in the home.

65:47. SURVEY OF BASIC ECONOMICS. 3 credits.

A survey of basic economic principles and issues.

66: SALES AND MERCHANDISING

66:20. ELEMENTS OF DISTRIBUTION. 3 credits.

Study of the basic principles of methods in distribution. Attention will be given to the theory and actual practice involved in merchandising and will provide a firm foundation for understanding the problems of resource allocation.

66:21. PRINCIPLES OF DISPLAY AND ADVERTISING. 3 credits.

Will provide the beginning student with a firm knowledge of the principles involved in the use of display, fixtures, merchandising arrangement, window layout, and points of display. Students will have particular instruction in advertising layout and display work.

66:22. PERSONNEL PRACTICES. 3 credits.

Includes a study of modern personnel principles and practices as applied to offices, stores, and industry. The course includes a study of basic personnel functions, interviewing, supervisory training, morale factors, and union-management relations. Class demonstrations and role-playing interviews are used throughout the course.

66:30. RETAILING PROBLEMS. 3 credits.

Concerned with the problems of buying, pricing, merchandising controls, sales planning, budgeting, inventory controls and turnover; also to improve management skills in all areas of merchandising.

66:81. PRINCIPLES OF SALES. 3 credits.

Prerequisite, 40:83. A study of personal selling as a part of the marketing process including the qualifications, economics, functions and obligations of salesmen. Emphasis is placed upon demonstrations and sales projects.

66:84. PUBLIC RELATIONS. 2 credits.

General course in Public Relations covering newspaper publicity, industrial publications and other types of organizational publicity.

67: SECRETARIAL SCIENCE

67:11. BASIC ACCOUNTING. 3 credits.

Fundamental principles and procedures of accounting for non-accounting majors.

67:21. OFFICE PROBLEMS. 3 credits.

Fundamental principles and procedures which relate to the secretarial position, including basic filing systems.

67:25. BUSINESS MACHINES. *Either semester.* 1 credit.

Techniques of machine and slide rule calculation as applied to business.

67:35. BUSINESS ENGLISH. *Either semester.* 2 credits.

Fundamentals of English, its use in business world.

67:53. TYPEWRITING PRINCIPLES. (Beginning) 3 credits.

Fundamentals of typewriting followed by drill to acquire skillful coordination of machine parts. This is followed by application of the skill to simple typing problems.

67:54. TYPEWRITING PROJECTS. 3 credits.

Application of typewriting skill on a problem basis to letter writing, data writing, report writing, and legal writing.

67:55. SECRETARIAL MACHINES. 3 credits.

Prerequisite, 54. Advanced typewriting, transcription, business forms, duplication processes, dictating and transcribing machines.

67:59. SHORTHAND REFRESHER. 3 credits.

For the student who has completed Gregg Shorthand theory and needs review. A study of the theory of Gregg Shorthand will be followed by the introduction of machine transcription. Speed attainment: 80-90. Credit not allowed for this course and 67:61, 67:62.

67:61. SHORTHAND PRINCIPLES. *First semester.* 4 credits.

Gregg Shorthand Theory is covered. No credit unless second semester is completed satisfactorily.

67:62. SHORTHAND AND TRANSCRIPTION. *Second semester.* 4 credits.

54 or equivalent must precede or accompany. Introduction of machine transcription and general dictation. Speed attainment: 80 to 90 words per minute.

67:63. ADVANCED DICTATION AND TRANSCRIPTION. *First semester.* 4 credits.

Vocabulary building, general dictation on letters and articles. Speed attainment: 90 to 110 words per minute.

67:64. EXECUTIVE DICTATION AND TRANSCRIPTION. *Second semester. 4 credits.*

Prerequisite, 63. Specialized vocabularies, dictation on letters and articles. Speed attainment: 110 to 130 words per minute.

67:65. LEGAL DICTATION AND TRANSCRIPTION. *4 credits.*

Prerequisite, 63. A course designed to develop shorthand and machine transcription skill of legal correspondence, briefs, basic pleadings, rules of practice, and legal reports.

67:66. TECHNICAL DICTATION AND TRANSCRIPTION. *4 credits.*

Prerequisite, 63. A course designed to develop skill in the writing and transcribing of specialized shorthand dictation for the technical, science, and engineering secretary.

67:70. BUSINESS MATHEMATICS. *3 credits.*

A course designed to develop skill and accuracy in mathematics used in business offices, retailing and sales, and machine bookkeeping. It provides a review of the fundamentals of mathematics as they apply to business, including decimals, fractions, percentages, interest, discounts, insurance, stocks and bonds, payroll, inventory, and business papers.

67:80. ESSENTIALS OF LAW. *3 credits.*

A brief history of the law, study of contracts, agency, criminal law, sales, bailments, domestic relations, probate law, and torts.

67:81. OFFICE NURSING TECHNIQUES. *4 credits.*

To develop certain skills in nursing techniques commonly needed in physicians' and dentists' offices.

67:82. MEDICAL AND DENTAL MACHINE TRANSCRIPTION. *2 credits.*

Prerequisite, 55. Introduction to medical or dental terminology. Emphasis on meaning, pronunciation, spelling, and application of common medical or dental terms, abbreviations, stems, and suffixes as related to the human body—including teeth.

67:93. BUSINESS COMMUNICATIONS. *First semester. 2 credits.*

Principles involved in various types of written business communication, and application of these principles.

68: INDUSTRIAL TECHNOLOGY

68:20. WORK MEASUREMENT PROCEDURES. *3 credits.*

A study of procedures for determining efficient work methods. The appraisal of the value of work involving human activity in terms of time.

68:31. FACTORY PLANNING AND MATERIALS HANDLING. *3 credits.*

The selection and arrangement of the physical facilities that constitute the factory. The selection of materials handling system that will accomplish the required handling.

68:32. LABOR-MANAGEMENT RELATIONS. *3 credits.*

A study of the labor viewpoint, the management viewpoint, and the effects of governmental regulations on the successful solution of current labor-management disputes.

68:41. SAFETY PROCEDURES. *2 credits.*

Prerequisite, 40:61. Causes of accidents, fundamentals of accident prevention, maintenance of health standards, safety organization.

68:42. PRODUCTION AND QUALITY CONTROL PROCEDURES. 4 *credits*.

A study of planning and control procedures for best productive efforts. Application of statistical methods to formulate control charts used in the control of the manufacturing process for quality manufacturing.

68:43. SURVEY IN FINANCE. 3 *credits*.

Prerequisites. Three hours of Economics and three hours of Accounting. A survey of the field including instruments, procedures, practices and institutions. Emphasis on basic principles.

68:45. PLANTS AND EQUIPMENT MAINTENANCE. 2 *credits*.

Prerequisite, 40:61. Power metering; inspection, cleaning, lubrication and repair of equipment; estimating control of maintenance costs.

69: SURVEYING AND CONSTRUCTION TECHNOLOGY

69:22. BASIC SURVEYING. 2 *credits*. (1-3)

Corequisite, 65:32. Basic tools and computations of surveying measurement of distances and angles, traverse surveys.

69:23. APPLIED SURVEYING. 3 *credits*. (2-3)

Prerequisite, 22. Triangulation, trilateration, traverses, leveling, map projections.

69:32. CONSTRUCTION. 3 *credits*. (3-0)

Planning of construction operations. Construction equipment and their selection for typical jobs. Safety regulations.

69:33. CONSTRUCTION ADMINISTRATION. 2 *credits*. (2-0)

Construction specifications. Office organization, preparation of construction documents. Bidding, bonds. Construction management and supervision. Agreements and contracts.

69:35. MATERIALS TESTING LABORATORY. 2 *credits*. (0-6)

Corequisite, 62:41. Types, selection, properties and specifications of materials used in construction. General features of mechanical testing. Measurement of load, length and deformation. Study of various testing equipment and their use. Analysis and presentation of data. Reports.

69:42. SOIL MECHANICS. 2 *credits*. (2-0)

Physical properties of soils. Seepage and frost action. Stability and settlement of shallow foundations. Piles and other deep foundations. Retaining walls. Slope stability. Compaction and stabilization. Soil investigations.

69:43. SOILS LABORATORY. 2 *credits*. (0-6)

Corequisite, 42. Soil identification and description. Sampling, handling and storing soil samples. Limit tests and grain size analysis. Tests of compaction, consolidation, direct shear. Unconfined compression and triaxial tests on cohesive soils. Use of seismic and soil resistivity devices.

90: INTERDISCIPLINARY COURSES

90:301-302. POLYMER TECHNOLOGY. 6 *credits*.

Prerequisite, 5: 64, 66, and permission. A study of the basic principles and methods involved in the technology of polymeric materials, with special emphasis on rubber and plastics, and including the processing, compounding and finishing operations to which these materials are subjected.

90:303. SPECIAL PROJECT IN POLYMER SCIENCE. 2 *credits*.

Prerequisite, permission. Individual research projects of a limited character, intended to be completed within one semester, will be assigned to students entering the Polymer Science program, under the supervision of a faculty member. These are intended to familiarize the student with typical problems and techniques in this field and to prepare him for his thesis research.

90:311. SPECIAL TOPICS IN POLYMER SCIENCE. 2 *credits*.

Prerequisite, permission. Study of topical subjects of current interest in Polymer Science, encompassing the chemistry, physics or engineering aspects of macro-molecular substances, and including laboratory work where applicable. Lectures and/or laboratory.

90:491. DOCTORAL RESEARCH IN POLYMER SCIENCE. 1-16 *credits per semester*.

Open to properly qualified students accepted as candidates for the degree of Doctor of Philosophy in Polymer Science. At the present time, supervised original research may be undertaken in the fields of the chemistry, physics or engineering aspects of Polymer Science, depending on availability of staff and facilities.

7

University Directory

BOARD OF DIRECTORS

TERM EXPIRES DECEMBER 31, 1967

Charles J. Jahant 655 North Portage Path
Bernard Rosen 277 Hollywood Avenue
Joseph Thomas 2427 Covington Road

TERM EXPIRES DECEMBER 31, 1969

Fred I. Albrecht 458 St. Andrews Drive
Harry P. Schrank 120 Twin Oaks Road
E. J. Thomas 812 Mayfair Road

TERM EXPIRES DECEMBER 31, 1971

L. M. Buckingham 474 N. Portage Path
Mrs. W. A. Hoyt 175 Merriman Road
Arthur Kelly 24 South Portage Path

OFFICERS FOR 1966

Chairman Harry P. Schrank
Vice Chairman E. J. Thomas
Vice Chairman Joseph Thomas
Secretary Ian R. MacGregor
Assistant Secretary R. Wayne Duff



ADMINISTRATIVE OFFICERS

Norman P. Auburn, B.A., D.Sc., Litt.D., L.H.D., LL.D.	President of the University
D. J. Guzzetta, Ed.D.	Senior Vice President and Provost
Jan R. MacGregor, Ph.D.	Financial Vice President
Arthur K. Brintnall, Ph.D.	Dean of Administration
Ernest H. Cherrington, Jr., Ph.D.	Dean of the Graduate Division
George Knepper, Ph.D.	Dean of the Buchtel College of Liberal Arts
Michael J. Rzasa, Ph.D.	Dean of the College of Engineering
H. Kenneth Barker, M.A., Ph.D.	Acting Dean of the College of Education, Assistant to the President and Dean of International Programs
R. C. Reidenbach, Ph.D.	Dean of the College of Business Administration
Stanley A. Samad, LL.M.	Dean of the College of Law
Thomas Sumner, Ph.D.	Dean of the General College
W. M. Petry, M.S.M.E.	Dean of the Community and Technical College
William A. Rogers, Ed.M.	Dean of the Evening College and Director of the Summer Sessions
Richard L. Hansford, M.A.Ed.	Dean of Student Services
Robert C. Carson, Ph.D.	Coordinator of Research
Carl L. Hall, B.S.	Controller
R. Wayne Duff, LL.B.	Business Manager
George W. Ball, B.A.	Director of University Relations
Stuart Terrass, M.A.	Registrar
Howard D. Haynes, B.A.	Director of Admissions
H. Paul Schrank, Jr., M.S.	Librarian
Dorothy Hamlen, B.S.L.S.	Director of University Archives
Maurice Morton, Ph.D.	Director of the Institute of Polymer Science
Charles V. Blair, M.A.	Director of the Institute for Civic Education

ADMINISTRATIVE ASSISTANTS

John P. Williams, Ph.D.	Director of Extension Services*
Gordon A. Hagerman, B.A.	Assistant to the Senior Vice President
James P. Banks, B.A.	Director of Development
Horace Harby, B.S.	Assistant to the Vice President for Development
Cecil A. Rogers, B.S.B.A.	University Auditor
Donald Bowles, B.A.Ed., B.S.I.M.	Assistant to the Financial Vice President
Paul Wingard, Ph.D.	Assistant Dean of the Buchtel College of Liberal Arts
Cecil L. Dobbins, B.B.A.	Assistant Dean of the Evening College
Dudley C. Johnson, Jr., M.S.Ed.	Director of Counseling and Advising
Robert Berry, B.S.B.A.	Director of Placement
Robert W. Larson, B.S.B.A.	Director of Student Financial Aids
John W. Stafford, M.S.Ed.	Adviser of Men
H. George Phillips, M.A.	Director of Housing
Terrell O. Martin, Jr., M.S.	Adviser of Men
James L. McElroy, B.S.Ed.	Adviser of Men
Stephen D. Miller, M.A.	Adviser of Men
Richard C. Railsback, M.A.Ed.	Adviser of Men
Ralph Larson, M.Ed.	Director of the Student Center
Mrs. Kathryn Vegso, M.S.Ed.	Adviser of Women
Sidney Crouch, M.A.	Adviser of Women
Susan Mears, B.A.	Adviser of Women
J. Anne Marshall, B.S.	Adviser of Women
Neal Wolfe, B.S.	Assistant Registrar
L. D. Gentry, M.M.E.	Assistant Registrar
Robert S. Hathaway, B.S.Ch.E.	Director of the Computer Center
Panos Kokoropoulos, M.A.	Director of Center for Information Services
Richard A. Calkins, B.A.	Foreign Student Adviser

*Leave of absence, September 1966-July 1967.

Mrs. Mary E. Chesrown, B.A.	Assistant to the Director of the Institute for Civic Education
Robert W. Thorburn, B.A.Ed.	Assistant to the Dean of the Evening College
John M. Denison	Assistant Director of University Relations
Robert S. Sartoris, B.S.	Director of University Publications
John E. Milkerait, B.S.	University Editor
Kenneth D. Bushnell, B.A.Ed.	Director of Alumni Relations
Timothy D. Edwards, B.S.B.A.	Assistant Director of Alumni Relations
George E. Raymer, B.A.	Director of the University News Bureau
Kenneth E. MacDonald, B.A.	Assistant Director of the University News Bureau
Emilie L. Biddlingmeyer, B.A.	Associate Director of Admissions
John W. Owen, B.A.	Assistant Director of Admissions
David E. Stoffer, B.S.	Assistant Director of Admissions
Henry Nettling, B.S.B.A.	Assistant Controller
Laurence J. Power, B.S.	Director of Purchasing
John D. Grafton, B.B.A.	Assistant Director of Purchasing
Robert W. Paul	Superintendent of Buildings and Grounds
William Mavrides, M.A.	Director of Instructional Media
C. Robert Blankenship, M.S.Ed.	Director of Audio-Visual Services
Frank J. Tascone, Jr., B.S.	Accountant
Gerald S. McFadden, M.Ed.	Director of Non-Academic Personnel Services

UNIVERSITY EMERITUS FACULTY DIRECTORY

- PAUL ACQUARONE, *Professor Emeritus of Botany and Geology* (1931)
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.
- DAVID E. ANDERSON, *Associate Professor Emeritus of Engineering Materials* (1923)
B.A., Augustana College; M.S., University of Chicago, 1923.
- CHARLES BULGER, *Dean Emeritus of the Buchtel College of Liberal Arts and Hilton Professor Emeritus of Modern Languages* (February 1910)
Ph.B., Buchtel College; M.A., Ph.D., University of Wisconsin, 1925; Litt.D., The University of Akron, 1953.
- RENA NANCY CABLE, *Associate Professor Emeritus of Art* (1927)
B.E., M.Ed., The University of Akron, 1931.
- ANNA BELLE CHALFANT, *Assistant Professor Emeritus of French* (1947)
B.A., Ohio State University; M.A., Middlebury College, 1934.
- WALTER A. COOK, *Professor Emeritus of Chemistry* (1926)
B.A., M.A., Ph.D., University of Cincinnati, 1924.
- HARMON O. DEGRAFF, *Professor Emeritus of Sociology* (1930)
B.A., M.A., State University of Iowa; Ph.D., University of Chicago, 1926.
- HJALMER W. DISTAD, *Professor Emeritus of Education* (1934)
B.S.Ed., M.A., Ph.D., University of Minnesota, 1926.
- HOWARD M. DOUTT, *Professor Emeritus of Secretarial Science* (February 1926)
B.A., The University of Akron; M.A., University of Chicago, 1934.
- ELDORA FLINT, *Associate Professor Emeritus of Secretarial Science* (1929)
B.E., The University of Akron; M.S.Ed., Syracuse University, 1935.
- OMER R. FOLTS, *Associate Professor Emeritus of Physics* (1926)
B.A., Wittenberg University; M.A., Ohio State University, 1925.
- DONFRED H. GARDNER, *Vice President and Dean of Administration Emeritus* (1924)
B.A., M.A., Princeton University, 1923; L.H.D., The University of Akron, 1963.
- FRED S. GRIFFIN, *Professor Emeritus of Mechanical Engineering* (1921)
M.E., Ohio State University, 1911; P.E., Ohio.
- OSSIAN GRUBER, *Assistant Professor Emeritus of Business Administration* (1946)
B.A., University of Minnesota; M.B.A., Northwestern University, 1928.

NOTE: The dates in parentheses indicate the beginning of service at Buchtel College or The University of Akron; unless otherwise stated, service began in the month of September.

- E. K. HAMLIN, *Associate Professor Emeritus of Coordination* (March 1946)
M.E., The University of Akron, 1928; P.E., Ohio.
- LESLIE P. HARDY, *Financial Vice President Emeritus* (1934)
B.S.Ed., Kent State University; M.S.Ed., The University of Akron, 1935.
- DONATO INTERNOSCIA, *Professor Emeritus of Modern Languages* (1938)
B.A., Broadview College; M.A., Ph.D., Northwestern University, 1938.
- ROBERT T. ITTNER, *Professor Emeritus of Modern Languages* (1950)
B.A., Ph.D., University of Illinois, 1937.
- DAVID KING, *Associate Professor Emeritus of Political Science* (1927)
B.A., Maryville College; M.A., University of Chicago, 1925.
- WALTER C. KRAATZ, *Professor Emeritus of Biology* (1924)
B.A., University of Wisconsin; M.A., Ph.D., Ohio State University, 1923.
- R. D. LONDON, *Professor Emeritus of Civil Engineering* (February 1946)
C.E., M.S., University of Cincinnati, 1927; P.E., Ohio.
- WARREN W. LEIGH, *Dean Emeritus of the College of Business Administration and Professor of Commerce and Business Administration* (1926)
B.A., University of Utah; M.B.A., Ph.D., Northwestern University, 1936.
- WILL LIPSCOMBE, *Associate Professor Emeritus of Mathematics* (1921)
B.S., Florida State College; M.S., Ohio State University, 1926.
- MARGARET EVELYN MAUCH, *Professor Emeritus of Mathematics* (1945)
B.S., Huron College; M.S., Ph.D., University of Chicago, 1938.
- STEWART MCKINNON, *Assistant Professor Emeritus of Commerce* (1949)
B.A., M.A., University of Wisconsin, 1941.
- WILLIAM I. PAINTER, *Associate Professor Emeritus of Education* (1945)
B.A., Oakland City College; M.A., Ph.D., Indiana University, 1933.
- GENIE J. PRESTON, *Associate Professor Emeritus of Bibliography* (1939)
B.A., Northwestern University; M.A., University of Illinois, 1936.
- MRS. RUTH PUTMAN, *Assistant Professor Emeritus of English* (1934)
B.A., Howard College; M.A., Western Reserve University, 1938.
- EDGAR C. ROBERTS, *Assistant Professor Emeritus of English* (1926)
B.S.Ed., M.A., Ohio State University, 1924.
- CLARA G. ROE, *Professor Emeritus of History* (1947)
B.A., University of Michigan; M.A., University of Chicago; Ph.D., University of Michigan, 1943.
- CHARLES ROGLER, *Professor Emeritus of Sociology* (1949)
B.A., M.A., University of Michigan; Ph.D., University of Kansas, 1935.
- FREDERICK S. SEFTON, *Professor Emeritus of Physical Education* (1915)
B.S., Colgate University; M.Ed., Harvard University, 1925.
- MRS. LUCY T. SELF, *Assistant Professor Emeritus of Secretarial Science* (February 1933)
B.A., Ohio Wesleyan University, 1920.
- PAUL C. SMITH, *Associate Professor Emeritus of Electrical Engineering* (1925)
B.S.E.E., Purdue University, 1917; P.E., Ohio.
- ERNEST A. TABLER, *Associate Professor Emeritus of Mathematics* (1935)
B.S., Kent State University; M.A., Western Reserve University, 1933.
- CLARENCE R. UPP, *Associate Professor Emeritus of Mechanical Engineering* (1925)
M.E., Ohio State University, 1910; P.E., Ohio.
- GEORGE STAFFORD WHITBY, *Professor Emeritus of Rubber Chemistry* (1942)
A.R.C.Sc., B.S., University of London; M.S., Ph.D., D.Sc., McGill University, 1939; LL.D., Mount Allison University, New Brunswick, 1932; D.Sc., The University of Akron, 1958.
- MRS. FLORENCE N. WHITNEY, *Associate Professor Emeritus of English* (1936)
B.A., Dakota Wesleyan University; M.A., Columbia University, 1913.
- EARL R. WILSON, *Associate Professor Emeritus of Mechanical Engineering* (1929)
B.M.E., Ohio State University, 1916; P.E., Ohio.

