

# *The University of Akron Bulletin*

GENERAL BULLETIN 1964-1965 ♦ 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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At The University of Akro:

e **believe** minds well-honed by skillful teaching are the best weapons for peace.

For the good of the world, all Americans must find compelling reasons for developing their intellectual capacities. They must then proceed to find their individual peaks of excellence.

Students, well-informed in the broad spheres of knowledge and intelligently motivated to be productive in their chosen fields, are the living symbols of hope in a troubled world.



## The University of Akron . . .

is one of three municipally tax-assisted institutions of higher learning in the state of Ohio.

The University is an integral part of “the rubber capital of the world” and many of its students are from Akron families. However, greater numbers enroll each year from other cities, states and foreign countries.

Despite its increasingly widespread appeal and its growing cosmopolitanism, The University of Akron retains the values and atmosphere of an urban institution of higher learning.

The University is undeniably and proudly “in the middle of things” . . . close to industries, schools, offices and laboratories anxious to employ its graduates. On all sides of the campus are the sights and sounds of a busy 20th century American city with its people hard at work.



*Interior of Buchtel Hall, showing portrait of benefactor, John R. Buchtel*

# The University of Akron, Its Chronicle

Shortly after the Civil War, a small college was built on a hilltop near the edge of town in Akron, Ohio.

The men who bought the land and the bricks and hired the first instructors were zealous men, deeply concerned for the education of young men and women.

No one will ever know how farsighted the founders of that small college really were. Even on their most optimistic days, would they have dared to predict that their one brick building would grow to more than 20 . . . that their handful of students would grow to more than 8,000 . . . in short, that the small church-sponsored institution named Buchtel College would grow to the proportions of today?

★ ★ ★

In 1913, its denominational influence was noticeably lessening and Buchtel College assumed the formal name which it had informally begun to assume: a municipal institution of learning.

Since that time, the University has gained in strength from the public and in return, functioned with the philosophy of its very existence, af-

fording an educational service entirely *of, by and for* the people.

A public institution such as the University has always felt the incapable force of world affairs and because of this, wars have hit the Akron campus their devastating blows. But after each international conflict, the University has emerged even stronger.

During World War I when the populace turned its strength to a national cause and University men were trained on campus to become Army officers, a French teacher was hired to instruct the ones going "over there." Eventual results: The University developed one of the nation's first R.O.T.C. units as well as the nucleus of a foreign language department.

During World War II, Akron students and townspeople alike became part of the nationwide war effort. Industries claimed the able-bodied men and women who were not in actual military service. College courses had to be made available when people were not on production lines. Result: The University expanded its evening sessions until the courses became an even more important part of the curriculum.

Not all of the University crises have grown out of wars. Some of these have occurred in peacetime—a notable one being the Great Depression. In these lean years in the '30s, students scraped and saved for tuition.

But times improved. America entered "The Automobile Age" in earnest. Fortunately for Akron and its University, cars and trucks took to the roads on rubber tires!

Men of courage and vision invested their money and efforts in the new rubber industries. Business began to boom and with rare exception, has continued. Akron industries have expanded and diversified until the city itself has a population of more than 300,000.

Just as the city has grown and improved, so has its University, reflecting the pattern of citywide and nationwide activity.

During the post-World War II period of rush-enrollment in colleges and Universities, the Akron campus began to overflow with students.

In order to serve the young people of the community who were ambitious to gain higher education, facilities were expanded and new buildings were erected, bearing such proud names as Kolbe, Ayer and Knight. It was agreed that men who had poured of their life's energy into the University should be immortalized in this way.

At the present time, the campus is in an exciting phase of expansion. Plans have been made for a new building to be constructed to satisfy the urgent needs of students in the College of Law and the College of Business Administration. Friends of

the University and alumni have joined together to "fan the flame" with funds so that the University can "keep the lamp of learning burning."

As the University grows in service, so it grows in scope. As students from other states and other countries arrive, additional facilities for housing have become a necessity.

Two men's residence halls and one women's residence hall are the current nucleus of an on-campus living area which will be a means of further expansion, further improvement in service to the young men and women who attend the institution.