UNIVERSITY FACULTY AND ASSISTANTS

1966-1967

FULL-TIME FACULTY AND ASSISTANTS

- NORMAN P. AUBURN, *President of the University and Professor of Political Science* (1951)
B.A., University of Cincinnati, 1927; LL.D., Parsons College, 1945; LL.D., University of Cincinnati, 1952; D.Sc., University of Tulsa, 1957; LL.D., University of Liberia, 1959; Litt.D., Washburn University of Topeka, 1961; L.H.D., College of Wooster, 1963.
- MRS. MAGDA ABDEL-LATIF, *Assistant Literature Chemist in Center for Information Services* (1966)
B.S., the University of Alexandria (Egypt), 1961.
- IRVING ACHORN, *Associate Professor of Art* (1965)
B.S., M.A., Kent State University, 1956.
- MRS. EILEEN K. AMBERLANG, *Literature Specialist in Center for Information Services* (1965)
- L. F. ANDERSON, *Instructor in Economics* (1966)
B.A., Harvard University; M.A., New York School for Social Research.
- MRS. HELEN ARNETT, *Education Librarian and Assistant Professor of Bibliography* (1953)
B.A., The University of Akron; B.S.L.S., Western Reserve University; M.A., San Jose State College (California); Ph.D., Western Reserve University, 1965.
- GLENN A. ATWOOD, *Assistant Professor of Chemical Engineering* (1965)
B.S.Ch.E., M.S.Ch.E., Iowa State University; Ph.D., University of Washington, 1963.
- JOHN T. AUSTON, *Associate Professor of Speech* (1962)
B.A., Ph.D., University of Denver, 1950.
- JOHN BACHMANN, *PPG Chemical Division Professor of Chemistry* (February 1961)
B.Ch.E., Ph.D., University of Minnesota, 1939.
- MRS. GERTRUDE BADGER, *Instructor in Education* (1965)
B.S.Ed., B.A., The Ohio State University; M.Ed., Kent State University, 1960.
- EVELYN BAER, *Assistant Professor of Speech* (1966)
B.A., the University of Chicago; M.A., The University of Akron, 1948.
- GEORGE W. BALL, *Director of University Relations* (1957)
B.A., Mount Union College, 1943.
- JAMES P. BANKS, *Director of Development* (July 1966)
B.A., Ohio University, 1950.
- H. KENNETH BARKER, *Dean of International Programs, Assistant to the President and Acting Dean of the College of Education* (1966)
B.A., M.A., University of Louisville; Ph.D., University of Michigan, 1959.
- CHARLES BARRESI, *Associate Professor of Sociology* (1966)
B.A., M.A., Ph.D., University of New York at Buffalo, 1965.
- IRENE C. BEAR, *Professor of Home Economics* (1944) (1948)
B.S., Illinois Wesleyan University; M.A., Texas State College for Women, 1937.
- DONALD BECKER, *Assistant Professor of Industrial Management* (1959)
B.A., M.A., Oberlin College, 1948.
- HELEN BECKER, *Associate Professor of Primary Education* (1949)
B.S., M.A., Ed.D., Columbia University, Teachers College, 1949.
- MRS. SUE BECKHAM, *Instructor in English* (1966)
B.A., Georgetown College, 1960.
- WILLIAM H. BEISEL, JR., *Associate Professor of Education and Director of Student Teaching and Field Services* (1960)
B.S., West Chester State Teachers College; M.Ed., Ed.D., Pennsylvania State University, 1960.

NOTE: The dates in parentheses indicate the beginning of service at The University of Akron; unless otherwise stated, service began in the month of September.

- PHILIP H. BERNS, *Instructor in English* (1965)
B.A., University of Michigan; M.A., Wayne State University, 1963.
- ROBERT C. BERRY, *Director of Placement* (August 1946)
B.S.B.A., The University of Akron, 1942.
- CARL BERSANI, *Assistant Professor of Sociology* (1965)
B.A., Eastern Michigan University; M.A., University of Michigan; Ph.D., Iowa State University, 1965.
- WILLIAM BEYER, *Professor of Mathematics* (1961)
B.S., The University of Akron; M.S., Ph.D., Virginia Polytechnic Institute, 1961.
- MICHAEL BEZBATCHENKO, *Associate Professor of Mechanical Engineering* (June 1949)
B.M.E., The University of Akron; M.S., Case Institute of Technology, 1954; P.E., Ohio.
- EMILIE LADD BIDLINGMEYER, *Associate Director of Admissions* (August 1965)
B.A., University of Cincinnati, 1963.
- LESTER JAMES BILSKY, *Instructor in History* (1962)
B.A., Washington University (St. Louis), 1956; University of Washington.
- ROBERT R. BLACK, *Associate Professor of Economics* (1958)
B.A., Carleton College; M.B.A., University of Chicago; Ph.D., University of California, 1963.
- CHARLES V. BLAIR, *Assistant Professor in the Community and Technical College and Director of the Institute for Civic Education* (April 1959)
B.A., M.A., The University of Akron, 1963.
- C. ROBERT BLANKENSHIP, *Instructor in Education and Director of Audio-Visual Services* (1952) (July 1956)
B.S.B.A., The University of Akron; M.S.Ed., Indiana University, 1963.
- BORIS BLICK, *Associate Professor of History* (1964)
B.A., Brooklyn College; M.A., Ph.D., University of Wisconsin, 1958.
- DONALD L. BOWLES, *Assistant to the Financial Vice President* (February 1959)
B.S.I.M., B.A.Ed., The University of Akron, 1959.
- ARTHUR K. BRINTNALL, *Dean of Administration* (1966)
B.A., Denison University; Ph.D., University of California (Los Angeles), 1939.
- THOMAS M. BRITTAIN, *Assistant Professor of Mechanical Engineering* (February 1965)
B.M.E., The University of Akron; M.S., Ph.D., University of Illinois, 1966.
- JOYCE E. BROWN, *Literature Chemist in Center for Information Services* (January 1966)
B.A., Bowling Green State University, 1964.
- THOMAS O. BROWN, *Instructor in Education and Assistant Director-Counselor in the Testing and Counseling Bureau* (July 1964)
B.S., M.Ed., Mississippi State University, 1958; University of Missouri.
- MELVIN BROWNSTEIN, *Assistant Professor of Sociology* (1966)
B.S.Ed., Temple University; M.S.W., University of Pennsylvania School of Social Work, 1958.
- †ROBERT B. BRUMBAUGH, *Assistant Professor of Education* (1963)
B.A., Juniata College; M.Ed., Ed.D., Pennsylvania State University, 1963.
- MRS. PATRICIA BRUNY, *Computer Science Assistant* (1965)
B.A., The University of Akron, 1963.
- DONALD R. BURROWBRIDGE, *Associate Professor of Coordination and Director of the Cooperative Program* (July 1965)
B.S., University of Wisconsin; M.S., Virginia Polytechnic Institute, 1965.
- KENNETH D. BUSHNELL, *Director of Alumni Relations* (January 1960)
B.A.Ed., The University of Akron, 1954.
- RICHARD A. CALKINS, *Instructor in the Community and Technical College and Foreign Student Adviser* (1961)
B.A., Westminster College (Pa.), 1961.
- MARJORIE M. CANN, *Associate Professor of Education* (1964)
B.S., Arcadia University (Nova Scotia); M.A., Michigan State University; Ph.D., University of Michigan, 1957.

†Leave of absence, 1966-67.

- ROBERT C. CARSON, *Associate Professor of Mathematics and Coordinator of Research* (July 1963)
B.S., M.S., Purdue University; Ph.D., University of Wisconsin, 1953.
- ROMEO E. CARTIER, JR., *Assistant Professor of Civil Engineering* (1966)
B.S.C.E., University of Miami; M.S.Eng., University of Connecticut, 1962.
- ERNEST H. CHERRINGTON, JR., *Dean of the Graduate Division and Professor of Astronomy* (August 1948)
B.A., M.S., Ohio Wesleyan University; Ph.D., University of California, 1935.
- MRS. MARY ELIZABETH CHESROWN, *Assistant to the Director of the Institute for Civic Education* (May 1965)
B.A., The University of Akron, 1949.
- MRS. BARBARA CLARK, *Library Cataloger* (1948)
B.S., The University of Akron, 1950.
- FRANCES CLARK, *Assistant Professor of Accounting* (1946)
B.S., The University of Akron; M.Ed., University of Pittsburgh, 1946.
- MRS. RUTH CLINEFELTER, *Assistant Professor of Bibliography and Social Sciences Librarian* (June 1952)
B.A., M.A., The University of Akron; M.A.L.S., Kent State University, 1956.
- KENNETH COCHRANE, *Professor of Physical Education and Director of Athletics* (1948)
B.E., The University of Akron; M.Ed., University of Pittsburgh, 1941.
- BERNARD J. COHEN, *Instructor in Mathematics* (1965)
B.A., M.A., Indiana University, 1954.
- ROBERT E. COLLINS, *Assistant Professor in the Community and Technical College* (1964)
B.A., Glenville State Teachers College (W. Va.); M.A., West Virginia University, 1952.
- ROBERT N. COLLINS, *Professor of Mechanical Engineering* (1966)
B.S.M.E., University of Oklahoma; M.S.M.E., Ph.D.M.E., University of Wisconsin, 1963.
- VERNON COOK, *Instructor in Political Science* (1965)
B.A., The Ohio State University, 1951.
- GERALD CORSARO, *Associate Professor of Chemistry* (1948)
B.S., Fenn College; M.S., Ph.D., Western Reserve University, 1944.
- SIDNEY CROUCH, *Adviser of Women* (1962)
B.S., University of Kentucky; M.A., The Ohio State University, 1962.
- MRS. DIANA M. DANKO, *Senior Literature Chemist in Center for Information Services* (January 1966)
B.S., Heidelberg College, 1947.
- MALCOLM J. DASHFELL, *Associate Professor of Art* (1953)
B.F.A., John Heriton Art School; M.F.A., State University of Iowa, 1953.
- PAUL A. DAUM, *Instructor in Speech* (1965)
B.F.A., Wesleyan College; M.A., The University of Akron, 1964.
- DONALD M. DAVIS, *Instructor in Community and Technical College* (1966)
B.S.B.A., University of Dayton; M.S., University of North Carolina, 1951.
- EMILY DAVIS, *Professor of Art* (1945)
B.A., Ohio State University; M.A., Columbia University, Teachers College; Ph.D., Ohio State University, 1936.
- JOZSEF DEBRECZENI, *Assistant Professor of Business Administration* (March 1966)
B.A., Realgymnasium, Kisujszallas, Hungary; M.B.A., University of Budapest; M.A., Ph.D., University of Montreal, 1961.
- JAMES W. DEES, *Assistant Professor of Psychology* (1965)
B.A., Emory University; Ph.D., University of Tennessee, 1962.
- JOHN M. DENISON, *Assistant Director of University Relations* (February 1946)
The University of Akron.
- JAMES L. DENNISON, *Instructor in Physical Education* (1965)
B.A., College of Wooster, 1960.

- PETER DESY, *Instructor in English* (1966)
B.A., M.A., University of Detroit, 1959.
- ROBERT L. DIAL, *Assistant Professor of English* (1965)
B.S., Central Missouri State College; M.A., Ph.D., University of Kansas City, 1963.
- CECIL L. DOBBINS, *Assistant Dean of the Evening College* (February 1965)
B.B.A., Fenn College, 1952.
- DALE DOEPKE, *Assistant Professor of English* (1965)
B.S.Ed., Central Missouri State College; M.A., Ph.D., Washington University, 1963.
- DAVID T. DOLAN, *Instructor in the Community and Technical College* (1965)
B.A., M.Ret., University of Pittsburgh, 1957.
- JAMES E. DOVERSPIKE, *Associate Professor of Education* (1960)
B.S., Indiana State College; M.Ed., Ed.D., Pennsylvania State University, 1961.
- R. WAYNE DUFF, *Business Manager* (May 1963)
B.A., Oberlin College; LL.B., Cleveland-Marshall Law School, 1951.
- CHARLES DUFFY, *Distinguished Professor of English Literature* (1944)
Ph.B., University of Wisconsin; M.A., University of Michigan; Ph.D., Cornell University, 1939.
- THEODORE DUKE, *Professor of Latin and Greek* (1946)
B.A., The University of Akron; M.A., Western Reserve University; Ph.D., Johns Hopkins University, 1946.
- JAMES F. DUNLAP, *Professor of Speech* (1955)
B.S.Ed., Wilmington College; M.A., Ph.D., Ohio State University, 1954.
- JAMES W. DUNLAP, *Associate Professor of Business Administration* (1963)
B.B.A., Memphis State University; M.P.A., Ph.D., University of Arkansas, 1963.
- JOSEPH A. EDMINISTER, *Associate Professor of Electrical Engineering* (June 1957)
B.E.E., M.S.E., The University of Akron, 1960.
- HAROLD L. EDWARDS, *Instructor in the Community and Technical College* (1965)
B.S.E.E., U.S. Naval Academy; M.Ed., Pennsylvania State University, 1965.
- TIMOTHY D. EDWARDS, *Assistant Director of Alumni Relations* (1964)
B.S.B.A., The University of Akron, 1963.
- ARLETTE ELEFANT, *Instructor in Modern Languages* (1966)
B.A., The University of Akron; M.A., University of Kansas, 1966.
- MRS. CHARLOTTE ESSNER, *Instructor in Speech* (1965)
B.A., Hunter College; M.A., The University of Akron, 1964.
- THOMAS W. EVANS, *Assistant Professor of Physical Education* (April 1948)
B.A., College of Wooster; M.Ed., Kent State University, 1955.
- JAMES RUSSELL EWERS, *Assistant Professor of Physical Education* (1963)
B.A., College of Wooster; M.Ed., Ohio University; Ph.D., Ohio State University, 1963.
- MICHAEL F. FARONA, *Assistant Professor of Chemistry* (1964)
B.S., Western Reserve University; M.S., Ph.D., The Ohio State University, 1964.
- ALI FATEMI, *Instructor in Economics* (1965)
B.S., Fairleigh Dickinson University; M.A., New School for Social Research, 1964.
- ROBERT E. FERGUSON, *Associate Professor of Education* (1965)
B.S.Ed., M.A., Kent State University; Ed.D., Western Reserve University, 1965.
- D. G. FERTIS, *Professor of Civil Engineering* (1966)
B.S.C.E., M.S.C.E., Michigan State University; Ph.D.Eng., National Technical University, (Athens, Greece), 1964.
- MRS. ALICE M. FLAKSMAN, *Assistant Professor of Music* (1965)
B.A., Hunter College; M.A., Columbia University, Teachers College, 1937.
- EUGENE FLAUMENHAFT, *Associate Professor of Biology* (1963)
B.A., M.A., Adelphi College; Ph.D., University of Chicago, 1958.
- WALTER FLEISHER, *Instructor in Art* (1966)
B.S., Institute of Design; M.F.A. Schools of the Art Institute of Chicago, 1965.

- WILLIAM FLEMING, *Assistant Professor in Community and Technical College* (1966)
B.S., Rutgers University; M.A., University of Pennsylvania, 1966.
- VAUGHN WILBUR FLOUTZ, *Professor of Chemistry* (1941)
B.A., Olivet College; M.A., Ph.D., University of Colorado, 1932.
- MRS. BETTE DANEMAN FOX, *Assistant Professor of Political Science* (1949) (1956)
B.A., Western Reserve University; M.A., Brown University; Ph.D., Western Reserve University, 1961.
- JAMES G. FRANCE, *Associate Professor of Law* (1966)
B.A., Brown University; LL.B., Yale University Law School, 1941.
- WILLIAM A. C. FRANCIS, *Instructor in English* (1966)
B.A., M.A., Duquesne University, 1964.
- MRS. CARRIE A. FRANKS, *Librarian for the Division of Rubber Chemistry Library and Information Service* (August 1964)
B.A., Western Reserve University, 1963.
- PAULINE FRANKS, *Assistant Professor of Bibliography and Assistant Librarian* (1950)
B.S.Ed., Kent State University; B.S.L.W., Western Reserve University, 1940.
- J. E. FREDERICK, *Assistant Professor of Chemistry and Research Associate in Institute of Polymer Science* (1966)
B.S.Ch., Glensville State College; Ph.D., University of Wisconsin, 1964.
- L. RONALD FROMMEYER, *Head of Technical Processes and Instructor in Bibliography* (August 1966)
B.A., The Athenaeum of Ohio; M.S.L.S., Western Reserve University, 1965.
- ANDREW GALOS, *Professor of Music* (1966)
B.S., M.S., Juilliard School of Music; Columbia University Teachers College; M.A., Ph.D., 1958.
- VIRGINIA GARDNER, *Documents Librarian* (March 1961)
B.A., The University of Akron, 1953.
- PAUL D. GARN, *Associate Professor of Chemistry* (1963)
B.S., M.S., Ph.D., Ohio State University, 1952.
- ALAN N. GENT, *Professor of Polymer Physics and Assistant Director of the Institute of Polymer Science* (April 1961)
B.S., Leicester Technical College and University College (England); B.S. (Special), Ph.D., London University (England), 1955.
- L. D. GENTRY, *Assistant Registrar* (July 1965)
B.M.E., M.M.E., Indiana University, 1959; The Ohio State University.
- DON R. GERLACH, *Associate Professor of History* (1962)
B.S.Ed., M.A., Ph.D., University of Nebraska, 1961.
- CHRISTINE GOLZ, *Instructor in Modern Languages* (1966)
B.A., The University of Akron; M.A., Western Reserve University, 1966.
- DENNIS GORDON, *Professor of Accounting* (1946)
B.A., M.B.A., University of Chicago, 1938; C.P.A., Ohio.
- JOHN D. GRAFTON, *Assistant Director of Purchasing* (October 1964)
B.B.A., The University of Cincinnati, 1964.
- REGINALD A. GRAHAM, *Assistant Professor of Marketing* (1966)
B.S., Miami University; M.B.A., Kent State University, 1958.
- HOWARD L. GREENE, *Assistant Professor of Chemical Engineering* (1965)
B.Ch.E., M.Ch.E., Ph.D., Cornell University, 1966.
- JIM L. GRIMM, *Instructor in Marketing* (1965)
B.A., Central College (Iowa); M.B.A., Indiana University, 1963.
- FRANK J. GRUCCIO, JR., *Lecturer in The Community and Technical College* (1966)
B.A., The University of Akron, 1963.
- ROBERT GRUMBACH, *Associate Professor of Electrical Engineering* (1961)
B.S.E.E., Case Institute of Technology; M.S.E.E., West Virginia University, 1951.

- EMILE GRUNBERG, *Professor of Economics* (1946) (1956)
M.A., Ph.D., University of Frankfurt (Germany), 1930.
- D. J. GUZZETTA, *Senior Vice President and Provost and Professor of Education* (1954)
B.A., M.Ed., Ed.D., University of Buffalo, 1953.
- SCOTT D. HAGEN, *Instructor in Biology* (1966)
B.S., Kansas State University; M.S., Kansas State Teachers College.
- GORDON A. HAGERMAN, *Assistant to the Senior Vice President* (July 1941)
B.A., The University of Akron, 1941.
- CARL L. HALL, *Controller* (March 1965)
B.S., Ohio State University, 1950.
- DOROTHY HAMLEN, *Professor of Bibliography and Director of University Archives* (February 1937)
B.A., The University of Akron; B.S.L.S., Western Reserve University, 1942.
- PETER J. HAMPTON, *Associate Professor of Psychology and Director-Counselor of Testing and Counseling Bureau* (August 1954)
B.A., M.A., University of Manitoba (Canada); Ph.D., Western Reserve University, 1950.
- RICHARD L. HANSFORD, *Dean of Student Services* (August 1949)
B.A.Ed., M.A.Ed., The University of Akron, 1954.
- EDWARD W. HANTEN, *Associate Professor of Geography and Director of the Center for Urban Studies* (1963)
B.A., Earlham College; M.A., Ph.D., University of Pittsburgh, 1962.
- HORACE HARBY, *Assistant to the Vice President for Development* (May 1966)
B.S., Clemson College, 1936.
- MRS. PHYLLIS HARDENSTEIN, *Assistant Professor of Speech* (February 1947) (1956)
B.A., The University of Akron; M.A., University of Wisconsin, 1951.
- MARY GRACE HARRINGTON, *Business Administration Librarian and Assistant Professor of Bibliography* (November 1960)
B.A., The University of Akron; B.A.L.S., University of Michigan, 1939.
- H. JAMES HARWOOD, *Associate Professor of Chemistry and Research Associate in the Institute of Polymer Science* (October 1959)
B.S., The University of Akron; Ph.D., Yale University, 1956.
- MRS. MARLENE HATHAWAY, *Instructor in English* (1965)
B.A., Kalamazoo College; M.A., The University of Akron, 1965.
- ROBERT S. HATHAWAY, *Instructor in the Community and Technical College and Director of the Computer Center* (1963)
B.S.Ch.E., Northwestern University, 1954.
- HOWARD D. HAYNES, *Director of Admissions* (June 1961)
B.A., Baker University, 1956.
- HERBERT C. HAYWARD, *Associate Professor of Management* (1963)
B.A., The University of Akron; Ph.D., University of Tennessee, 1956.
- ALLAN J. HEFFLER, *Associate Professor of Speech* (1965)
B.S.Ed., Edinboro State Teachers College (Pennsylvania); M.A., Ph.D., Western Reserve University, 1960.
- RICHARD HENRY, *Instructor in Mechanical Engineering* (1961)
B.M.E., The Ohio State University; M.S.E., The University of Akron, 1965.
- JAMES HERBSTREIT, *Instructor in Physical Education and Assistant Football Coach* (June 1966)
B.S., The Ohio State University, 1961.
- NICHOLAS C. HILYARD, *Visiting Assistant Professor of Physics* (1966)
B.S., Ph.D., Southampton University (England), 1963.
- ELIZABETH J. HITTLE, *Associate Professor of Speech and Director of the Speech and Hearing Clinic* (1950)
B.S.Ed., The University of Akron; M.A., Kent State University; Ed.D., Western Reserve University, 1963.

- KENNETH C. HOEDT, *Associate Professor of Education* (1962)
B.S., State University of New York, College of Education (Buffalo); M.S., Ph.D., University of Wisconsin, 1960.
- IRENE HORNING, *Assistant Professor of Biology* (1946)
B.S.N., Western Reserve University, 1934; R.N., Ohio.
- MARTHA HOSFELT, *Instructor in English* (1961)
B.A., The University of Akron, 1959.
- JOHN J. HOUSER, *Assistant Professor of Chemistry* (1965)
B.S., Villanova University; Ph.D., Pennsylvania State University, 1964.
- JOHN HULL, *Instructor in English* (1946) (1954)
B.A., The University of Akron; M.A., Western Reserve University, 1953.
- MRS. JULIA HULL, *Assistant Professor of English* (1946)
B.A., The University of Akron; M.A., Western Reserve University, 1950.
- PAUL O. HUSS, *Professor of Electrical Engineering* (January 1941)
B.S.Ed., B.S.E., M.S.E., D.Sc., University of Michigan, 1935; P.E., Ohio.
- FARLEY K. HUTCHINS, *Professor of Music* (1957)
M.B., Lawrence Conservatory of Music; S.M.M., S.M.D., School of Sacred Music, Union Theological Seminary, 1951.
- JAMES E. INMAN, *Instructor in the Community and Technical College* (1966)
B.A., Baldwin Wallace College; M.B.A., The Ohio State University, 1966.
- DALE L. JACKSON, *Assistant Professor of Biology* (1961)
B.S., Ph.D., University of Durham (England), 1959.
- JANE JAREMA, *Lecturer in English* (1966)
B.A., University of Colorado; M.A., The University of Akron, 1966.
- DONALD M. JENKINS, *Assistant Professor of Law* (1965)
B.S.B.A., University of Kansas; B.A., LL.B., The University of Akron, 1964.
- MRS. JANICE JENSEN, *Instructor in the Community and Technical College* (1966)
B.A., The College of Wooster; M.A., Kent State University, 1966.
- ALFRED H. JOHNSON, *Associate Professor of Education* (1956)
B.S., College of Wooster; M.S., Ph.D., University of Wisconsin, 1956.
- DUDLEY C. JOHNSON, JR., *Director of Counseling and Advising* (July 1961)
B.S., University of Vermont; M.S.Ed., University of Southern California, 1961.
- MRS. GERTRUDE JOHNSON, *Assistant Professor of Law and Law Librarian* (1964)
B.A., LL.B., Western Reserve University; M.S.L.S., Kent State University, 1965.
- MARY JEAN JOHNSTON, *Assistant Professor in the Community and Technical College* (1965)
B.S., Carnegie Institute of Technology; M.Ed., University of Pittsburgh, 1960.
- DAVID L. JONES, *Assistant Professor of English* (February 1961)
B.A., M.A., Ph.D., Harvard University, 1958.
- BURT K. KAGEFF, *Assistant Professor of Music* (1962)
B.A., M.Ed., Wayne State University; M.A., University of Missouri, 1962.
- SEBASTIAN KANAKKANATT, *Senior Literature Chemist* (1965)
B.S., Madras University (India); M.S., The University of Akron, 1966.
- MARVIN KATZ, *Assistant Professor of Philosophy* (1966)
B.A., Boston University; M.A., University of Chicago; Ph.D., Southern Illinois University, 1966.
- DON A. KEISTER, *Professor of English* (1931)
B.A., M.A., The University of Akron; Ph.D., Western Reserve University, 1947.
- ORVILLE R. KEISTER, JR., *Associate Professor of Accounting* (1966)
B.S., M.B.A., The Ohio State University; Ph.D., University of Illinois, 1964.
- MRS. MARY KEITH, *Instructor in Community and Technical College* (1966)
B.A., West Virginia University; M.A., Kent State University, 1966.
- ROGER F. KELLER, JR., *Associate Professor of Biology* (1954)
B.S., University of New Hampshire; Ph.D., Michigan State University, 1953.

- HERBERT S. KENNEDY, *Instructor in the Community and Technical College* (1965)
B.S.A.E., University of Washington; Diploma in Aeronautics, College of Aeronautics (United Kingdom); M.S., U.S. Naval Postgraduate School; M.Eng., Pennsylvania State University, 1965.
- SALLY KENNEDY, *Instructor in English* (1966)
B.A., Columbia College; M.A., University of Tennessee, 1965.
- MRS. LILLIAN KING, *Instructor in Community and Technical College* (1966)
B.S., The University of Akron; M.S., Kent State University, 1965.
- MICHAEL KLEIN, *Computer Science Senior Associate in the Computer Center* (1964)
B.S., The University of Akron, 1963.
- GEORGE W. KNEPPER, *Dean of Buchtel College of Liberal Arts and Professor of History* (August 1954)
B.A., The University of Akron; M.A., Ph.D., University of Michigan, 1954.
- WILLIAM G. KOFRON, *Assistant Professor of Chemistry* (1965)
B.S., Notre Dame University; Ph.D., University of Rochester, 1961.
- PANOS KOKORPOULOS, *Director of the Center for Information Services* (1965)
B.S., University of Thessaloniki (Greece); M.S., University of Dayton, 1964.
- ROBERT KOVACH, *Associate Professor of Law* (1963)
B.B.A., LL.B., Western Reserve University; LL.M., New York University, 1957.
- ALAN F. KRIVIS, *Associate Professor of Chemistry* (1966)
B.A., Columbia College; M.A., Columbia University; M.S.Ch., Ph.D., University of Michigan, 1958.
- DORIS KRUSE, *Systems Assistant in Computer Center* (August 1966)
B.S., Valparaiso University; M.B.A., The Ohio State University, 1964.
- WARREN F. KUEHL, *Professor of History* (1964)
B.A., Rollins College; M.A., Ph.D., Northwestern University, 1954.
- ERNEST A. KUEHLS, *Assistant Professor of Mathematics* (1965)
B.S.Ed., M.Ed., Miami University, 1955.
- MILTON L. KULT, *Associate Professor of Electrical Engineering* (June 1954)
B.S.E.E., M.S., University of Illinois, 1952; P.E., Illinois, Ohio.
- HENRY A. KUSKA, *Assistant Professor of Chemistry* (1965)
B.A., Cornell University; Ph.D., Michigan State University, 1965.
- ROGER A. KVAM, *Assistant Professor of Political Science* (1964)
B.A., Wheaton College; B.D., Princeton Theological Seminary; M.A., Harvard University, 1964.
- RICHARD LACROIX, *Instructor in Philosophy* (1966)
B.A., M.A., Wayne State University, 1962.
- JOHN A. LAHOSKI, *Instructor in Physical Education* (July 1966)
B.S.Ed., The University of Akron, 1966.
- GORDON LARSON, *Associate Professor of Physical Education and Assistant Director of Athletics* (February 1961)
B.S.Ed., M.E., Kent State University, 1954.
- RALPH LARSON, *Director of the Student Center* (July 1960)
B.S.Ed., M.Ed., Kent State University, 1953.
- ROBERT W. LARSON, *Director of Student Financial Aids* (August 1958)
B.S.B.A., The University of Akron, 1946.
- JANOS G. LASZLO, *Instructor in Modern Languages* (1965)
B.A., University of Wisconsin; M.A., Yale University, 1964.
- ANTHONY S. LATERZA, *Assistant Professor of Physical Education* (August 1955)
B.S.Ed., The University of Akron; M.Ed., Kent State University, 1963.
- †JOSEPH LATONA, *Assistant Professor in the Community and Technical College*. (June 1961)
B.A.Ed., The University of Akron; M.B.A., Kent State University, 1962.

†Leave of absence, 1966-67.

- DOROTHY LAUBACHER, *Assistant Professor of Home Economics* (1950)
B.S., M.A., Ohio State University, 1941.
- †ROBERT T. LAWRY, *Assistant Adviser of Men* (July 1964)
B.A., The University of Akron, 1964.
- †WALTER D. LEHRMAN, *Instructor in English* (1956)
B.S., M.A., Columbia University, 1953.
- ARNO K. LEPKE, *Professor of Modern Languages* (1961)
University of Greifswald (Germany); Ph.D., University of Marburg (Germany), 1947.
- GERALD H. LEVIN, *Associate Professor of English* (1960)
Vanderbilt University; M.A., University of Chicago; Ph.D., University of Michigan, 1956.
- RUTH B. LEWIS, *Assistant Professor of Speech* (1966)
B.S., Wittenberg University; M.A., Ph.D., The Ohio State University, 1961.
- HUGO LIJERON, *Associate Professor of Modern Languages* (1963)
B.A., LaSalle University (Bolivia); LL.D., Universidad San Francisco Xavier de Chuquisaca (Bolivia); M.A., Middlebury College; Ph.D., University of Madrid, 1965.
- JOHN H. LINDQUIST, *Associate Professor of Sociology* (1965)
B.S.Ed., Phoenix College (Arizona); M.A.Ed., Arizona State College; D.S.S., Syracuse University, 1961.
- EDWIN L. LIVELY, *Professor of Sociology* (1963)
B.A.Ed., Fairmount State College (W. Va.); M.A., Ph.D., Ohio State University, 1947.
- JOHN F. LOTZ, *Instructor in English and Assistant Director of Television* (1962)
B.A., The University of Akron, 1962.
- JERROLD WILLIAM MABEN, *Associate Professor of Education* (1963)
B.A., B.S., M.S., Wayne State University, 1954.
- JOHN A. MACDONALD, *Associate Professor of Music* (1959)
B.M.Ed., Oberlin College; M.A., Musicology; Ph.D., University of Michigan, 1964.
- KENNETH E. MACDONALD, *Assistant Director of the University News Bureau* (January 1965)
B.A., The University of Akron, 1963.
- IAN R. MACGREGOR, *Financial Vice President and Professor of Chemistry* (1961)
B.A., M.S., Ph.D., University of Cincinnati, 1945.
- THEODORE MACKIW, *Associate Professor of Modern Languages* (1962)
Ph.D., University of Frankfurt (Germany), 1951; Yale University.
- BERND MAGNUS, *Assistant Professor of Philosophy* (1965)
B.A., Hunter College, 1960; Columbia University.
- HOWARD MAHER, *Professor of Psychology* (1959)
B.A., M.A., Temple University; Ph.D., Ohio State University, 1954.
- COLEMAN J. MAJOR, *Professor of Chemical Engineering* (1964)
B.S., University of Illinois; Ph.D., Cornell University, 1941.
- MRS. JOHANNA MALLY, *Instructor in Home Economics* (1959)
B.S., Western Reserve University, 1923.
- ANDREW MALUKE, *Assistant Professor of Physical Education* (February 1946)
B.S.Ed., The University of Akron; M.A., Kent State University, 1949.
- †GEORGE P. MANOS, *Assistant Professor of Civil Engineering* (1957)
B.Ch.E., Ohio State University, 1948; P.E., Ohio.
- PHILIP S. MANTHEY, *Systems Associate in Computer Center* (1965)
B.A., Kent State University; M.B.A., The University of Akron, 1960.
- FREDERICK A. MANZARA, *Associate Professor of Marketing* (1962)
B.A., Northwestern University; M.S., Ph.D., University of Illinois, 1961.
- JUDITH ANNE MARSHALL, *Adviser of Women* (August 1966)
B.S.Ed., The Ohio State University, 1962.

†Leave of absence, 1966-67.

- RICHARD C. MARSHALL, *Assistant Professor of Law* (1959)
LL.B., Akron Law School, 1954.
- MRS. AGNES L. MARTIN, *Senior Library Cataloger and Assistant Professor of Bibliography* (September 1962)
B.A., Ohio Wesleyan University; B.S.L.S., University of Illinois, 1929.
- TERRELL O. MARTIN, JR., *Adviser of Men* (1966)
B.S., Erskine College; M.S., Indiana University, 1964.
- WILLIAM MAVRIDES, *Director of Television and Instructor in Speech* (July 1960)
B.A., The University of Akron; M.A., Peabody College for Teachers, 1958.
- JAMES L. McELROY, *Adviser of Men* (August 1966)
B.S.Ed., Ohio University, 1961.
- GERALD S. McFADDEN, *Director of Non-Academic Personnel Services* (August 1966)
B.S., M.Ed., Kent State University, 1959.
- DONALD McINTYRE, *Professor of Chemistry and Research Associate in the Institute of Polymer Science* (1966)
B.A., Lafayette College; Ph.D., Cornell University, 1954.
- JAMES McLAIN, *Assistant Professor of Economics* (1946)
B.A., The University of Akron; M.A., Western Reserve University; Ph.D., Ohio State University, 1959.
- ROBERT C. McNEIL, *Assistant Professor of Classics* (1963)
B.A., The University of Akron, 1953; University of Pennsylvania.
- CLAUDE Y. MEADE, *Associate Professor of Modern Languages* (1964)
B.A., M.A., University of Minnesota; Ph.D., University of California, 1957.
- SUSAN MEARS, *Adviser of Women* (August 1965)
B.A., Carroll College (Wisconsin); M.A., Indiana University, 1965.
- JANICE MEIKLE, *Instructor in Modern Languages* (1965)
B.A., Butler University; M.A., Indiana University, 1964.
- EBERHARD A. MEINECKE, *Assistant Professor of Mechanical Engineering and Research Associate in the Institute of Polymer Science* (October 1963)
Diploma, D.Eng., Technische Hochschule Carolo-Wilhelmina zu Braunschweig (Germany); 1960.
- J. F. MERCER, *Instructor in the Community and Technical College* (1965)
B.A., Ohio University; M.A., Western Reserve University, 1958.
- ROBERT MERRIX, *Assistant Professor of English* (1966)
B.A., M.A., Butler University; Ph.D., University of Cincinnati, 1966.
- SYLVIA V. MEYERS, *Instructor in Community and Technical College* (1966)
B.S., St. Louis University; M.A., John Carroll University, 1965; Diploma and R.N., 1947.
- JOHN E. MILKEREIT, *University Editor* (January 1965)
B.S., Purdue University, 1960.
- STEPHEN DEAN MILLER, *Adviser of Men* (August 1966)
B.S., University of Maine; M.A., Syracuse University, 1965.
- ALOYSIUS E. MISHO, *Professor of Secretarial Science* (1962)
B.S., Central Michigan University; M.S., Ed.D., University of Michigan, 1962.
- MRS. TRAUTE R. MITTERHEFER, *Computer Science Senior Associate* (March 1966)
B.S., University of Technology, Vienna (Austria), 1963.
- CARL MONASTRA, *Instructor in Community and Technical College* (1966)
B.S.B.A., John Carroll University; M.B.A., Western Reserve University, 1963.
- JOHN B. MONROE, *Instructor in Community and Technical College* (1966)
B.A., The College of Wooster; M.A., Rutgers University, 1963.
- MARVIN M. MOORE, *Associate Professor of Law* (July 1960)
B.A., Wayne State University; LL.B., LL.M., Duke University, 1960.
- DEANNA I. MORROW, *Literature Chemist-Editor in Center for Information Services* (April 1966)
B.A., University of Saskatchewan (Canada), 1962.

- †GERALD ALLAN MORTENSEN, *Instructor in Modern Languages* (1962)
B.S., Rutgers University; M.A., Middlebury College, 1962.
- MAURICE MORTON, *Professor of Polymer Chemistry and Director of the Institute of Polymer Science* (October 1948)
B.S., Ph.D., McGill University (Canada), 1945.
- JOHN MULHAUSER, *Instructor in Geography* (1966)
B.A., M.A., Kent State University, 1961.
- ARTHUR G. MURPHEY, JR., *Associate Professor of Law* (1962)
B.A., University of North Carolina; LL.B., University of Mississippi; LL.M., Yale University, 1962.
- JEROME MUSHKAT, *Assistant Professor of History* (1962)
B.A., M.A., D.S.S., Syracuse University, 1964.
- MRS. LOIS MYERS, *Assistant Professor of Bibliography and Humanities Librarian* (1946)
B.A., Wittenberg University; B.S.L.S., Carnegie Institute of Technology, 1939.
- ROBERT H. MYERS, *Assistant Professor of Education* (1966)
B.S., M.S., Ph.D., The Ohio State University, 1964.
- CHRIS N. NACCI, *Professor of Modern Languages* (1963)
B.S., B.S.Ed., M.A., Ohio State University; Ph.D., Universidad Nacional Autonoma de Mexico, 1951.
- ESTELLE NAES, *Professor of Nursing* (June 1966)
B.S., M.S., Ph.D., St. Louis University, 1962.
- CHARLES F. NAGY, *Associate Professor of Accounting* (1961)
B.S., M.S., Indiana State University; Ph.D., University of Alabama, 1959; C.P.A., Tenn.
- JACK W. NEELY, *Cataloger in University Library* (July 1966)
B.A., The Ohio State University; M.A., Kent State University, 1955.
- HENRY NETTLING, *Assistant Controller* (February 1964)
B.S.B.A., The University of Akron, 1964.
- SAMUEL C. NEWMAN, *Associate Professor of Sociology* (1951)
B.A., University of Pittsburgh; M.A., Oberlin College; Ph.D., Ohio State University, 1939.
- ALLEN G. NOBLE, *Associate Professor of Geography* (1964)
B.A., Syracuse University; M.A., University of Maryland; Ph.D., University of Illinois, 1957.
- RICHARD F. NOKES, *Assistant Professor of Biology* (January 1962)
B.S., D.V.M., Michigan State University, 1958.
- OLIVER OCASEK, *Assistant Professor of Education* (January 1961)
B.S.Ed., M.A., Kent State University, 1950.
- SARAH ORLINOFF, *Assistant Professor of Education* (1963)
B.A., M.A.Ed., The University of Akron; Ph.D., Western Reserve University, 1963.
- JOHN W. OWEN, *Assistant Admissions Officer* (June 1965)
B.A., Johns Hopkins University, 1965.
- MRS. HELEN PAINTER, *Associate Professor of Education* (1945)
B.A., M.A., Ed.D., Indiana University, 1941.
- EDWARD A. PAUL, *Assistant Professor of English* (1955)
B.A., The University of Akron; M.A., Ph.D., Western Reserve University, 1958.
- MRS. PHYLLIS PAUL, *Counselor in Testing and Counseling Bureau* (July 1955)
B.A., The University of Akron; M.A., Western Reserve University, 1937.
- MRS. D'ORSAY PEARSON, *Instructor in English* (1966)
B.A., University of North Carolina; M.A., University of Florida, 1962.
- W. M. PETRY, *Dean of the Community and Technical College and Professor of Mechanical Engineering* (1946)
B.S.M.E., University of Missouri; M.S.M.E., Case Institute of Technology, 1951; P.E., Ohio.

†Leave of absence, 1966-67.

- ISABEL L. PFEIFFER, *Assistant Professor of Education* (1966)
B.A., Manchester College (Indiana); M.S., Indiana University; Ph.D., Kent State University, 1966.
- H. GEORGE PHILLIPS, *Director of Housing* (August 1965)
B.A., M.A., University of Michigan, 1959.
- JOHN S. PHILLIPSON, *Associate Professor of English* (1961)
B.A., University of Rochester; M.A., Ph.D., University of Wisconsin, 1952.
- FRANK T. PHIPPS, *Professor of English* (1953)
B.A., M.A., Miami University; Ph.D., Ohio State University, 1953.
- MRS. IRJA PIIRMA, *Instructor in Chemistry* (1963)
Diploma in Chemistry, Technische Hochschule of Darmstadt (Germany); M.S., Ph.D., The University of Akron, 1960.
- HARRY T. PINNICK, *Associate Professor of Physics* (1964)
B.A., Southwestern College (Kansas); Ph.D., University of Buffalo, 1955.
- JOHN PIZOR, *Assistant Professor in Community and Technical College* (1966)
B.S., Grove City College; M.Ed., University of Pittsburgh, 1946.
- RICHARD J. POLAND, *Assistant Professor of Accounting* (1965)
B.S.B.A., M.B.A., Xavier University, 1963.
- JOHN A. POPPLESTONE, *Associate Professor of Psychology* (1961)
B.A., University of Michigan; M.A., Wayne State University; Ph.D., Washington University, 1958.
- D. GARETH PORTER, *Instructor in Political Science* (1966)
B.A., University of Illinois; M.A., University of Chicago, 1966.
- CHARLES F. POSTON, *Professor of Finance* (1959)
B.A., Eastern Illinois State College; M.A., University of Illinois; Ph.D., University of North Carolina, 1959.
- MRS. GRACE L. POWELL, *Instructor in Geography* (1966)
B.A., M.S., University of Alberta (Canada), 1961.
- LAWRENCE J. POWER, *Director of Purchasing* (1965)
B.S., Drexel Institute of Technology; B.S., Georgetown University, 1948.
- ERICH P. PRIEN, *Associate Professor of Psychology* (1965)
B.A., Western Michigan University; M.A., Carnegie Institute of Technology; Ph.D., Western Reserve University, 1959.
- JOHN W. PULLEYN, JR., *Assistant Professor of Modern Languages* (1957)
B.A., M.A., Ph.D., University of Minnesota, 1961.
- MRS. MARY B. PULLEYN, *Instructor in English* (1958)
B.A., M.A., University of Minnesota, 1952.
- RICHARD C. RAILSBACK, *Adviser of Men* (July 1966)
B.A., Oberlin College; M.A.Ed., University of Toledo, 1966.
- BRIAN G. RAMSEY, *Assistant Professor of Chemistry* (1964)
B.S., University of South Carolina; M.S., University of Wisconsin; Ph.D., Florida State University, 1962.
- SHARON RAPHAEL, *Instructor in Sociology* (1965)
B.A., Hiram College; M.A., Western Reserve University, 1965.
- DAVID RAYFIELD, *Assistant Professor of Philosophy* (1966)
B.A., Earlham College; Ph.D., Duke University, 1966.
- GEORGE E. RAYMER, *Director of the University News Bureau* (August 1961)
B.A., Kent State University, 1952.
- RICHARD C. REIDENBACH, *Dean of the College of Business Administration and Professor of Marketing* (August 1962)
B.A., Michigan State University; M.S., New York University; Ph.D., St. Louis University, 1958.
- HOWARD REINMUTH, JR., *Associate Professor of History* (1966)
B.A., M.A., Ph.D., University of Minnesota, 1958.