So it is to be deduced that history is not always ancient. Sometimes it happened only yesterday. And sometimes it happens to people we know . . . or better still, to ourselves!

★ ★ ★

When anyone traces the evolution of an expanding institution, he must acknowledge the specific years which have gone down in history as The Great Milestones. These are the ones most generally accepted as the "big years" at The University of Akron:

- 1870 Buchtel College, predecessor of the University, was founded.
- 1913 Buchtel College became a municipal institution, The University of Akron, and its original name was perpetuated in the Buchtel College of Liberal Arts.
- 1914 The College of Engineering was established.
- 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 historic Great Milestones? The answer is a firm, confident YES.

This is the time of the Giant Stride—the era of building and planning, improving and growing at The University of Akron. The people are demanding higher educational facilities as never before and the University intends to answer this call!

By retaining traditional respect for the honored past but at the same time, turning enthusiastic minds and hearts toward a hopeful future, the citizens of Akron and the students of its University will be part of real American history, enacting rôles in an exciting drama of progress.

## The Objectives of The University of Akron:

The University of Akron is an Institution of higher education supported in part by city and state taxes and therefore plans its educational services especially to serve the people of Akron and Ohio.

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 assist-

ance 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.

## The University's Accreditation . . .

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 Ed-

ucation, 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 provisionally approved by the American Bar Association.

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 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.

## How Does Accreditation Affect the Student?

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 this university have transfer value to other 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.

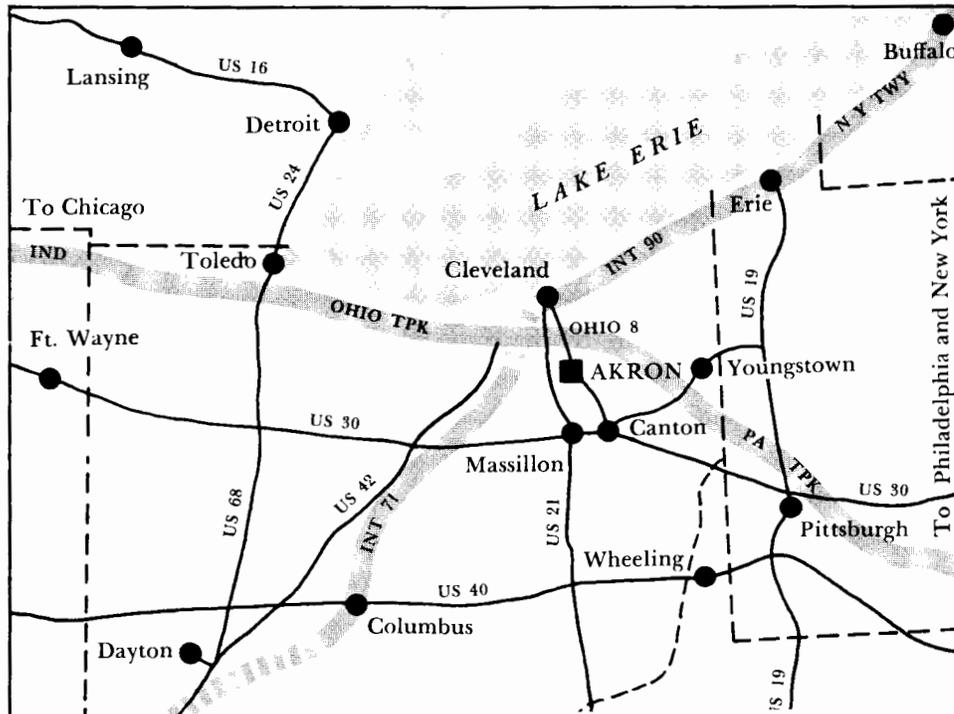
For the student taking pre-professional courses in order to enroll eventually for subsequent study in advanced fields such as medicine, dentistry, law or theology, there is the assurance that courses taken at The