- DONALD B. RICE, *Instructor in Modern Languages* (1966)
B.A., State University of New York; M.A., Middlebury College, 1962.
- DICK I. RICH, *Associate Professor of Education* (1965)
B.A., Otterbein College; M.Ed., Kent State University; Ed.D., Columbia University, Teachers College, 1961.
- †ALVIN M. RICHARDS, JR., *Associate Professor of Civil Engineering* (1949)
B.C.E., The University of Akron; M.S., Harvard University, 1949; P.E., Ohio.
- DAVID C. RIEDE, *Associate Professor of History* (1955)
B.A., M.A., Ph.D., State University of Iowa, 1957.
- MABEL RIEDINGER, *Distinguished Professor of Education* (February 1947)
B.A., Mount Union College; M.A., University of Chicago; Ed.D., Columbia University, Teachers College, 1946; L.H.D., Mount Union College, 1965.
- EDGAR C. ROBERTS, *Assistant Professor of English* (1926)
B.S.Ed., M.A., Ohio State University, 1924.
- RICHARD S. ROBERTS, *Assistant Professor of Accounting* (1964)
B.B.A., University of Cincinnati; M.B.A., The Ohio State University, 1964; C.P.A., Ohio.
- ROBERT W. ROBERTS, *Associate Professor of Chemical Engineering* (1966)
B.S.Ch.E., Washington University; M.S.Ch.E., Ph.D.Ch.E., State University of Iowa, 1962.
- LOUIS D. RODABAUGH, *Associate Professor of Mathematics* (1964)
B.A., Miami University; M.A., Ph.D., The Ohio State University, 1938.
- CECIL A. ROGERS, *Auditor* (1932)
B.S.B.A., The University of Akron, 1932.
- WILLIAM A. ROGERS, *Dean of the Evening College, Assistant Professor of Education, and Director of the Summer Sessions* (1957)
B.A., Ed.M., University of Buffalo, 1954.
- MRS. MARGARET F. ROGLER, *Assistant Professor of Marketing* (1948)
B.S., University of Nebraska; M.S., University of Denver, 1944.
- HENRY ROSENQUIST, *Assistant Professor of Psychology* (1965)
B.S., M.A., Columbia University; Ph.D., Tulane University, 1964.
- LOUIS ROSS, *Associate Professor of Mathematics* (February 1946)
B.S., B.A., M.A.Ed., The University of Akron; Ph.D., Western Reserve University, 1955.
- MAX M. RULE, *Assistant Professor in the Community and Technical College* (1965)
B.A., M.B.A., University of Maryland, 1963.
- †Wilma Ruman, *Assistant Professor of Physical Education* (1959)
B.S.Ed., The University of Akron; M.A., Columbia University, Teachers College, 1950.
- MICHAEL J. RZASA, *Dean of the College of Engineering and Professor of Chemical Engineering* (February 1964)
B.E., Yale University; M.S., Ph.D., University of Michigan, 1947.
- DONALD E. SABATINO, *Assistant Director of Student Center* (1963)
B.A., The University of Akron, 1964.
- CHARLES T. SALEM, *Instructor in the Community and Technical College* (1965)
B.S.S., M.A., John Carroll University, 1965.
- STANLEY A. SAMAD, *Dean of the College of Law and Professor of Law* (1959)
B.A., LL.B., University of Cincinnati; LL.M., Western Reserve University, 1959; LL.M., New York University, 1964.
- RAY H. SANDEFUR, *Professor of Speech, Chairman of the Division of Humanities and Supervisor of Broadcasting Services* (1950)
B.A., B.S.Ed., Emporia State Teachers College; M.A., University of Colorado; Ph.D., State University of Iowa, 1950.
- COLLEEN SANDEFORD, *Instructor in Modern Languages* (1966)
B.A., Washburn University; M.A., University of Illinois, 1963.
- EVERETT SANTEE, JR., *Scientific Instruments Technician* (1966)
B.S., B.S.Ch., West Virginia State College, 1962.

†Leave of absence, March 1966-January 1967.

- ROBERT S. SARTORIS, *Director of University Publications* (July 1963)
B.S., Purdue University, 1951.
- BLIN B. SCATTERDAY, *Assistant Professor in the Community and Technical College* (1964)
B.A., M.A.Ed., The University of Akron, 1963.
- RONALD E. SCHNEIDER, *Associate Professor of Physics* (1962)
B.S., The University of Akron; M.S., John Carroll University, 1958; Ph.D., Case Institute of Technology, 1964.
- H. PAUL SCHRANK, JR., *Assistant Professor of Bibliography and University Librarian* (January 1965)
B.S., Ohio University; M.S., University of Illinois, 1963.
- ‡MRS. ANNETTE K. SEERY, *Assistant Professor of Economics* (1951)
B.A., Mount Holyoke College; M.A., Washington University, 1947.
- SAMUEL SELBY, *Distinguished Professor of Mathematics and Chairman of the Division of Natural Sciences* (1927)
B.A., M.A., University of Manitoba; Ph.D., University of Chicago, 1929.
- THOMAS W. SHARKEY, *Professor of Business Administration* (1954)
B.S.C., Ohio University; M.B.A., D.B.A., Indiana University, 1963.
- ROY V. SHERMAN, *Professor of Political Science and Chairman of the Division of Social Sciences* (1929)
B.A., M.A., Ph.D., State University of Iowa, 1927.
- RICHARD R. SHREVE, *Instructor in the Community and Technical College*
B.S., M.S., Western Illinois University; M.B.A., Western New England University.
- KENNETH F. SIBILA, *Professor of Electrical Engineering* (February 1940)
B.S.E.E., M.S.E.E., Case Institute of Technology, 1937; P.E., Ohio.
- PAUL SILVER, *Assistant Professor of History* (1966)
B.A., Oberlin College; M.A., Ph.D., University of Pennsylvania, 1964.
- ANDREW L. SIMON, *Professor of Civil Engineering* (1965)
C.E. Diploma, Technical University of Budapest; Ph.D., Purdue University, 1962.
- FRANK SIMONETTI, *Professor of Business Administration* (February 1942)
B.S., The University of Akron; M.B.A., Boston University; D.B.A., Indiana University, 1954.
- FRANK SLABY, JR., *Instructor in Business Administration* (1965)
B.S., M.B.A., Indiana University, 1963.
- MARY VERNON SLUSHER, *Associate Professor of Accounting* (1947) (1954)
B.S., M.S., Virginia Polytechnic Institute, 1931; C.P.A., Virginia.
- HENRY P. SMITH, *Associate Professor of Music* (1947)
B.M., Illinois Wesleyan; M.A., Carnegie Institute of Technology; Ed.D., Columbia University, Teachers College, 1949.
- HERBERT W. SMITH, JR., *Associate Professor of Modern Languages* (1956)
B.A., Brigham Young University; M.A., Ph.D., University of Wisconsin, 1956.
- JOSHUA L. SMITH, *Literature Specialist in the Center for Information Services* (May 1965)
B.S., Central State College, 1963.
- MARGARET J. SMITH, *Associate Professor of Psychology* (1964)
B.S., M.A., The University of Akron; Ph.D., The Ohio State University, 1963.
- JOHN W. STAFFORD, *Adviser of Men* (August 1962)
B.S.Ed., M.S.Ed., Indiana University, 1960.
- HOWARD STEPHENS, *Associate Professor of Chemistry and Manager of Applied Research in the Institute of Polymer Science* (1950)
B.S., M.S., Ph.D., The University of Akron, 1960.
- WALLACE STERLING, *Assistant Professor of Speech* (1966)
B.A., M.A., University of Florida, 1959.
- WILLIAM J. STEVENS, *Associate Professor of English* (1950)
B.A., M.A., Dalhousie University (Halifax, N.S.); Ph.D., Western Reserve University, 1959.

‡Leave of absence, 1966-67.

- DAVID E. STOFFER, *Assistant Admissions Officer and Assistant to the Director of Housing* (August 1964)
B.S., Ohio Northern, 1960.
- EDGAR E. STONE, JR., *Literature Specialist in Center for Information Services* (November 1965)
B.S., Kent State University, 1957.
- WILLIAM STONER, *Instructor in English* (1966)
B.A., Bethany College, 1963.
- WARREN P. STOUTAMIRE, *Associate Professor of Biology* (1966)
B.S., Roanoke College; M.S., University of Oregon; Ph.D., Indiana University, 1954.
- PHILLIP STUYVESANT, *Instructor in Modern Languages* (1966)
B.A., Thiel College; M.A., Western Reserve University, 1964.
- THOMAS SUMNER, *Dean of the General College and Professor of Chemistry* (1950)
B.S., Ph.D., Yale University, 1951.
- LEONARD SWEET, *Assistant Professor of Mathematics* (1959)
B.A.Ed., The University of Akron; M.Ed., Kent State University, 1954; Western Reserve University.
- ROBERT SWEITZER, II, *Instructor in English* (1966)
B.A., Kent State University; M.A., Ohio State University, 1966.
- JAMES D. SWITZER, *Instructor in the Community and Technical College* (1965)
B.A., College of Wooster; M.A., Kent State University, 1965.
- GABOR S. SZAVA-KOVATS, *Assistant Professor of Civil Engineering*
B.S., Technical University of Budapest; M.S., The Ohio State University, 1964; P.E., Ohio, 1963.
- GEORGE L. SZOKE, *Assistant Professor of Mathematics* (1963)
B.S.M.E., Polytechnical University of Budapest; M.S.E., The University of Akron, 1963.
- MRS. CATHRYN TALIAFERRO, *Instructor in English* (October 1961)
B.A., The University of Akron; M.A., Radcliffe College, 1940.
- FRANK J. TASCONE, JR., *Accountant* (July 1966)
B.S., Gannon College, 1961.
- HOWARD L. TAYLOR, *Associate Professor of Business Administration* (1963)
B.S., The University of Akron; M.S., Ph.D., Iowa State College, 1958.
- MRS. PATRICIA TAYLOR, *Instructor in Physical Education* (1962)
B.S.Ed., The University of Akron, 1963.
- RONALD TAYLOR, *Assistant Professor of Art* (1964)
B.F.A., M.A., The Ohio State University, 1963.
- DONALD E. TEBBS, *Evening College Counselor* (1966)
- JAMES W. TEETER, *Assistant Professor of Geology* (1965)
B.S., M.S., McMaster University, 1962; Rice University.
- JOHN W. TELESKA, *Research Assistant in the Center for Urban Studies*
B.A., Mt. Union College, 1958.
- STUART M. TERRASS, *Registrar* (December 1957)
B.A., B.S., M.A., The University of Akron, 1965.
- MRS. HELEN S. THACKABERRY, *Assistant Professor of English* (February 1940)
B.A., M.A., State University of Iowa, 1937.
- ROBERT E. THACKABERRY, *Professor of English* (1938)
B.A., M.A., Ph.D., State University of Iowa, 1937.
- ERNEST R. THACKERAY, *Distinguished Professor of Physics* (1949)
B.A., M.A., University of Saskatchewan (Canada); Ph.D., University of Wisconsin, 1948.
- DAVID THEUSCH, *Instructor in the Community and Technical College* (1966)
B.S., Minot State College; M.S., University of North Dakota, 1966.
- ROBERT W. THORBURN, *Assistant to the Dean of the Evening College* (August 1964)
B.A.Ed., The University of Akron, 1960.

- MRS. HELEN THORNBERG, *Assistant Professor of Bibliography and Head of Library Acquisitions* (1959)
B.A., College of William and Mary; M.S.L.S., Western Reserve University, 1959.
- GEORGE TOMASHEVICH, *Associate Professor of Anthropology* (1965)
B.A., Roosevelt University; M.A., Ph.D., University of Chicago, 1957.
- EVELYN M. TOVEY, *Associate Professor of Nursing Education* (1950)
B.S.N., M.S.N., Western Reserve University, 1950; R.N., Ohio.
- MRS. AUDRA TENNEY TUCKER, *Associate Professor of Secretarial Science* (1926)
B.A., The University of Akron; M.A., New York University, 1936.
- PAUL E. TWINING, *Professor of Psychology* (November 1941)
B.S., Ottawa University; M.A., University of Kansas; Ph.D., University of Chicago, 1938.
- DONALD S. VARIAN, *Associate Professor of Speech* (1934)
B.A., M.A., University of Wisconsin, 1934.
- MRS. KATHRYN VEGSO, *Adviser of Women* (February 1959)
B.S., University of Illinois; M.S.Ed., The University of Akron, 1963.
- HENRY S. VYVERBERG, *Associate Professor of History* (1957)
B.A., University of Rochester; M.A., Ph.D., Harvard University, 1950; University of Lausanne (Switzerland), Certificate in French Studies, 1947.
- EDWIN E. WAGNER, *Associate Professor of Psychology* (1959)
B.A., M.A., Ph.D., Temple University, 1959.
- MRS. JANET WAISBROT, *Instructor in Modern Languages* (1965)
B.A., Western Reserve University, 1944; Kent State University.
- MILTON A. WALES, *Instructor in Community and Technical College*
B.S., Ch.E., Louisiana State University; M.A.Ed., Pennsylvania State University, 1966.
- GERALDINE A. WALKLET, *Instructor in Physical Education* (1965)
B.A., College of Wooster; M.A., University of California (Santa Barbara), 1965.
- JOAN E. WARNER, *Instructor in Secretarial Science* (January 1964)
B.S., Secretarial Science, The University of Akron, 1956.
- NORMAN F. WASHBURN, *Associate Professor of Sociology* (1960)
B.A., University of Missouri; M.A., New School of Social Research; Ph.D., Washington University, 1953.
- JOHN STEWART WATT, *Professor of Education* (1956)
B.A., The University of Akron; M.A., Ph.D., University of Chicago, 1950.
- PAUL A. WEIDNER, *Associate Professor of Political Science* (1960)
B.A., M.A., University of Cincinnati; Ph.D., University of Michigan, 1959.
- BERNARD M. WEINER, *Associate Professor of Art* (1953)
B.S., Cleveland Institute of Art and Western Reserve University; M.A., Western Reserve University, 1951.
- FRANCIS J. WERNER, *Instructor in Psychology and Counselor in Testing and Counseling Bureau* (August 1950)
B.A., M.A., The University of Akron, 1952.
- ROBERT C. WEYRICK, *Assistant Professor in the Community and Technical College* (1964)
B.E.E., The University of Akron; M.S., Case Institute of Technology, 1964.
- MRS. PEARLMARIE WHITFORD, *Instructor in Education* (1963)
B.S.Ed., M.Ed., Kent State University, 1963.
- JAMES B. WILBUR III, *Associate Professor of Philosophy* (1964)
B.A., University of Kentucky; M.A., Ph.D., Columbia University, 1952.
- ROBERT J. WILLEY, *Assistant Professor of Law* (1966)
B.A., LL.B., University of Nebraska, 1951.
- JOHN P. WILLIAMS, *Associate Dean of Administration and Associate Professor of Education* (August 1963)
Th.B., Malone College; B.A., Marion College; M.A., Western Reserve University; Ph.D., University of Michigan, 1961.

- MAURICE G. WILLIAMS, *Associate Professor of Education* (1966)
B.A., The University of Akron; M.E., Kent State University; Ed.D., Western Reserve University, 1962.
- CHARLES WILSON, III, *Professor of Physics and Research Associate in the Institute of Rubber Research* (1965)
B.S.E., M.S., University of Michigan; Ph.D., Washington University, 1952.
- MARY H. WILSON, *Assistant Professor of Home Economics* (April 1943)
B.S., Iowa State College, 1932.
- PAUL WINGARD, *Assistant Dean of Buchtel College of Liberal Arts and Associate Professor of Geology* (February 1966)
B.A., M.S., Miami University; Ph.D., University of Illinois, 1960.
- DARREL E. WITTERS, *Assistant Professor of Music* (1941)
B.S.Ed., Bowling Green State University; M.S.Ed., The University of Akron, 1958.
- NEAL WOLFE, *Assistant Registrar* (July 1966)
B.S., The University of Akron, 1965.
- CHARLES L. WOOD, *Assistant Professor of Education* (1966)
B.A., Simpson College; M.A., State University of Iowa, 1957.
- OLGA YOGMOUR, *Science and Technology Librarian and Instructor in Bibliography* (September 1961)
B.A., The University of Akron; M.S.L.S., Western Reserve University, 1962.
- HANS ZBINDEN, *Instructor in Modern Languages* (1965)
B.A., Wittenberg University; M.A., University of Pennsylvania, 1955.

PART-TIME FACULTY

(Day and Evening Credit Courses)

1965-66

- PAUL ACQUARONE, *Professor Emeritus of Botany and Geology* (1931)
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.
- WILLIAM MACY ANGELL, *Lecturer in the Community and Technical College*
B.E.E., University of Minnesota, 1962.
- KAY ARLENE ARCHER, *Lecturer in Speech*
B.A., The University of Akron, 1962.
- MRS. EDNA L. ARCHER, *Lecturer in Education*
B.E., The University of Akron; M.A., Columbia University, 1939.
- FRANKLIN E. BANKS, *Lecturer in General Business*
B.B.A., Western Reserve University; M.B.A., The University of Akron, 1962.
- EUGENE BENEDICT, *Lecturer in General Studies*
B.A., M.S., The University of Akron, 1964.
- ROSE BHAKUNI, *Lecturer in the Community and Technical College*
B.A., University of Puerto Rico; M.A., The University of Akron, 1964.
- VINCENT J. BIONDO, *Lecturer in Education*
B.A., M.A., The University of Akron, 1955.
- FRANK BRADSHAW, *Special Instructor in Trumpet*
- AMBROSE E. BRAZELTON, *Lecturer in Physical Education*
B.S., The University of Akron; M.Ed., Kent State University, 1960.
- WILLIAM ANTHONY BURIAN, *Lecturer in Sociology*
B.S., John Carroll University; M.S.W., Boston College, 1961.
- BERNARD HERBERT BURZLAFF, *Lecturer in Physics*
B.A., Mankato State College; M.S., The University of Wisconsin, 1960.
- EDWARD BERNARD BUTLER, JR., *Lecturer in General Studies*
B.B.A., University of Notre Dame; M.A., Syracuse University, 1962.

- NATHAN F. CARDARELLI, *Lecturer in General Studies*
B.S., B.A., M.S., The University of Akron, 1958.
- ROBERT B. COLE, *Special Instructor in Clarinet*
B.S.Ed., The University of Akron, 1938.
- NICHOLAS CONSTANTINIDIS, *Special Instructor in Piano*
B.M., Baldwin Wallace; M.M., Cleveland Institute of Music; Diploma, Conservatory of Warsaw, Poland, 1955.
- WILLIAM EDWARD COPELAND, *Lecturer in Accounting*
B.S., M.S., The University of Akron, 1958.
- ROGER A. CRAWFORD, *Lecturer in Chemistry*
B.S., University of Illinois; M.S., Ph.D., Oregon State University, 1959.
- MRS. FAYE DAMBROT, *Lecturer in Psychology*
M.A., The University of Akron, 1966.
- RAYMOND R. DEMATTIA, *Special Instructor in Flute*
B.S.Ed., Kent State University; M.A., Columbia University, Teachers College, 1950.
- STANLEY R. DENGLER, *Lecturer in General Studies*
B.A.Ed., M.A.Ed., The University of Akron, 1953.
- GABRIEL JOHN DESANTIS, *Lecturer in Physical Education*
B.S., Ohio State University, 1958.
- JOSEPH DILAURO, *Lecturer in Accounting*
B.S., The University of Akron, 1955.
- HJALMER DISTAD, *Lecturer in Education*
B.S., M.A., Ph.D., University of Minnesota, 1926.
- RICHARD W. DORAN, *Lecturer in General Studies*
B.A., Ohio University, 1953.
- PAUL H. DUNHAM, *Lecturer in General Business*
B.A., Western Reserve University; M.B.A., Kent State University, 1960.
- GUILLERMO BERMUJO ENDRIGA, *Lecturer in Marketing and Finance*
B.A., University of the Philippines; B.S., University of California (Berkeley); M.B.A., Harvard School of Business, 1964.
- THOMAS J. ENSCH, *Lecturer in Marketing and Finance*
B.A., Marian College; M.B.A., Indiana University, 1961.
- BART JACOB EPSTEIN, *Lecturer in Marketing*
B.S., Cornell University; M.A., The George Washington University; Ph.D., Clark University, 1956.
- MRS. ANITA EXLINE, *Special Instructor in Flute*
B.A., The University of Akron, 1942.
- MRS. JUDITH A. FLASCO, *Lecturer in General Studies*
B.A.Ed., The University of Akron, 1962.
- JAMES RALPH FLOYD, *Lecturer in General Studies*
B.A., Dickinson College; M.A., Kent State University, 1965.
- JAMES G. FRANCE, *Lecturer in Law*
B.A., Brown University; LL.B., Yale University, 1941.
- J. WILLIAM FREEMAN, *Lecturer in Law*
B.S.M.E., Case Institute of Technology; LL.B., Western Reserve University, 1954.
- JOAN PATRICIA FRENCH, *Lecturer in Modern Languages*
B.A., M.A., Rutgers University, 1965.
- LEON MORRIS FRIEDMAN, *Lecturer in Education*
B.A.Ed., The University of Akron; M.A., Western Reserve, 1949.
- HALLECK D. FRY, JR., *Lecturer in Journalism*
B.A., University of Michigan, 1940.
- SAMUEL GOLDMAN, *Lecturer in Law*
B.A., Miami University; LL.B., Harvard University, 1948.

- NEIL B. GREENE, *Lecturer in Accounting*
B.B.A., Western Reserve University; LL.B., The University of Akron, 1964.
- MRS. CECILIA R. GROSS, *Lecturer in General Studies*
B.A., Bryn Mawr College; M.A., The University of Akron, 1962.
- MRS. BARBARA GSELLMAN, *Lecturer in the Community and Technical College*
B.M.E., The University of Akron, 1950.
- ROBERT L. GULIAN, *Lecturer in Art*
B.A., The University of Akron, 1961.
- ARTHUR HALLAM, *Lecturer in Mathematics*
B.S., University of Colorado; M.S., Case Institute of Technology, 1950.
- MRS. S. BONNIE HANKAMMER, *Lecturer in Speech*
B.S., M.A., Kent State University, 1954.
- DONALD HANLON, *Lecturer in Modern Languages*
B.A., The University of Akron, 1949.
- CHARLES C. HARGIS, JR., *Lecturer in the Community and Technical College*
B.A., Eastern Michigan University; M.A., Wayne State University, 1961.
- JOHN F. HARVEY, *Lecturer in Engineering*
B.S.C.E., M.C.E., Cornell University, 1938.
- R. BARDWELL HEAVENS, *Lecturer in Marketing and Finance*
B.A., Bowdoin College; M.B.A., Babson Institute, 1959.
- AGNES M. HELMS, *Lecturer in General Studies*
B.A.Ed., The University of Akron, 1953.
- HARRY BEST HERFORTH, *Special Instructor in Music*
Diploma, New England Conservatory of Music, 1941.
- KATHERINE K. HILTABIDLE, *Lecturer in Biology*
B.S., Ohio State University, 1936.
- MRS. BARBARA HINEY, *Lecturer in Speech*
B.A., M.A., The University of Akron, 1963.
- JAMES R. HODGE, *Lecturer in Psychology*
B.S., Franklin and Marshall College; M.D., Jefferson Medical College of Philadelphia, 1950.
- HAROLD J. HOLSHUH, *Lecturer in Law*
B.A., J.D., The University of Michigan, 1942.
- KATHRYN HOMEIER, *Lecturer in Nursing*
B.S., St. Louis University; M.S., The University of Akron, 1963.
- MRS. ROSALIND IRISH, *Lecturer in English*
B.S., B.A., The University of Akron; M.A., Columbia University, 1924.
- JANE JAREMA, *Lecturer in English*
B.A., University of Colorado; M.A., The University of Akron, 1966.
- WILLIAM KANNELL, *Lecturer in Sociology*
B.S., The University of Akron; LL.B., Akron Law School, 1952.
- MRS. MARY J. KAUFMAN, *Lecturer in General Studies*
B.A., The University of Akron, 1964.
- JOHN M. KELLY, *Lecturer in Law*
B.A., LL.B., University of Notre Dame, 1946.
- THOMAS WILLIAM KIMMINS, *Lecturer in the Community and Technical College*
B.S., College of Wooster; M.B.A., Kent State University; LL.B., The University of Akron, 1963.
- DOROTHY LEVERING KIST, *Lecturer in Speech*
B.A., B.S., The University of Akron, 1957.
- JANKO P. KOVACEVICH, *Lecturer in Education*
B.S., Baylor University; M.A., The University of Akron, 1952.
- ROSE MARY KRAUS, *Lecturer in Education*
B.E., The University of Akron; M.A., Columbia University, Teachers College, 1926.

- MRS. BEATRICE LAATSCH, *Lecturer in the Community and Technical College*
B.S.Ed., The University of Akron, 1938.
- SEVILLA PFEISTER LAUGHLIN, *Lecturer in Education*
B.A., College of Wooster; M.A., The University of Akron, 1932.
- DAVID JOHN LEHMICKE, *Lecturer in the Community and Technical College*
B.S., California Institute of Technology; Ph.D., University of Minnesota, 1945.
- JOHN C. LEWIS, *Lecturer in Geography*
B.S.Ed., The University of Akron, 1952.
- CLARENZ LIGHTFRITZ, *Special Instructor in Piano*
Bowling Green State University; private instruction with Ernest White and Miss Rena Wills.
- MRS. JANET LIJERON, *Lecturer in Modern Languages*
M.S., Middlebury College, 1965.
- WALTER C. LIPPS, *Lecturer in Physical Education*
B.E., The University of Akron, 1928.
- KRIEMHILD R. LIVINGSTON, *Instructor in German*
Teachers College of Munich Germany Bavarian Interpreters School-Diploma, 1947.
- WILLIAM J. LONG, *Special Instructor in Percussion*
B.S. in Music, Eastman School of Music, University of Rochester, 1948.
- RONALD W. LOTZ, *Lecturer in Sociology*
B.A., M.A., Kent State University, 1963.
- CATHERINE M. MANGOLD, *Lecturer in Art*
B.S.Ed., The University of Akron, 1963.
- ROBERT VINCENT MASON, *Lecturer in Business Administration*
B.S., M.B.A., Boston University, 1954.
- THOMAS ADDENBROOK MATIN, SR., *Lecturer in Electrical Engineering*
B.E.E., Fenn College; M.E.E., Ph.D., Rensselaer Polytechnical Institute, 1962.
- JOHN RICHARD MCCARTY, *Lecturer in the Community and Technical College*
B.S.E.E., The University of Pennsylvania; M.S.E., The University of Akron, 1963.
- H. JOAN MCGEARY, *Lecturer in the Community and Technical College*
B.S., The University of Akron, 1959.
- EDWARD W. MCGRAW, *Lecturer in Electrical Engineering*
B.E.E., University of Detroit, 1952.
- GORDON BUTLER MCKEEMAN, *Lecturer in Philosophy*
B.S.Ed., State College at Salem (Mass.); S.T.B., Tufts University, 1945.
- MRS. MARION MCPHERSON, *Lecturer in Psychology*
B.A., M.A., University of Maine; Ph.D., Indiana University, 1949.
- CAROLANN M. MESSNER, *Lecturer in General Studies*
B.S., The University of Akron, 1964.
- ALBERT MILLER, *Lecturer in Speech*
M.A., The University of Akron, 1966.
- JOHN BLAND MONROE, *Lecturer in the Community and Technical College*
B.A., College of Wooster; M.A., Rutgers University, 1962.
- MARY MOSTENIC, *Lecturer in General Studies*
B.A., B.E., M.A., The University of Akron, 1951.
- ELAINE MYSOCK, *Lecturer in Secretarial Science*
B.S., The University of Akron; M.Ed., Kent State University, 1963.
- THOMAS LEE NASH, *Lecturer in Geography*
B.A., M.A., Kent State University, 1963.
- MILTON NELSON, *Special Instructor in Trumpet*
B.S.Ed., The University of Akron, 1949.
- RONALD ARTHUR NIEDERHUBER, *Lecturer in Education*
B.S., College of Steubenville; M.A., West Virginia University, 1964.

- MRS. BETTY J. OBLISK, *Lecturer in Secretarial Science*
B.S., The University of Akron, 1947.
- VERNON L. ODOM, *Lecturer in Sociology*
B.A., Morehouse College; M.S.W., Atlanta University, 1950.
- EUGENE L. OESTREICHER, *Lecturer in Secretarial Science*
B.S., The University of Akron; LL.B., Western Reserve, 1958.
- JANET OSTROV, *Lecturer in Art*
B.S., The University of Akron, 1951.
- FRANK A. PAKE, *Lecturer in Mechanical Engineering*
B.S., Carnegie Institute of Technology, 1947.
- ROBERT PAOLUCCI, *Special Instructor in Brass Instruments*
Juilliard School of Music.
- JULIETTE RITA PARENTI, *Lecturer in Modern Languages (1959)*
B.A., The University of Akron; Diploma in Italian Grammar and Phonetics, The Royal University of Florence, Italy; B.E., M.A., The University of Akron, 1942.
- CHARLES D. PARKE, *Lecturer in Law*
B.A., Harvard University; LL.B., The Ohio State University College of Law, 1956.
- D'ORSAY W. PEARSON, *Lecturer in General Studies*
B.A., University of North Carolina; M.A., University of Florida, 1962.
- GEORGE PESCAN, *Lecturer in the Community and Technical College*
B.S.M.E., The University of Akron, 1951.
- JUDITH PETRIE, *Lecturer in Speech*
B.A., The University of Akron, 1966.
- ALFRED EUGENE POCOCK, *Lecturer in General Studies*
B.S., Miami University, 1961.
- ERROL S. PRINGLE, *Lecturer in Marketing*
B.S., The University of Akron; M.B.A., Kent State University; C.D.P., 1964.
- MRS. MINNIE C. PRITCHARD, *Lecturer in the Community and Technical College*
B.S.C.E., The University of Akron, 1955.
- EDWIN R. RADER, *Lecturer in Electrical Engineering*
B.S., The University of Akron, 1961.
- EVAN J. REED, *Lecturer in Law*
B.A., J.D., University of Michigan, 1933.
- ARTHUR REGINALD, *Special Instructor in Piano*
New York University, Juilliard Graduate School of Music, Student of Madame Olga Samaroff.
- MRS. GRACE REGINALD, *Special Instructor in Voice*
B.S. in Music, Eastman School of Music, University of Rochester, 1949.
- NUFF REY, *Special Instructor in Guitar*
- MRS. NINA RICHARDS, *Lecturer in Biology*
B.S., The University of Akron, 1949.
- MRS. TANIA A. RICHARDS, *Lecturer in General Studies*
B.A., Wilson College, 1951.
- CHARLES C. ROGLER, *Professor Emeritus of Sociology*
B.A., M.A., University of Michigan; Ph.D., University of Kansas, 1935.
- ROBERT B. ROMWEBER, *Lecturer in Law*
B.A., The University of Akron; LL.B., University of Michigan, 1931.
- MRS. JULIET SALTMAN, *Lecturer in Sociology*
B.A., Rutgers University; M.A., University of Chicago, 1948.
- LAWRENCE SCARPITTI, *Instructor in Violin*
B.S.Ed., The University of Akron, 1954.
- JOSEPH G. SEAMON, *Lecturer in Marketing and Finance*
B.B.A., University of Michigan; LL.B., The University of Akron, 1963.

- EMMETT L. SHELLENBERGER, *Lecturer in Biology and Education*
B.A., The University of Akron; M.Ed., Kent State University, 1959.
- RICHARD RAY SHREVE, *Lecturer in Community and Technical College*
B.S., M.S., Western Illinois University; M.B.A., Western New England College, 1965.
- ROBERT E. SHUFF, *Lecturer in Law*
B.A., Heidelberg College; LL.B., Western Reserve University, 1943.
- ROBERT L. SMITH, *Lecturer in Economics*
B.A., M.A., Oberlin College, 1934.
- MRS. SHIRLEY SCHLEY SMITH, *Lecturer in General Studies*
B.A., The University of Akron; M.A., The Ohio State University, 1963.
- RONALD G. SNIDER, *Lecturer in English*
B.A., M.A., The University of Akron, 1954.
- MARION BROWN STROUD, *Lecturer in Education*
B.S., The University of Akron; M.A., Kent State University, 1964.
- LYNDON BLAINE TEWSKBURY, *Instructor in the Community and Technical College*
B.S., Yale University; Ph.D., Sheffield Scientific School, 1941.
- DALE THOMPSON, *Lecturer in Mechanical Engineering*
M.S., The University of Akron, 1965.
- FRANKLIN V. THOMPSON, JR., *Lecturer in Industrial Management*
B.S., The University of Akron; M.B.A., Western Reserve University, 1960.
- GERALD EUGENE THORNE, *Lecturer in the Community and Technical College*
B.A., Barrington College, 1957.
- ROBERT VAN HOUTEN, *Lecturer in General Business*
B.S., Trinity University, 1953.
- CARL W. VOBBE, *Lecturer in Industrial Management*
B.B.A., University of Toledo, 1932.
- MRS. RUTH WAICKMAN, *Lecturer in Physical Education*
M.S., The University of Akron, 1959.
- MRS. CHARLENE WEBER, *Lecturer in Education*
B.S., The University of Akron, 1953.
- EDITH KATZ WEINSTEIN, *Lecturer in General Studies* (1966)
B.A., The University of Akron, 1951.
- ILSE H. WHITE, *Lecturer in Modern Languages*
Diploma in French, University of Berlin; B.E., The University of Akron, 1966.
- NELLIE WHITTAKER, *Special Instructor in Piano*
B.R., M.Ed., The University of Akron, 1935; Juilliard School of Music.
- RICHARD LEE WILLIAMS, *Special Instructor in Music*
The University of Akron.
- WILLIAM E. WILLIAMS, *Lecturer in Transportation*
Rate Analyst for Goodyear Tire & Rubber Co.
- HAROLD E. WILSON, *Lecturer in Education*
B.S., M.S., Ph.D., The Ohio State University, 1964.
- A. WILLIAM ZAVARELLO, *Lecturer in the Community and Technical College*
B.A., LL.B., The University of Akron, 1964.
- DAVID W. ZIMMER, *Lecturer in General Studies*
B.S., M.A., The Ohio State University, 1962.

TEACHING FACULTY BY DEPARTMENTS

ACCOUNTING

Head: Professor Charles F. Nagy; *Professor:* Dennis Gordon; *Associate Professors:* Orville R. Keister, Jr., Mary Vernon Slusher; *Assistant Professors:* Frances Clark, Richard J. Poland, Richard S. Roberts; *Lecturers:* W. E. Copeland, Joseph DiLauro, Neil B. Greene.

ART

Head: Professor Emily Davis; *Associate Professors:* Irving Archon, Malcolm J. Dashiell, Bernard M. Weiner; *Assistant Professor:* Ronald Taylor; *Instructor:* Walter Fleisher; *Lecturers:* Robert L. Gulian, Catherine M. Mangold, Janet Ostrov.

ASSOCIATE PROGRAMS

Head: Professor A. E. Misko; *Associate Professors:* Michael Bezbatchenko, Mrs. Audra Tenney Tucker; *Assistant Professors:* Charles V. Blair, Robert E. Collins, William Fleming, Mary Jean Johnston, Joseph Latona, John Pizor, Max M. Rule, Blin B. Scatterday, Robert C. Weyrick; *Instructors:* Richard A. Calkins, Donald M. Davis, David T. Dolan, Harold L. Edwards, Robert S. Hathaway, James E. Inman, Mrs. Janice Jensen, Mrs. Mary Keith, Herbert S. Kennedy, Mrs. Lillian King, Sylvia V. Meyers, Carl Monastra, John B. Monroe, Charles T. Salem, Richard Ray Shreve, James D. Sweitzer, David Theusch, Milton A. Wales, Joan E. Warner; *Lecturers:* William Macy Angell, Rose Bhakum, Mrs. Barbara Gsellman, Charles C. Hargis, Thomas William Kimmins, Mrs. Beatrice Laatsch, David John Lemmicke, John Richard McCarty, H. Joan McGeary, Edward W. McGraw, Elaine Mysock, Mrs. Betty J. Oblisk, George Pescan, Mrs. Minnie C. Pritchard, Lyndon Blaine Tewksbury, Gerald Eugene Thorne, William E. Williams, A. W. Zavarillo.

BIOLOGY

Head: Associate Professor Roger F. Keller, Jr.; *Professor Emeritus:* Paul Acquarone; *Associate Professors:* Eugene Flaumenhaft, Warren P. Stoutamire; *Assistant Professors:* Irene Horning, Dale L. Jackson, Richard F. Nokes; *Instructor:* Scott D. Hagen; *Lecturers:* Katherine K. Hiltabidle, Mrs. Nina Richards, Emmett L. Shellenberger.

CHEMISTRY

Head: Professor John Bachmann; *Professors:* Vaughn Floutz, Ian R. MacGregor, Donald McIntyre, Maurice Morton, Thomas Sumner; *Associate Professors:* Gerald Corsaro, Paul D. Garn, H. James Harwood, Alan F. Krivis, Howard Stephens; *Assistant Professors:* Michael F. Farona, John E. Frederick, John J. Houser, William G. Kofron, Henry A. Kuska, Brian G. Ramsey; *Instructor:* Mrs. Irja Piirma; *Lecturer:* Roger A. Crawford.

CLASSICS

Head: Professor Theodore Duke; *Assistant Professor:* Robert C. McNeil.

ECONOMICS

Head: Professor Emile Grunberg; *Associate Professor:* Robert R. Black; *Assistant Professors:* James McLain, Mrs. Annette K. Seery; *Instructors:* L. F. Anderson, Ali Fatemi; *Lecturer:* Robert L. Smith.

EDUCATION—ADMINISTRATION AND STUDENT PERSONNEL SERVICES

Head: Distinguished Professor Mabel Riedinger; *Associate Professors:* James E. Doverspike, Kenneth C. Hoedt, John P. Williams; *Assistant Professors:* Robert Brumbaugh, Robert H. Myers, Sarah Orloff; *Lecturers:* Leon Morris Friedman, Janko P. Kovacevich, Ronald Arthur Niederhurber, Harold E. Wilson.

EDUCATION—ELEMENTARY

Head: Associate Professor Robert E. Ferguson; *Professor Emeritus:* Mrs. Helen Painter; *Associate Professors:* Helen Becker, William H. Beisel, Jr., Marjorie M. Cann, Jerrold Maben, Maurice G. Williams; *Instructors:* Mrs. Gertrude Badger, C. Robert Blankenship, Mrs. Pearlmarie Whitford; *Lecturers:* Mrs. Edna L. Archer, Rose Mary Kraus, Mrs. Charlene Weber.

EDUCATION—PHYSICAL

Head: Professor Kenneth Cochrane; *Associate Professor:* Gordon Larson; *Assistant Professors:* Thomas W. Evans, James Ewers, Anthony S. Laterza, Wilma Ruman; *Instructors:* James L. Dennison, James Herbstreit, Mrs. Patricia Taylor, Geraldine A. Walklet, John A. Lahoski; *Lecturers:* Ambrose Brazelton, G. J. DeSantis, Walter C. Lipps, Mrs. Ruth Waickman.

EDUCATION—SECONDARY

Head: Professor John Watt; *Professors:* H. K. Barker, D. J. Guzzetta; *Associate Professors:* Alfred H. Johnson, Dick L. Rich; *Assistant Professors:* Oliver Ocasek, Isobel Pfeiffer, William A. Rogers, Charles L. Wood; *Lecturer:* Vincent Biondo.

ENGINEERING—CHEMICAL

Head: Professor Coleman J. Major; *Professor:* Michael J. Rzasa; *Associate Professor:* Robert W. Roberts; *Assistant Professors:* Glenn A. Atwood, Howard L. Greene.

ENGINEERING—CIVIL

Head: Professor Andrew L. Simon; *Professor:* D. G. Fertis; *Associate Professor:* Alvin M. Richards, Jr.; *Assistant Professors:* Romeo E. Cartier, George P. Manos, Gabor S. Szava-Kovats; *Lecturer:* John F. Harvey.

ENGINEERING—ELECTRICAL

Head: Professor Kenneth F. Sibila; *Professor:* Paul O. Huss; *Associate Professors:* Donald R. Burrowbridge, Joseph A. Edminister, Robert Grumbach, Milton L. Kult; *Lecturers:* Edwin R. Rader, Thomas A. Martin, Edward McGraw.

ENGINEERING—MECHANICAL

Head: Professor Robert N. Collins; *Professor:* William M. Petry; *Assistant Professors:* Thomas M. Brittain, Eberhard A. Meinecke; *Instructor:* Richard Henry; *Lecturers:* Frank A. Pake, John Harvey, Dale Thompkins.

ENGLISH

Head: Distinguished Professor Charles Duffy; *Professors:* Don A. Keister, Frank T. Phipps, Robert E. Thackaberry; *Associate Professors:* Gerald H. Levin, John S. Phillipson, William J. Stevens; *Assistant Professors:* Robert L. Dial, Dale Doepke, Mrs. Julia Hull, David J. Jones, Robert Merrixx, Edward A. Paul, Mrs. Helen S. Thackaberry; *Instructors:* Mrs. Sue Beckham, Philip H. Berns, Peter Desy, William A. C. Francis, Mrs. Marlene Hathaway, Martha Hosfelt, John Hull, Sally Kennedy, Walter Lehrman, John Lotz, Mrs. D'Orsay Pearson, William Stoner, Robert Sweitzer, II, Mrs. Cathryn Taliafferro; *Lecturers:* Halleck D. Fry, Jr., Mrs. Rosalind Irish, Jane Jarema, Phyllis Paul, Ronald G. Snider.

GEOGRAPHY AND GEOLOGY

Head: Associate Professor Allen G. Noble; *Associate Professors:* Edward W. Hanten, Paul Wingard; *Assistant Professor:* James W. Tectter; *Instructors:* John Mulhauser, Grace L. Powell; *Lecturers:* John C. Lewis, Thomas Lee Nash.

GENERAL STUDIES

Head: Professor Don A. Keister; *Professors:* James F. Dunlap, Frank Phipps, Thomas Sumner; *Associate Professors:* John Lindquist, Dave Riede; *Assistant Professors:* Andrew Maluke, Sarah Orlinoff; *Instructors:* Lester James Bilsky, Scott D. Hagen; *Lecturers:* Eugene Benedict, Edward Butler, Nathan F. Cardarelli, Stanley R. Dengler, Richard Doran, Mrs. Judith Ann Flasco, James Ralph Floyd, Mrs. Cecilia R. Gross, Agnes M. Helms, Mrs. Barbara Hiney, Mrs. Mary J. Kaufman, Carol Ann Messner, Albert Miller, Mary Monstenic, Vernon L. Odom, D'Orsay Pearson, A. E. Pocock, Mrs. Tania A. Richards, Mrs. Shirley Schley Smith, Margaret Viland, Mrs. Edith K. Weistein, David W. Zimmer.

HISTORY

Head: Professor Warren F. Kuehl; *Professor:* George W. Knepper; *Associate Professors:* Boris Blick, Don R. Gerlach, David C. Riede, Howard Reinmuth, Jr., Henry S. Vyverberg; *Assistant Professors:* Jerome Mushkat, Paul Silver; *Instructor:* Lester James Bilsky; *Lecturer:* Mrs. Tivila Linvelli.

HOME ECONOMICS

Head: Professor Irene C. Bear; *Assistant Professors:* Dorothy Laubacher, Mary H. Wilson; *Instructor:* Mrs. Johanna Mally.

INDUSTRIAL MANAGEMENT

Head: Professor Frank Simonetti; *Professor:* Thomas W. Sharkey; *Associate Professors:* Herbert C. Hayward, Howard L. Taylor; *Assistant Professor:* Donald Becker; *Instructor:* Frank Slaby, Jr.; *Lecturers:* Franklin V. Thompson, Carl W. Vobbe.

LAW

Dean: Professor Stanley A. Samad; *Associate Professors:* James G. France, Robert Koback, Marvin M. Moore, Arthur G. Murphey, Jr.; *Assistant Professors:* Mrs. Gertrude Johnson, Richard C. Marshall, Robert J. Willey; *Lecturers:* James C. France, J. William Freeman, Samuel Goldman, Harold Holshuh, John M. Kelly, Frances McGovern, Charles D. Parke, Evan Reed, Robert Romweber.

MARKETING AND FINANCE

Head: Professor Charles F. Poston; *Professor:* Richard C. Reidenbach; *Associate Professors:* James W. Dunlap, Frederick A. Manzara; *Assistant Professors:* J. L. Debreccgim, Reginald A. Graham, Donald M. Jenkins, Margaret F. Rogler; *Instructor:* Jim L. Grimm; *Lecturers:* Paul Dunham, Bart Jacob Epstein, R. Bardwell Heavens, Robert Vincent Manson, Robert D. San-Houten, Joseph G. Seamon.

MATHEMATICS

Head: Distinguished Professor Samuel Shelby; *Professors:* Ernest H. Cherrington, Jr., William Beyer; *Associate Professors:* Robert C. Carson, Louis D. Redabaugh, Louis Ross; *Assistant Professors:* Ernest A. Kuehls, Leonard Sweet, George L. Szoke; *Instructor:* Bernard J. Cohen; *Lecturer:* Arthur Hallam.

MODERN LANGUAGES

Head: Professor Arno K. Lepke; *Professor:* Chris N. Nacci; *Associate Professors:* Hugo Lijeron, Theodore Mackiw, Claude Y. Meade, Herbert W. Smith; *Instructors:* Arlette Elefant, Christine Golz, Janice Meikle, Arnold Mortensen, Donald B. Rice, Colleen Sanford, Philip Stuyvesant, Mrs. Janet Waisbrot, Hans Zbinden; *Lecturers:* Joan Patricia French, Donald Hanlon, Mrs. Janet Lijeron, Kriemhild Livingston, Mrs. Juliette Parenti, Ilse H. White.

MUSIC

Head: Professor Farley K. Hutchins; *Professor:* Andrew Galos; *Associate Professors:* John A. MacDonald, Henry P. Smith; *Assistant Professors:* Alice M. Flaksman, Burt K. Kageff, Darrel E. Witters; *Special Instructors:* Edward Anderson, Frank Bradshaw, Robert B. Cole, Nicolas Constantinidis, Raymond R. DeMattia, Mrs. Anita Exline, Harry Best Herforth, James Kalal, Clarence Lightfritz, William J. Long, Milton Nelson, Mrs. Ruth Nurmi, Robert Paolucci, Judith Pyett, Arthur Reginald, Mrs. Grace Reginald, Nuff Rey, Lawrence Scarpitti, Nellie Whittaker.

NURSING

Head: Professor Estelle Naes; *Associate Professor:* Evelyn M. Tovey; *Lecturer:* Kathryn Homcier.

PHILOSOPHY

Head: Associate Professor James B. Wilbur, III; *Assistant Professors:* Marvin Katz, Bernd Magnus, David Rayfield; *Instructor:* Richard LaCroix; *Lecturer:* Gordon Butler McKeeman.

PHYSICS

Head: Professor Charles Wilson, III; *Distinguished Professor:* Ernest R. Thackeray; *Professor:* Alan N. Gent; *Associate Professors:* Harry T. Pinnick, Ronald E. Schneider; *Assistant Professor:* Nicholas C. Hilyard; *Lecturer:* B. H. Burzlaff.

POLITICAL SCIENCE

Head: Professor Paul A. Weidner; *Professors:* Norman P. Auburn, Roy V. Sherman; *Assistant Professors:* Mrs. Bette Daneman Fox, Roger A. Kvam; *Instructors:* Vernon Cook, D. Gareth Porter.

PSYCHOLOGY

Interim Head: Associate Professor John A. Poppstone; *Professors:* Howard Maher, Paul E. Twining; *Associate Professors:* Peter Hampton, Erich P. Prien, Margaret J. Smith, Edwin E. Wagner; *Assistant Professors:* James W. Dees, Henry Rosenquist; *Instructor:* Francis J. Werner; *Lecturers:* Gerald Barrett, Mrs. Faye Dambrot, James R. Hodge, M.D., Mrs. Marion McPherson.

SOCIOLOGY

Head: Professor Edwin L. Lively; *Professor Emeritus:* Charles C. Rogler; *Professor:* Norman F. Washburne; *Associate Professors:* Charles Barresi, John H. Lindquist, Samuel C. Newman, George Tomashevich; *Assistant Professors:* Carl Bersani, Melvin Brownstein; *Instructor:* Sharon Raphael; *Lecturers:* William Anthony Burian, William Kannell, Ronald W. Lotz, Vernon L. Odom, Mrs. Juliet Saltman.

SPEECH

Head: Professor Ray H. Sandefur; *Professor:* James F. Dunlap; *Associate Professors:* John T. Auston, Allan J. Heffler, Elizabeth J. Hittle, Donald S. Varian; *Assistant Professors:* Evelyn Baer, Mrs. Phillis Hardenstein, Ruth B. Lewis, Wallace Sterling; *Instructors:* Paul A. Daum, Mrs. Charlotte Essner, William Mavrides; *Lecturers:* Kay Arlene Archer, Mrs. S. Bonnie Hankammer, Dorothy Levering Kist, Albert Miller, Judith Petric, Mrs. Phyllis Weinstein.

LIBRARY STAFF 1966-67

- H. P. SCHRANK, JR., *University Librarian and Assistant Professor of Bibliography* (January 1965)
B.S., Ohio University; M.S., University of Illinois, 1963.
- MRS. HELEN ARNETT, *Education Librarian and Assistant Professor of Bibliography* (1953)
B.A., The University of Akron; B.S.L.S., Western Reserve University; M.A., San Jose State College (Cal.); Ph.D., Western Reserve University, 1965.
- MRS. BARBARA CLARK, *Cataloger* (1948)
B.S., The University of Akron, 1950.
- MRS. RUTH CLINEFELTER, *Social Sciences Librarian and Assistant Professor of Bibliography* (June 1952)
B.A., M.A., The University of Akron; M.A.L.S., Kent State University, 1956.
- MRS. CARRIE A. FRANKS, *Librarian for the Division of Rubber Chemistry Library and Information Services* (August 1964)
B.A., Western Reserve University, 1963.
- PAULINE FRANKS, *Assistant Librarian and Assistant Professor of Bibliography* (1950)
B.S.Ed., Kent State University; B.S.L.S., Western Reserve University, 1940.
- LOUIS R. FROMMEYER, *Head of Technical Processes and Instructor in Bibliography* (August 1966)
B.A., The Athenaeum of Ohio; M.S.L.S., Western Reserve University, 1965.
- VIRGINIA GARDNER, *Documents Librarian* (March 1961)
B.A., The University of Akron, 1953.
- DOROTHY HAMLIN, *Director of University Archives and Professor of Bibliography* (February 1937)
B.A., The University of Akron; B.S.L.S., Western Reserve University, 1942.
- MARY GRACE HARRINGTON, *Business Administration Librarian and Assistant Professor of Bibliography* (November 1960)
B.A., The University of Akron; B.A.L.S., University of Michigan, 1939.
- MRS. AGNES L. MARTIN, *Acting Head of Cataloging and Assistant Professor of Bibliography* (September 1962)
B.A., Ohio Wesleyan University; B.S.L.S., University of Illinois, 1929.
- MRS. LOIS MYERS, *Humanities Librarian and Assistant Professor of Bibliography* (1946)
B.A., Wittenberg University; B.S.L.S., Carnegie Institute of Technology, 1939.
- JACK W. NEELY, *Cataloger in University Library* (July 1966)
B.A., The Ohio State University; M.A., Kent State University, 1955.
- MRS. HELEN THORNBERG, *Head of Acquisitions and Assistant Professor of Bibliography* (1959)
B.A., College of William and Mary; M.S.L.S., Western Reserve University, 1959.
- OLGA YOGMOUR, *Science and Technology Librarian and Instructor in Bibliography* (September 1961)
B.A., The University of Akron; M.S.L.S., Western Reserve University, 1962.

RESERVE OFFICERS' TRAINING CORPS

DR. ARTHUR BRINTNALL, *Dean of Administration, Civilian Coordinator*

1966-67

ARMY

- JONAS A. VILHAUER, *Professor of Military Science* (August 1965)
B.A., University of South Dakota, 1938; Graduate of the Command and General Staff College, 1951; Officers Advance Course, Infantry School, 1948; Colonel, Infantry.
- MARVIN A. BIHN, *Assistant Professor of Military Science* (October 1964)
B.S.Bus., Bowling Green State University, 1958; Captain, Artillery.

NOTE: The dates in parentheses indicate the beginning of service at The University of Akron; unless otherwise stated, service began in the month of September.

- JOSEPH K. BROWN, *Assistant Professor of Military Science* (1966)
B.S.Eng., U.S. Military Academy, 1958; Captain.
- PHILIP L. CLARK, *Assistant Professor of Military Science* (August 1964)
B.S.Ed., Northwestern State College, 1950; M.S.Ed., Lady of Lake San Antonio College, 1961;
Lieutenant Colonel, Quartermaster Corps.
- LARRY G. HALL, *Administrative Clerk* (October 1964)
Specialist 5.
- JAMES M. HALLINAN, JR., *Assistant Professor of Military Science* (August 1966)
B.S., John Carroll University, 1956; Major.
- BERNEL JONES, *Assistant Professor of Military Science* (1966)
B.G.E., Municipal University of Omaha, 1962; Major.
- CLARENCE E. METZ, *Assistant Professor of Military Science* (August 1963)
B.A., Morris Harvey College, 1955; Lieutenant Colonel, Quartermaster Corps.
- VERN O. PETERS, *NCOIC* (June 1966)
SM 6.
- EDWIN W. PIBURN, *Assistant Professor of Military Science* (1966)
B.A., University of Alabama, 1943; Major.
- FRANCIS E. THOMPSON, *Instructor in Military Science* (January 1965)
Staff Sergeant.
- JOHN E. TUBBE, *Instructor in Military Science* (January 1965)
Master Sergeant.
- RALPH E. WILLIAMS, JR., *Administrative NCO* (1966)
Staff Sergeant.
- THOMAS A. WILLIAMS, JR., *Supply Sergeant* (1966)
Staff Sergeant.

AIR FORCE

- LESLIE H. HENDRICKSON, JR., *Professor of Aerospace Studies* (August 1965)
B.S., United States Military Academy, West Point, 1944; Lieutenant Colonel, USAF.
- JAMES H. BRENNAN, *Assistant Professor of Aerospace Studies* (June 1966)
B.S., University of Denver, 1954; Major, USAF.
- RICHARD W. FLATER, *Personnel Specialist* (October 1962)
Staff Sergeant, USAF.
- DAVID A. LEPARD, *Assistant Professor of Aerospace Studies* (June 1966)
B.A., University of Buffalo, 1959; Captain, USAF.
- JERRY W. LIVINGSTON, *Administrative Specialist* (June 1966)
Airman First Class, USAF.
- FRANCIS J. MACALUSH, *Personnel Technician* (July 1965)
Technical Sergeant, USAF.
- WAYNE G. MURRAY, *Assistant Professor of Aerospace Studies* (June 1965)
B.S., B.A., Indiana University, 1954; Captain, USAF.
- CHARLES G. NOE, *Assistant Professor of Aerospace Studies* (April 1963)
B.S., Ohio University, 1956; Captain, USAF.
- ALTON F. SMITH, *Administrative Supervisor* (February 1964)
Technical Sergeant, USAF.
- LESLIE O. STARNES, *Supply Sergeant* (November 1964)
Master Sergeant, USAF.
- LEON J. TESTAS, JR., *Assistant Professor of Aerospace Studies* (April 1963)
B.S., Davis & Elkins College, 1957; Captain, USAF.
- SAMUEL J. VENTURINO, *Administrative Specialist* (October 1966)
Staff Sergeant, USAF.

CENTER FOR INFORMATION SERVICES

- PANOS KOKOROPOULOS, *Director* (1965)
B.S., University of Thessaloniki (Greece); M.S., University of Dayton, 1964.
- MAGDA ABDEL LATIF, *Assistant Literature Chemist* (May 1966)
B.S., Alexandria University, 1961.
- EILEEN K. AMBLAND, *Literature Specialist* (October 1965)
B.S., University of Manitoba (Canada), 1941.
- JOYCE E. BROWN, *Literature Chemist* (January 1966)
B.A., Bowling Green State University, 1964.
- DIANA M. DANKO, *Senior Literature Chemist* (January 1966)
B.S., Heidelberg College, 1947.
- SEBASTIAN V. KANAKKANATT, *Senior Literature Chemist* (July 1965)
B.S., University of Madras (India); M.S., The University of Akron, 1966.
- DEANNA I. MORROW, *Literature Chemist-Editor* (April 1966)
B.A., University of Saskatchewan (Canada), 1962.
- JOSHUA L. SMITH, *Literature Specialist* (May 1965)
B.S., Central State University, 1963.
- EDGAR E. STONE, JR., *Literature Specialist* (October 1965)
B.S., Kent State University, 1955.

INSTITUTE OF POLYMER SCIENCE

1966-67

- MAURICE MORTON, *Director of the Institute of Polymer Science and Professor of Polymer Chemistry* (October 1948)
B.S., Ph.D., McGill University, 1945.
- G. STAFFORD WHITBY, *Consultant on Rubber Research and Professor Emeritus of Rubber Chemistry* (1942)
A.R.C.Sc., B.S., University of London; M.S., Ph.D., D.Sc., McGill University; LL.D., Mount Allison University, New Brunswick; D.Sc., The University of Akron, 1958.
- JOHN E. FREDERICK, *Research Associate and Assistant Professor of Chemistry* (1966)
B.S., Glenville State College; Ph.D., University of Wisconsin, 1964.
- ALAN N. GENT, *Assistant Director of the Institute of Polymer Science and Professor of Polymer Physics* (April 1961)
B.S., Ph.D., University of London, 1955.
- H. JAMES HARWOOD, *Research Associate and Associate Professor of Chemistry* (October 1959)
B.S., The University of Akron; Ph.D., Yale University, 1956.
- DONALD MCINTYRE, *Research Associate and Professor of Chemistry* (1966)
B.A., Lafayette College; Ph.D., Cornell University, 1953.
- EBERHARD A. MEINECKE, *Research Associate and Assistant Professor of Mechanical Engineering* (October 1963)
D.Eng., Institute of Technology (Braunschweig, Germany), 1960.
- MRS. IRJA PIIRMA, *Research Associate and Instructor in Chemistry* (December 1952)
Diploma in Chemistry, Technische Hochschule of Darmstadt; M.S., Ph.D., The University of Akron, 1960.
- HOWARD L. STEPHENS, *Manager of Applied Research and Associate Professor of Chemistry* (1950)
B.S., M.S., Ph.D., The University of Akron, 1960.

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- RICHARD AMBROSE, *Firestone Fellow* (1964)
B.S., Bowling Green State University, 1964.
- KENNETH C. BENTON, *Research Fellow* (1963)
B.S., Worcester Polytechnic Institute, 1963.

- DOUGLAS BIRD, *Research Chemist* (1964)
B.S., M.S., Manchester University (England), 1954.
- RONALD E. BOCKRATH, *Research Chemist* (1966)
B.S., Bowling Green State University, 1966.
- ALFREDO G. CAUSA, *Phillips Fellow* (1964)
B.S., School of Chemistry, Montevideo; M.S., Case Institute of Technology, 1962.
- JEAN-MICHEL CHARRIER, *Research Fellow* (1965)
Diplome d'Ingenieur, Ecole Nationale Superieure d'Ingenieurs Arts et Metiers (Paris), 1965.
- RONALD L. DENECOUR, *Cabot Fellow* (1966)
B.S.Ch.E., Lawrence Institute of Technology; M.S., The University of Akron, 1966.
- GERALD R. DEVER, *Research Fellow* (1964)
B.A., American International College, 1964.
- LEONG MING GAN, *Research Fellow*
B.S., Nanyang University; M.S., The University of Akron, 1964.
- LAWRENCE J. GUILBAULT, *Sohio Fellow* (1966)
B.S., Kansas State University, 1964.
- JAMES C. HEALY, *Research Fellow* (August 1965)
B.S., University of Wisconsin; M.S., The University of Akron, 1960.
- ARNOLD W. HENRY, *Columbian Carbon Fellow* (1964)
B.Ch.E., Cornell University; M.S.Eng., Princeton University, 1962.
- HIROSHI HIRAKAWA, *Research Fellow* (1964)
M.S., Tokyo Institute of Technology, 1964.
- FRANTISEK HRABAK, *Visiting Foreign Scientist* (1966)
Ph.D., Technical University (Prague), 1950.
- NORMAN JOHNSTON, *Sohio Fellow* (1964)
B.S., Clarion State College, 1964.
- PETER C. JULIANO, *Research Chemist* (1965)
B.S., St. Vincent College; M.S., West Virginia University, 1965.
- JAMES G. KREINER, *Research Fellow* (1964)
B.S., M.S., The University of Akron, 1962.
- JAMES E. McGRATH, *Research Chemist* (1965)
B.S., St. Bernardine of Siena College; M.S., The University of Akron, 1964.
- RICHARD J. MURPHY, *Research Chemist* (1966)
Associateship, National College of Rubber Technology (London), 1966.
- DANIEL L. NEUMANN, *Union Carbide Fellow* (1966)
B.S., Purdue University, 1966.
- ROBERT P. PETRICH, *Research Fellow* (1966)
B.S., M.S., Massachusetts Institute of Technology, 1964.
- ROBERT A. PETT, *Postdoctoral Fellow* (1962)
B.S., South Dakota School of Mines and Technology; Ph.D., The University of Akron, 1965.
- NORMA K. PURYEAR, *Research Fellow* (1966)
B.S., The University of Akron, 1966.
- THOMAS F. REED, *Research Chemist* (1966)
B.S.Ch.E., State University of Iowa, 1959; M.S., The University of Akron, 1965.
- NICHOLAS A. ROUNDS, *Research Chemist* (1966)
B.Ch.E., University of Cincinnati, 1966.
- NANCY L. RUSSELL, *Research Chemist* (1966)
B.S., University of Wisconsin, 1960.
- RONALD D. SANDERSON, *General Tire Fellow* (1966)
B.Sc. (Hons.), University of Cape Town (South Africa), 1965.
- ANTHONY SCHEIBELHOFFER, *DuPont Fellow* (1966)
B.S., Ohio University, 1962.
- FREDERICK C. SCHWAB, *Research Fellow* (1966)
B.S.Ch.E., Fenn College, 1961; M.S., Union College (Schenectady), 1966.

CHARLES PHILIP SHANK, *Union Carbide Fellow* (1965)

B.S., M.S., University of Dayton, 1965.

DALE A. TOMPKINS, *Research Fellow* (1966)

B.S.M.E., Pennsylvania State University; M.S.E., The University of Akron, 1965.

JAMES C. WEST, *Bancroft W. Henderson Fellow* (1966)

B.S., Marietta College, 1960; M.S., The University of Akron, 1966.

INSTITUTE FOR CIVIC EDUCATION

CHARLES V. BLAIR, *Director of the Institute for Civic Education and Assistant Professor in the Community and Technical College* (April 1959)

B.A., M.A., The University of Akron, 1963.

RICHARD A. CALKINS, *Assistant Director of the Institute for Civic Education, Instructor in the Community and Technical College and Foreign Student Adviser* (1964)

B.A., Westminster College (Pa.), 1961.

MRS. MARY ELIZABETH CHESROWN, *Assistant to the Director of the Institute for Civic Education* (May 1965)

B.A., The University of Akron, 1949.

CENTER FOR URBAN STUDIES

EDWARD W. HANTEN, *Associate Professor of Geography and Director of the Center for Urban Studies* (1963)

B.A., Earlham College; M.A., Ph.D., University of Pittsburgh, 1962.

JOHN W. TELESKA, *Research Assistant in the Center for Urban Studies* (August 1966)

B.S., Mount Union College, 1958.

SPEECH AND HEARING CLINIC

ELIZABETH J. HITTLE, *Director of the Speech and Hearing Clinic and Associate Professor of Speech* (1950)

B.S.Ed., The University of Akron; M.A., Kent State University, 1949; Ed.D., Western Reserve University, 1963.

EVELYN BAER, *Assistant Professor of Speech* (1966)

B.A., University of Chicago; M.A., The University of Akron, 1948.

CHARLOTTE ESSNER, *Supervisor of Clinic and Instructor in Speech* (1965)

B.A., Hunter College; M.A., The University of Akron, 1964.

ALLAN J. HEFFLER, *Associate Professor of Speech* (1965)

B.S.Ed., Edinboro State Teachers College (Pa.); M.A., Ph.D., Western Reserve University, 1960.

RAY H. SANDEFUR, *Professor of Speech and Head of the Department* (1950)

B.A., B.S.Ed., Emporia State Teachers College; M.A., University of Colorado; Ph.D., State University of Iowa, 1950.

TESTING AND COUNSELING BUREAU

PETER J. HAMPTON, *Director-Counselor and Associate Professor of Psychology* (August 1954)

B.A., M.A., University of Manitoba; Ph.D., Western Reserve University, 1950.

THOMAS O. BROWN, *Assistant Director—Counselor and Instructor in Education* (July 1964)

B.S., M.Ed., Mississippi State University; University of Missouri, 1958.

MRS. PHYLLIS PAUL, *Counselor* (July 1955)

B.A., The University of Akron; M.A., Western Reserve University, 1937.

FRANCIS J. WERNER, *Counselor and Instructor in Psychology* (August 1950)

B.A., M.A., The University of Akron, 1952.

UNIVERSITY HEALTH SERVICE

RAYMOND S. FEDERMAN, M.D., *Senior University Physician* (1963)

B.S., The University of Akron; M.D., The Ohio State University, 1959.

- DR. GENEVIEVE DREWS, *University Physician* (1966)
M.D., University of Colorado Medical School, 1961.
- MRS. EMMA HENRY, R.M., *Head University Nurse* (1935) (1950) (1959)
Akron City Hospital, 1931.
- MRS. MARGUERITE MYERS, *University Nurse* (1966)
R.N., Akron City Hospital, 1935.
- MRS. LORETTA ROOTS, *University Nurse* (1966)
R.N., Akron City Hospital, 1942.

PRESIDENTS OF BUCHEL COLLEGE

- | | |
|---|-----------|
| *S. H. McCollester, D.D., Litt.D. | 1872-1878 |
| *E. L. Rexford, D.D. | 1878-1880 |
| *Orello Cone, D.D. | 1880-1896 |
| *Charles M. Knight, D.Sc. (ad interim) | 1896-1897 |
| *Ira A. Priest, D.D. | 1897-1901 |
| *A. B. Church, D.D., LL.D. | 1901-1912 |
| *Parke R. Kolbe, Ph.D., LL.D. | 1913-1914 |

PRESIDENTS OF THE UNIVERSITY OF AKRON

- | | |
|--|-----------|
| *Parke R. Kolbe, Ph.D., LL.D. | 1914-1925 |
| *George F. Zook, Ph.D., LL.D. | 1925-1933 |
| *Hezleton E. Simmons, M.S., D.Sc., LL.D. | 1933-1951 |
| Norman P. Auburn, A.B., D.Sc., Litt.D., L.H.D., LL.D. | 1951- |

DEANS OF THE COLLEGES OF THE UNIVERSITY OF AKRON

THE BUCHEL COLLEGE OF LIBERAL ARTS

- | | |
|--|-----------|
| *Albert I. Spanton, M.A., Litt.D. | 1913-1938 |
| Charles Bulger, Ph.D., Litt.D. | 1938-1948 |
| Ernest H. Cherrington, Jr., Ph.D. | 1948-1960 |
| Thomas Sumner, Ph.D. | 1960-1962 |
| George Knepper, Ph.D. | 1962- |

THE COLLEGE OF ENGINEERING

- | | |
|---|-----------|
| *Frederic E. Ayer, C.E., D.Eng. | 1914-1946 |
| R. D. Landon, C.E., M.S. | 1946-1963 |
| W. M. Petry, B.S.M.E., M.S.M.E. (acting) | 1963-1964 |
| Michael J. Rzasa, B.E., M.S., Ph.D. | 1964- |

THE COLLEGE OF EDUCATION

- | | |
|---|-----------|
| *W. J. Bankes, M.A. | 1921-1931 |
| *Albert I. Spanton, M.A., Litt.D. (acting) | 1931-1933 |
| *Howard R. Evans, Ph.D. | 1933-1942 |
| Hjalmer W. Distad, Ph.D. (acting) | 1942-1944 |
| *Howard R. Evans, Ph.D. | 1944-1958 |
| D. J. Guzzetta, Ed.D. (acting) | 1958-1959 |
| Chester T. McNerney, Ph.D. | 1959-1966 |
| H. Kenneth Barker, Ph.D., (acting) | 1966- |

THE COLLEGE OF BUSINESS ADMINISTRATION

- | | |
|-----------------------------------|-----------|
| Warren W. Leigh, Ph.D. | 1953-1962 |
| Richard C. Reidenbach, Ph.D. | 1962- |

*Deceased

THE COLLEGE OF LAW

Stanley A. Samad, LL.M. 1959-

THE GRADUATE DIVISION

Charles Bulger, Ph.D., Litt.D. (Dean of Graduate Work) 1933-1951
 Ernest H. Cherrington, Jr., Ph.D. (Director of Graduate Studies) 1955-1960
 Ernest H. Cherrington, Jr., Ph.D. (Dean of the Division) 1960-

THE GENERAL COLLEGE

D. J. Guzzetta, Ed.D. 1959-1962
 Thomas Sumner, Ph.D. 1962-

THE EVENING COLLEGE

L. L. Holmes, M.A. (Director) 1927-1932
 Richard H. Schmidt, M.A. (Director) 1932-1934
 Leslie P. Hardy, M.S.Ed. (Director) 1934-1953
 E. D. Duryea, Ed.D. (Dean) 1953-1956
 D. J. Guzzetta, Ed.D. (Dean) 1956-1959
 William A. Rogers, Ed.M. (Dean) 1959-

THE COMMUNITY AND TECHNICAL COLLEGE

W. M. Petry, B.S.M.E., M.S.M.E. 1964-

CURRENT MEMBERS OF
COLLEGE ADVISORY COMMITTEES

1965-66

THE BUCHTEL COLLEGE OF LIBERAL ARTS

Mr. David B. Albright, Mr. John B. Barrett, Mr. Paul E. Belcher, Mrs. Richard Corns, Mrs. Sam DuPree, Dr. William H. Falor, Mr. Arden E. Firestone, Mr. W. Howard Fort, Mrs. Lincoln Gries, Mrs. Curtis Harwick, Mr. Alfred Herberich, Mr. Perth Killinger, Mr. Frank Knowlton, Mr. Sam McKeel, Mr. Clinton Miller.

THE COLLEGE OF ENGINEERING

Mr. D. F. Behney, Mr. Boyd Bridgwater, Mr. G. L. Bruggemeier, Mr. J. P. Craven, Mr. Russell DeYoung, Mr. E. F. Dissmeyer, Mr. Thomas A. Knowles, Mr. Wendell R. LaDuc, Mr. Vern Oldham, Mr. C. A. Palmer, Mr. William R. Ruhlin, Mr. Ward Sigler, Mr. L. E. Soderquist, Mr. Francis Stafford, Mr. Ernest S. Theiss.

THE COLLEGE OF EDUCATION

Mrs. C. D. Barrett, Dr. Sarah Caldwell, Mr. T. D. Calvin, Miss Ruth Courtney, Mr. Clarence W. Cox, Dr. Martin Essex, Mr. Donald R. Fair, Mr. Ralph Gillman, Mr. Charles Hazlett, Mr. Allen E. Howland, Mr. Vincent Johnson, Mrs. Donald Minnig, Mr. T. O. Morgan, Mr. W. S. Parry, Dr. Harold Wilson.

THE COLLEGE OF BUSINESS ADMINISTRATION

Mr. F. J. Carter, Mr. David C. Corbin, Mr. George Daverio, Mr. John L. Feudner, Jr., Mr. John N. Hart, Mr. Jerome J. Kaufman, Mr. J. W. Keener, Jr., Mr. Clarence Kelley, Mr. Hesketh H. Kuhn, Mr. Joseph A. Meek, Mr. M. G. O'Neil, Mr. Harland E. Paige, Mr. M. S. Richardson, Mr. E. D. Warner, Mr. William M. Williams, Jr.

THE COLLEGE OF LAW

The University of Akron College of Law Committee of the Akron Bar Association serves as the Advisory Committee to the College of Law. Members are: Mr. Charles Sacks, Chairman; Mr.

James V. Barbuto, Mr. Bruce W. Bierce, Mr. Henry S. Brainard, Mr. Evan B. Brewster, Mr. Allan B. Diefenbach, Oscar A. Hunsicker, Jr., Mr. D. Don Lowers, Mr. C. Blake McDowell, Jr., Mr. Raymond J. McGowan, Mr. Robert H. Maxson, Jr., Mr. Andrew Michaels, *Ex-Officio*; Mr. James Olds, Sr., Mr. Vernon G. Parker, Mr. Charles E. Pierson, Judge Theodore R. Price, Mr. John R. Quine, Judge J. P. Riddle, R. W. Shaffer, Mrs. L. Ruth Rundle Weaver, Mr. David H. Wilson.

THE GRADUATE DIVISION

Dr. Glen Alliger, Dr. Karl Arnstein, Mr. E. A. Brittenham, Mr. Raymond Brown, Dr. James D. D'anni, Dr. John E. Hartzler, Miss Virginia Lloyd, Dr. John Morley, Mr. H. H. Poor, Mr. George Ruggles, Mr. William Scull, Mr. Frank Steere, Jr., Dr. Guido H. Stempel, Dr. Franklin Strain, Dr. Rex H. Wilson.

THE EVENING COLLEGE

Mr. E. S. Babcox, Mr. Stanton H. Brightman, Mr. Arthur Brintnall, Mr. Ray Campbell, Mr. Chester Conner, Mr. Robert Crane, Mr. Ralph L. Hanna, Mr. K. A. Johns, Mrs. George Leonard, Mrs. Fred Nimmer, Mr. Owen O. Orr, Mrs. Z. C. Oseland, Jr., Judge Thomas Powers, Mr. John Scherba, Mr. Phillip Young.

THE COMMUNITY AND TECHNICAL COLLEGE

Mr. George W. Brittain, Mr. R. A. Brownsword, Mr. M. A. Freundberg, Mr. H. R. Guy, Mr. Robert Kidney, Mr. Harold P. Lamb, Dr. Joseph S. Lichty, Mr. D. Bruce Mansfield, Mr. Don W. McClelland, Mr. P. W. Perdriau, Mr. F. B. Pyle, Mr. Bruce M. Robertson, Mr. Clark Sutherland, Mr. H. H. Wiedenmann, Mr. Harold Yoder.

PUBLIC SCHOOL FACULTIES COOPERATING WITH THE COLLEGE OF EDUCATION

OFFICERS OF AKRON PUBLIC SCHOOLS

Martin Essex, M.A., Ped.D., LL.D.	<i>Superintendent of Schools</i>
Wayne M. Carle, M.A.	<i>Assistant Superintendent</i>
Allen Slagle, A.B., M.A., Ph.D.	<i>Assistant Superintendent</i>
Sumner Vanica, M.A.	<i>Executive Director</i>
Lantz Hinson, M.A.Ed.	<i>Principal of Spicer School</i>

OFFICERS OF OTHER COOPERATING SCHOOLS

Ralph Gillman, M.A.	<i>Superintendent of Schools, Summit County</i>
Harold E. Wilson, Ph.D.	<i>Superintendent of Schools, Cuyahoga Falls</i>
Clarence W. Cox, M.A.	<i>Superintendent of Schools, Barberton</i>
R. M. Erwine, M.A.Ed.	<i>Executive Head, Coventry Township</i>
Ralph C. Schlott, M.A.	<i>Executive Head, Norton Township</i>

TEACHERS IN SPICER DEMONSTRATION LABORATORY SCHOOL, 1964-1965

Mrs. Olga Adams (5th Grade), Mrs. Betsy Anderson (2nd, 3rd Grade), Bobby Austin (Soc. St.), Mrs. Helen Baker (Math), Mrs. Sue Burns (6th Grade), Mrs. Mildred Collis (1st Grade), Mrs. Patricia Farley (5th, 6th Grade), Mr. William Heideman (Physical Education), Mr. Lantz Hinson (Principal), Mr. Michael Hynes (Math), Mrs. Elizabeth Kime (Home Economics), Miss Helen Kopmanson (Science), Miss Rose Mary Kraus (3rd Grade), Mr. B. Gene Leach (Social Studies), Mrs. June Martz (Music), Mrs. Marjorie Ormeroid (2nd Grade), Miss Catherine Redinger (Kindergarten), Miss Laura Roundy (1st Grade), Miss Dorothy Schorle (4th Grade).

SUPERVISING TEACHERS

SUMMER AND FALL 1964, AND SPRING 1965

Frances Abbott (Kent), Mildred Alexis (Tallmadge), Lucille Anderson (West), James Arnett (Innes), DeWitt Asher (Kent), Bruce Averell (Schumacher), Ruby Avery (Robinson), Grace

Bacher (Hatton), Aline Baclawski (Central), Evelyn Baer (Goodrich), Virginia Barbieri (Kent), Michael Barich (North), Faith Barlow (Kent), Suzanne Barnett (Goodrich), Linda Barr (Betty Jane), Elizabeth Barrow (Goodyear), Letitia Barsan (Hillcrest, Bath-Richfield), Jean Bartlett (North), Louis Bauman (Kenmore), David Becker (Goodyear), Mary Becker (Firestone Park), John Berg (Firestone Park), Dorcen Bernel (Schumacher), Vincent Biondo (Buchtel), Bruce Blake (Firestone), Julia Blalock (Leggett), Twylah Book (Barberton), Lucile Boylan (Goodyear), Herbert Bracken (Central), Sarah Bramley (Forest Hill), Ambrose Brazelton (Bryan), Robert Brigeman (East), Richard Brindley (Barberton), James Brown (Litchfield), Francis Browning (Kent), James Bruder (Central), Paul Bryant (Central), Sue Burns (Spicer), Robert Calder (Perkins), Sara Caldwell (Kent), Marion Canfora (Santrock), Lillian Cannon (Crouse), Dominic Caruso (Garfield), Eva Chambers (Betty Jane), Bernard Clark (Hyre), Eloise Clark (Litchfield), Gertrude Clement (Grace), Earl Cochran (West), Neal J. Collins (South), Anna Conti (Central), Ellen Cook (West), Donna Cooper (Margaret Park), William Copeland (Central), Catherine Copenhaver (Lincoln), Mabel Courson (Goodrich), Warren Creed (Central), Gertrude Cronin (Perkins), Patricia Cronin (Pfeiffer), Sue Cummings (Jennings), Louise Daniel (Voriss), Henry D'Avello (Lane), Hubert Davidson (Goodrich), Gabe DeSantis (Case), Elizabeth Dickinson (Litchfield), George Dillon (Cuyahoga Falls), Paul DiMascio (King), Roma Dixon (Turkeyfoot, Coventry), George Dobrin (Woodridge), Anthony Donatelli (Central, Garfield), Sue Donohue (Central), Marie Duve (Buchtel), Dorothy Edwards (Garfield), Ira Eplin (Garfield), Verna Erickson (Hyre), Nancy Ernst (Lincoln), Adda Erwine (Hatton), Glen Estes (Central), Mary Estey (Fairlawn), Betty Farnsworth (Jackson), Helen Fisher (Rankin), Anna Mae Flint (Garfield), Kay Fluke (Central), Joan French (Portage Path), Ione Friess (Portage Path), Elaine Frye (North), Marceil Fuchs (Lincoln), W. B. Garretson (Copley), Ann Gates (Central), Michael George (West), Philip Gertz (Mason), Sybil Gertz (East), Jane Gibson (Jennings), Virginia Gillooly (Perkins), Mary Givler (Norton), Mildred Glocar (Mason), Mary Goda (Hatton), Edna Golden (Case), Myra Good (Norton), Robert Goodney (Kent), Robert Gordon (Seiberling), Virginia Goson (Hyre), Myra Graham (Guinther), Sandra Gregg (Guinther), Marian Griebling (Seiberling), Patricia Grubb (Turkeyfoot), Carrie Guccio (Litchfield), Robert Gulian (Kent), Stanley Gustley (Perkins), Frances Hagemaster (Hatton), Wilda Hagen (Perkins), Eleanor Halas (Glover), Howard Halcomb (Central), Emmajean Halfhill (Seiberling), Beatrice Hall (West), Vida Hall (South), Arline Hamilton (Lane), Bonnie Hankammer (Administration Building), Donald Hanlon (Buchtel), Harold Hanna (West), Cecelia Hanson (Hotchkiss), Marian Hanson (Kenmore), Charlotte Hanten (Schumacher), John Harr (Revere), Ernest Harris (Goodyear), James Harris (Lincoln), Larry Hart (Nimisila), Violet Hartney (Kenmore), Donna Hatfield (Lincoln), Wayman Hathcock (Brecksville), Miriam Haynes (Kenmore), Marilyn Heimbaugh (Grace), Marian Hess (Case), Marion Hicks (Hotchkiss), Rudolf Hinderegger (Thornton), Marie Hinman (Findley), Ruth Hoffmaster (North), Jean Howes (East), Florence Howiler (Lincoln), Beulah Hudson (Buchtel), Jean Hungerford (Case), William Hunt (Buchtel), Madge Hutchinson (West), James Isaac (West), Chrysa Jameson (Kenmore), Charles Johnson (Glover), Ruth Jones (Mason), Elaine Jurich (Seiberling), Gilbert Katz (South), Ruth Keifer (Lincoln), Judith Kelso (Glover), Mary Lou Kesler (Fraunfelner), Halie King (Portage Path), Hubert Kirkland (Leggett), Marian Kline (Firestone Park), Karen Klomp (Hillcrest), Marilyn Knight (Hill), Preston Knight (Garfield), Pauline Koeberle (Glover), Ladonna Koledin (Ellet), George Kungle (Revere), William Kurth (Barberton), Helen Kyriakides (Ellet), Thomas Lanning (Barberton), Rita Leak (Kent), Carolyn Lee (Robinson), Joseph Lentine (Buchtel), Nancy Lile (Spicer), Hope Long (Coventry), Peter Lukacik (Betty Jane), Helen Lussen (East), Ruth Lynch (Harris), Rosemary McAlonan (Betty Jane), Roscoe McBee (Mogadore), Robert McCafferty (Central), Margaret McClain (Spicer, Lane), Fredric McClellan (Mogadore), Ann McGowan (Indian Spring), Edith McKinnon (Erie Island), Leona McMuldren (Hatton), Flora McPherson (Litchfield), Vincent Malloy (Leggett), Connie Marsh (Jennings), Ruth Martin (Woodford), John Marvin (West), Boyd Maxwell (East), Joseph Meckler (King, Fraunfelner), John Menesian (Seiberling), Harriet Meyers (Case), Helen Mikolashek (Case), Bessie Miller (Case), Dorothy Moore (Seiberling), Marjorie Moore (Central, East), Wayne Moore (Innes), Bonnie Moran (Goodyear), Alexander More (Thornton), Jack Morganstern (Barberton), Frances Moyer (Spicer), Josephine Murdocco (Betty Jane), Don Murray (Santrock), Gwen Myers (Nimisila), Russell Nahas (Central), Beatrice Neely (Crouse), Joan Nellic (Crosby), Frank Nelson (North), Milton Nelson (East), Lila Nichols (Crosby), William Nicholson (Central), Wallace Nolan (Firestone), Mary Ann Ondack (Thomastown), Marjorie Ormeroid (Spicer), Gordon Oster (Garfield), Eddie Ostervich (Goodrich), Francis Paolino (Coventry), Rose Paolucci (East), Romeo Parenti (Central), Edwin Parms (West), Angelina Parr (Findley), Joan Pastuck (Hower), Betty Peercy (Mogadore), Rochelle Pennell (Rankin), Angeline Perdomo (Jennings), Anne Perkins (Jackson), Robert Plet-

zer (Woodridge), Joseph Polacek (Perkins), Esther Psarras (Hotchkiss), Mary Pusateri (Central, South), Helen Rachita (Mason), Einfred Read (North), Charles Reed (Litchfield), Mary Reed (Crosby), Roherta Reese (Buchtel), Margaret Reichenbach (Ritzman-Spicer), Patricia Reiling (Fort Island), Donald Reynolds (Kent), Elizabeth Ricketts (West), Edith Ridgill (Margaret Park), James Riedinger (Central), Kalman Rieger (North H.S.), Gloria Rittenhouse (Barber), Dorothy Robinson (Central), Reba Robinson (Barberton), Norma Rogers (Jennings), Valeria Rottmayer (Glover), John Rowan (Newberry), Isabelle Ruble (Portage Path), Ruth Ruddock (Kent), Irene Ruchle (Lincoln), Robert Rupp (Hyre), Ray Rush (Ellet), Amelia Saba (Glover), Elsa Sabol (Rankin, Erie Island), Mary Ann Sacco (Betty Jane), Vivian Saccone (Glover), Patricia Salem (Mason), Janet Sasinowski (Garfield), Marie Sassano (Kenmore), William Satterlee (South), Sandra Schlub (Central), Ernest Schmid (Thornton), Norman Schmidt (Hyre), Harold Schumacher (Firestone), James Scobie (Central), Ruth Scott (Jennings), George Seigman (Central), Theresa Seman (Hyre), Salvatore Semilia (Central), Dianne Seward (Litchfield), Sara Shaar (Central), Nina Shaffer (Betty Jane), Geraldine Shank (Schumacher), William Shaw (Perkins), Walter Sheffield (Central), Mattie Sivert (Glover), Mildred Skeen (Betty Jane), James Skeese (Grace), Mary Lou Slonaker (Central), Richard Smetts (Ellet, Central), Robert Smetts (Thornton), Harold Smith (Garfield), Luther Smith (East), Richard Smith (Innes), Robert Smith (Thornton), Louise Snodgrass (Central), Gordon Snyder (South), Eileen Srodes (Kent), Vivienne Starr (Jennings), Mildred Steese (Rankin), Frances Stonebraker (Litchfield), Harold Stroll (Pfciffer), Josephine Sugg (Woodford), Freda Sullivan (Mason), Robert Summy (Bode), Mary Swartz (Grace), Bonnie Swisher (Goodrich), Constance Szilagyi (Highland Park), Percie Taylor (Santrock), Jacqueline Tefft (Tallmadge), William Tenney (Buchtel, North), Evangeline Thomas (Litchfield), Myrtis Thomas (Lane), Eloise Thorne (Schumacher), Clarence Thrall (Goodyear), Billie Tibbals (Rankin), Vera Tiroff (Portage Path), Tony Topougis (Jennings), Barbara Towne (Hyre), Dominick Trifero (Central, Ellet), Thomas Troxel (Innes), Gaynelle Upchurch (East), Paula Valentine (Case), Dorothy Vance (East), Julia VanCourt (Hower), George Verlaney (West), Robert Vernon (Garfield), Lucy Vielhaben (Firestone), Gene Vinciguerra (Ellet), Ralph Vitt (Kenmore), Kate Vogel (Innes), Lillian Wade (Highland Park), Florence Wagner (Glover), Jean Wahl (Smith), Esther Wandes (Jennings), Gwendolyn Watt (Erie Island), Maureen Webb (Hillcrest), Francis Westebarger (Goodrich), Robert White (North), William White (Erwine Jr. H.S.), Kathleen Whitmer (Perkins), Nellie Whittaker (Thornton), Jane Whittemore (Schumacher), Parker Wilcos (North), Thelma Williams (King), Marie Wilson (King), Wanda Wilson (Crouse), Richard Worrton (Litchfield), Doris Wright (Portage Path), Donald Young (Perkins), Rosemary Zaleski (Voris).

THE ALUMNI ASSOCIATION

An individual who has received a degree from this institution or has completed 32 credit hours is considered to be an Alumnus and is eligible for membership in The University of Akron Alumni Association. The Alumni Council, the members of which are elected by a national ballot mailed to more than 18,000 alumni, is the governing body of the Alumni Association. For the 1966-67 year, Association President Bruce Wert will preside over the Alumni Association with administrative matters handled by the Alumni Relations Office, located in Memorial Hall Room 110.

The purpose of the Alumni Association is to promote the interests of The University of Akron and further the mutually beneficial relationships between the University and its Alumni. Among the activities and responsibilities of the Alumni Association are:

- 1) sponsorship of four major events during each academic year—Acme-Zip Game Party in September, Homecoming in October, Alumni Fun Night in January, and Alumni Day in June (more than 2,000 alumni and friends attend these functions);
- 2) promotion of the Akron U Fund which is used for scholarships, faculty salaries and special purposes at the discretion of the Board of Directors (in 1966 the Fund exceeded \$90,000 for the first time in its history with 5,015 alumni and friend contributors);
- 3) maintenance of accurate records of alumni;
- 4) publication of *The University of Akron Alumnus*, the quarterly magazine with news of campus developments and alumni.
- 5) hosting summer receptions at homes of alumni honoring freshmen entering the University that autumn;
- 6) encouragement of alumni-University participation through clubs which already are located in 30 cities;

The locations and presidents of the alumni clubs currently operating are: Harry J. Shaffer (Phoenix); Robert E. Ashley (Tucson); Mrs. George A. Evans (Los Angeles); Louis Trenner (San Diego); Miss Josephine Amer (San Francisco); Milton L. Wiggins (Denver); Michael Flynn (Washington, D. C.); Arthur G. Croysdale (Miami); Harris W. Holsinger (St. Petersburg); Walter L. Scott, Jr. (Chicago); Eugene J. O'Neil (Boston); Ray K. Schieb (Detroit); Richard Milford (Grand Rapids); William T. Farmer (Minn.-St. Paul); Harvey L. Davis (Dallas); William H. Ireland (St. Louis); Jerry G. Meyers (New York); Norman E. Weiler (Buffalo); Al Isner (Columbus); Wallace H. Johnson (Toledo); Robert E. Sipes (Cleveland); Herman K. Eckert (Houston); Abe Cohen (Youngstown); Lee Atwell (Canton); J. D. Mussoud, M.D. (Cincinnati); Paul Trecazo (Dayton); Charles Hamilton (Pittsburgh); Mrs. Jerome W. Craft (Erie); Maurice E. Long (Philadelphia).

The Director of Alumni Relations, K. D. Bushnell, '54, assumed his present position in 1960 and the Assistant Alumni Director, Tim Edwards, '64, joined the Alumni Office staff in September 1964.

Directory of STUDENT ORGANIZATIONS

HONORARY

Alpha Chi Sigma (N) Chemistry; Alpha Lambda Delta (N) Freshman Scholastic; Alpha Sigma Lambda (N) Evening; A. E. Honorary Fraternity (L) Evening; Angel Flight (L) Army Sponsors (L) Arnold Air Society (N) Advanced Air Force ROTC; Association of United States Army (N); Beta Delta Psi (L) Business Administration; Kappa Delta Pi (N) Education; Lambda Pi (L) Modern Languages; Pierian Chapter Mortar Board (N) Senior Women; National Collegiate Players; Pi Epsilon Delta (N) Theater; Omicron Delta Kappa (N) Men's Activities; Pershing Rifles (N) Basic Military; Phi Alpha Delta (N) Law; Phi Alpha Theta (N) History; Phi Delta Delta (N); Phi Delta Kappa (N) Men in Education; Phi Eta Sigma (N) Freshman Scholastic; Phi Sigma Alpha (L) Liberal Arts Scholastic; Phi Sigma Society (N) Biological; Phi Sigma Tau (N) Philosophy; Pi Kappa Delta (N) Forensic; Pi Omega Pi (N) Business Education; Pi Sigma Alpha (N) Political Science; Psi Chi (N) Psychology; Sabre Squadron (L) Basic Military; Scabbard and Blade (N) Advanced Military; Sigma Tau (N) Engineering; Tau Kappa Phi (L) Home Economics.

STUDENT CLUBS

Accounting Club; Amateur Radio Club; American Society of Civil Engineers; American Society of Mechanical Engineers; Association for Childhood Education; Biology Club; Bracton's Inn (College of Law Case Club); Campus Christian Fellowship; Channing Club; Christian Science Organization of The University of Akron; Future Secretaries of America; Eastern Orthodox Christian Fellowship; Home Economics Club; Independent Student Organization; Institute of Electronic Electrical Engineers; International Students Club; Johnson Club; Junior Class Organization; Le Cercle Francais; Marketing Club; Newman Club; Philosophy Club; Physical Education Club; Political Science Club; Psychology Club; Radio and Television Workshop; Residence Hall Government Association; Student Bar Association; Tertulia Espanola; University Christian Fellowship; University Theatre Guild; Women's Recreation Association; Young Democrat Club; Young Republicans Club; Young Women's Christian Association.

SORORITIES

Alpha Delta Pi (N) Chartered 1938; Alpha Kappa Alpha (N) Chartered 1961; Alpha Gamma Delta (N) Chartered 1922; Delta Gamma (N) Chartered 1879; Delta Zeta (N) Chartered 1962; Gamma Beta (L) Evening Session, Chartered 1935; Kappa Kappa Gamma (N) Chartered 1877; Phi Mu (N) Chartered 1912; Sigma Delta Tau (Colony 1963); Theta Phi Alpha (N) Chartered 1931; Zeta Tau Alpha (N) Chartered 1929.

FRATERNITIES

Alpha Epsilon Pi (N) Chartered 1941; Alpha Phi Alpha (N) Chartered 1957; Lambda Chi Alpha (N) Chartered 1919; Phi Delta Theta (N) Chartered 1875; Phi Kappa Tau (N) Chartered 1938; Phi Sigma Kappa (N) Chartered 1942; Pi Kappa Epsilon (Lone Star) (L) Chartered 1882; Sigma Pi Colony (N); Tau Kappa Epsilon (N) Chartered 1948; Theta Chi (N) Chartered 1942; Chi Sigma Nu (N) (Evening Session) Chartered 1932.

(N) = National (L) = Local

Index

Academic administration	15
Academic averages	45
Academic programs	75
Accounting	133
Accreditation	7
Activities, student	28, 193, 180, 342
Address of Admissions Office	42
Administrative officers	15, 304
Administrative staff	15, 304
Admission to the University	42
Admission	
College of Liberal Arts	99
College of Engineering	111
College of Education	120
College of Business Administration	132
Admission to College of Law	177
Admission to Graduate Division	149
Admission with advanced standing	177
Admissions office	41
Advising, student	35, 48, 121
Advisory Committees, College	130, 338
Aid, financial	59, 178
Aerospace Studies	138, 289
Alumni Association and Clubs	341
Applications	
Advanced standing admission	177
Degrees	50
Dormitory rooms	34, 54
Fee	42
First-year admission	41, 54
Graduate admission	149, 177
Graduate fellowships	153
Graduate scholarships	153
Art	101
Arts	83
Assistance, financial (see Aid, financial)	
Associate Programs	82
Arts	83
Chemical Technology	84
Commerce	88
Commercial Art	89
Electronic Technology	83
Industrial Technology	88
Mechanical Design	83
Sales and Merchandising	85

Secretarial Science	85
Surveying and Construction Technology	89
Transportation	84
Athletics	31
Attendance	49
Audio-Visual Services	24
Auditing Courses	41, 177
Awards	59
Behavior, student	50
Biology	102
Board of Directors	303
Buildings	20
Business and Economic Research	195
Cafeteria	23
Campus	18
Center for Urban Studies	191
Certificates	125
Certifications	125
Change of Course	48
Chemical Technology	84
Chemistry	103
Civic and Educational Research	195
Civic Education	189
Code Numbers	76, 199
College Entrance Examination Board	42
Colleges	
Business Administration	131
Community and Technical	81
Education	119
Engineering	109
Evening	142
General	93
Law	175
Liberal Arts	97
Community Services	184
Community and Technical College	81, 187
Computer Center	26
Conduct of students	50
Cooperating faculties	339
Cooperative Plan, Engineering	110
Costs (see fees)	
Counseling, student	35, 48, 121
Course Descriptions	
Accounting	281
Aerospace Studies	289
Art	201

Associate Studies	297
Biology	204
Chemical Engineering	279
Chemical Technology	296
Chemistry	206
Civil Engineering	269
Classics	224
Commercial Art	293
Economics	211
Education	250
Electrical Engineering	273
Electronic Technology	294
English	214
French	216
General Studies	200
Geography-Geology	259
German	218
Greek	219
Home Economics	222
Industrial Technology	300
Industrial Management	287
Interdisciplinary Courses	302
Journalism	216
Latin	225
Law	289
Marketing and Finance	283
Mathematics	226
Mechanical Design	295
Mechanical Engineering	276
Military Science	289
Music	230
Nursing Education	268
Philosophy	233
Physical Education	262
Physics	235
Political Science	239
Psychology	264
Russian	224
Sales and Merchandising	298
Secretarial Science	298
Sociology	241
Spanish	245
Speech	247
Surveying and Construction Technology	301
Transportation	296
Course, Change of	48
Course Numbering System	199

Credit by Examination	51
Cultural programs	33
Curricular Requirements	
Accounting	133, 136
Art	101
Arts, Associate	83
Biology	102
Business Administration	133
Chemical Engineering	113
Chemical Technology	84
Chemistry	103
Civil Engineering	114
Classics	104
Commercial Art	89
Economics	104
Education	123
Electrical Engineering	115
Electronic Technology	83
English	104
General Studies	95
Geography and Geology	107
Graduate Studies	148
Greek	104
History	104
Home Economics	104
Humanities	101
Industrial Management	135
Industrial Technology	88
Latin	104
Law	182
Marketing and Finance	134
Mathematics	105
Mechanical Design	83
Mechanical Engineering	117
Medical Technology	103
Modern Languages	105
Music	105
Natural Sciences	101
Nursing	129
Philosophy	106
Physics	106
Political Science	106
Pre-Medical	102
Psychology	107, 129
ROTC	137
Sales and Merchandising	85
Secretarial Science	85

Social Sciences	101
Sociology	106
Speech	107
Speech and Hearing Therapy	128
Surveying and Construction Technology	89
Teacher Certification	122
Transportation	84
Deans, list of	337
Definitions	41, 76
Degrees and Degree Requirements	
Liberal Arts	99
Engineering	112
Education	122
Business Administration	132
Law	178
Graduate	150, 153
Departments	76
Discipline	50
Doctoral thesis	152
Doctor's degrees	148
Dormitories	34
Dormitory fees	34, 54
Dramatics	30
Dropping Courses	48
Economics	104
Education—Elementary	123
Education—Secondary	125
Electronic Technology	83
Employment, student	36
Engineering	109
Chemical	113
Civil	114
Electrical	115
Mechanical	117
English	104
Entering College	42
Entrance Examinations	42
Entrance Requirements	
Advanced standing	177
First-year	42
Graduate	149
Evening College	142
Examinations	
Advanced standing	177
Entrance	42, 177
Final	45

Physical	43
Expenses	53
Extracurricular activities	28, 143, 179
Facilities	24
Faculty	14
Emeritus	305
Full-time	307
Part-time	323
Fees	53
Application	42, 54
College of Law	178
Dormitory	54, 145
Graduate Division	55, 153
Graduation (in absentia)	55
Tuition or Fees (Resident and Nonresident)	54
University	53
Fellowships	59, 153
Final examinations	45
Financial aid	59, 178
Founding of the University	9
Fraternalities	32
Funds, financial aid	53
General College	93
General Service Fee	53
General Studies (General Education)	94
Geography and Geology	107
Grades	44
Graduate course numbers	77, 169
Graduate degrees	148
Requirements	151
Graduate students, Special	150
Greek	104
Health Care	36
High school preparation	41
History	104
History of the University	9
Home Economics	104
Honors	46
Housing facilities	34
Humanities	101
Illness	36
Industrial Management	135
Informal Courses	187

Injuries	36
Institute for Civic Education	189
Institute of Business and Economic Research	195
Institute of Civic and Educational Research	195
Institute of Polymer Science	194
Institute of Science and Engineering Research	195
Interfraternity Council	32
Intramural sports	31
Jobs	36
Journalism	216
Language Laboratory	25
Latin	104
Law	182
Liberal Arts	97
Libraries	21, 197
Living arrangements	34
Loan funds	53, 72, 178
Location	15
Maintenance Fee	54
Maps	16, 18
Marketing and Finance	134
Master's degrees	148
Mathematics	105
Mechanical Design	83
Medical care	36
Medical examination	43
Military Science	137
Modern Languages	105
Music	105
Activities (band, chorus, glee club, orchestra, ensembles, etc.)	55, 105, 232
Instruction fees	55
Natural Sciences	101
Nursing	129
Objectives	
The University	6
The General College	93
The Community and Technical College	81
The Buchtel College of Liberal Arts	97
The College of Engineering	109
The College of Education	119
The College of Business Administration	131
The Graduate Division	147

The College of Law	175
Office of Student Services	35, 121
Orientation	43
Parking	56
Payment of fees	53
Philosophy	106
Physical examination	43
Physics	106
Placement Services	36
Political Science	106
Post-Graduate student	41
Post-Graduate study (see Law)	
Pre-medical	102
Presidents, list of	337
Prizes and awards	59
Programs of Study (see Curricular Requirements)	
Psychology	107, 129
Publications, student	30
Quality points	45
Refunds	57
Registration	48
Regular graduate student	150
Regular student	41
Religious organizations	37
Repeating Courses	50
Requirements, entrance	
Advanced standing	149, 177
Graduate	149
Undergraduate	41
Requirements, graduate	150
Requirements, undergraduate	
Degrees	74
Research	193
Residence (see housing facilities)	
Residence requirements for thesis	
Resident or Nonresident	
ROTC	37, 137
Rubber Research	194
Sales and Merchandising	85
Science and Engineering Research	195
Scholarships	59, 153, 180
Scholastic Aptitude Tests	42, 177
Secretarial Science	85

Social Sciences	101
Sociology	106
Sororities	32
Special Programs	187
Speech	107
Sports	31
Student activities	27, 143, 180
Student employment	36
Student Financial Aid	59, 178
Student health	36
Student Personnel Office (see Office of Student Services)	
Student Placement Services	36
Student Teaching	122
Summer Sessions	122
Teacher Certification	122
Teaching faculty by departments	328
Teaching Fields	127
Television	24
Testing Office	35
Theatre	30
Thesis	
Doctoral	152
Master's	151
Thesis fees	55, 153
Transfer students (see Advanced Standing)	
Transportation	84
Tuition	53, 153, 179
Tuition (Rules Governing Resident and Nonresident)	53, 56
Undergraduate student	41
University Health Service	36
Veterans	55
Withdrawal	
from courses	48
from the University	48, 179
Year, academic	145, 352

UNIVERSITY CALENDAR, 1966-1967

FALL SEMESTER, 1966

September 16, Friday	Day Class Registration Closes
September 14-16, Wednesday-Friday	Orientation Classes
September 19, Monday	Day Classes Begin
September 21, Wednesday	Evening Class Registration Closes
September 26, Monday	Evening Classes Begin
October 3, Monday	Deadline for Degree Applications for January and June 1967, Commencements
November 11, Friday, 5 p.m.	Mid-Semester Grades Due
November 23, Wednesday, 5 p.m.	Thanksgiving Recess Begins
November 24, Thursday	Thanksgiving Day
November 28, Monday	Classes Resume
December 7, Wednesday	Founders Day
December 17, Saturday, 12 noon	Christmas Recess Begins
January 3, Tuesday	Classes Resume
January 16-21, Monday-Saturday	Examination Week
January 18, Wednesday, 5 p.m.	Grades for January Degree Candidates Due
January 21, Saturday	End of Semester

SPRING SEMESTER, 1967

January 28, Saturday	Day Class Registration Closes
January 29, Sunday	Baccalaureate
January 30, Monday	Commencement
January 30, Monday	Orientation Classes
January 31, Tuesday	Day Classes Begin
February 2, Thursday	Evening Class Registration Closes
February 6, Monday	Evening Classes Begin
February 22, Wednesday	Washington's Birthday-Holiday
March 17, Friday, 5 p.m.	Mid-Semester Grades Due
March 22, Wednesday, 10 p.m.	Easter Recess Begins
March 26, Sunday	Easter Sunday
March 30, Thursday	Classes Resume
May 1, Monday	Deadline for Degree Applications for January, 1968
May 5, Friday	May Day
May 12, Friday	Honors Convocation
May 22-27, Monday-Saturday	Examination Week
May 24, Wednesday, 5 p.m.	Grades for June Degree Candidates Due
May 27, Saturday	End of Semester
June 4, Sunday	Baccalaureate
June 5, Monday	Commencement and Commissioning

SUMMER SESSION, 1967

June 12, Monday	First Six Weeks and Eight Weeks Day and Evening Classes Begin
July 4, Tuesday	Independence Day-Holiday
July 21, Friday	End of First Six Weeks Day Session
July 24, Monday	Second Six Weeks Day Classes Begin
August 4, Friday	End of Eight Weeks Session
September 1, Friday	End of Second Six Weeks Day Session
September 4, Monday	Labor Day