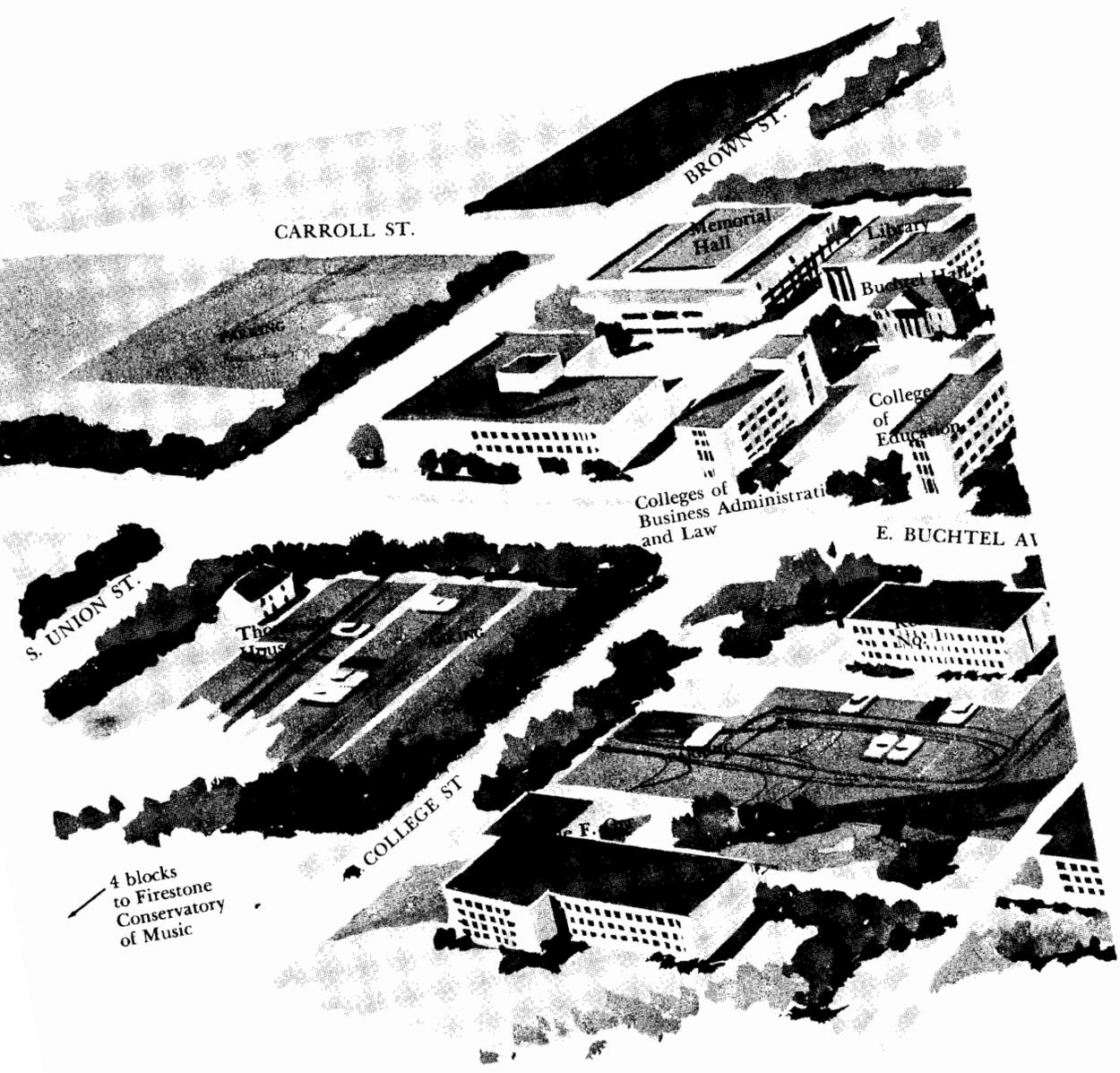
University of Akron will prepare him to be accepted by a graduate or professional school where he can specialize further.

The student with ambitions to complete graduate or postgraduate courses at The University of Akron will find that he can earn a Bachelor of Laws degree, a Master's degree in any of a dozen graduate fields or a Ph.D. in Chemistry with specialization in Polymer Chemistry or Ph.D. in Polymer Science.

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

### THE UNIVERSITY IS EASY TO FIND





CARROLL ST.

BROWN ST.

Memorial Hall

Library

Budget

College of Education

Colleges of Business Administration and Law

E. BUCHTEL AV.

S. UNION ST.

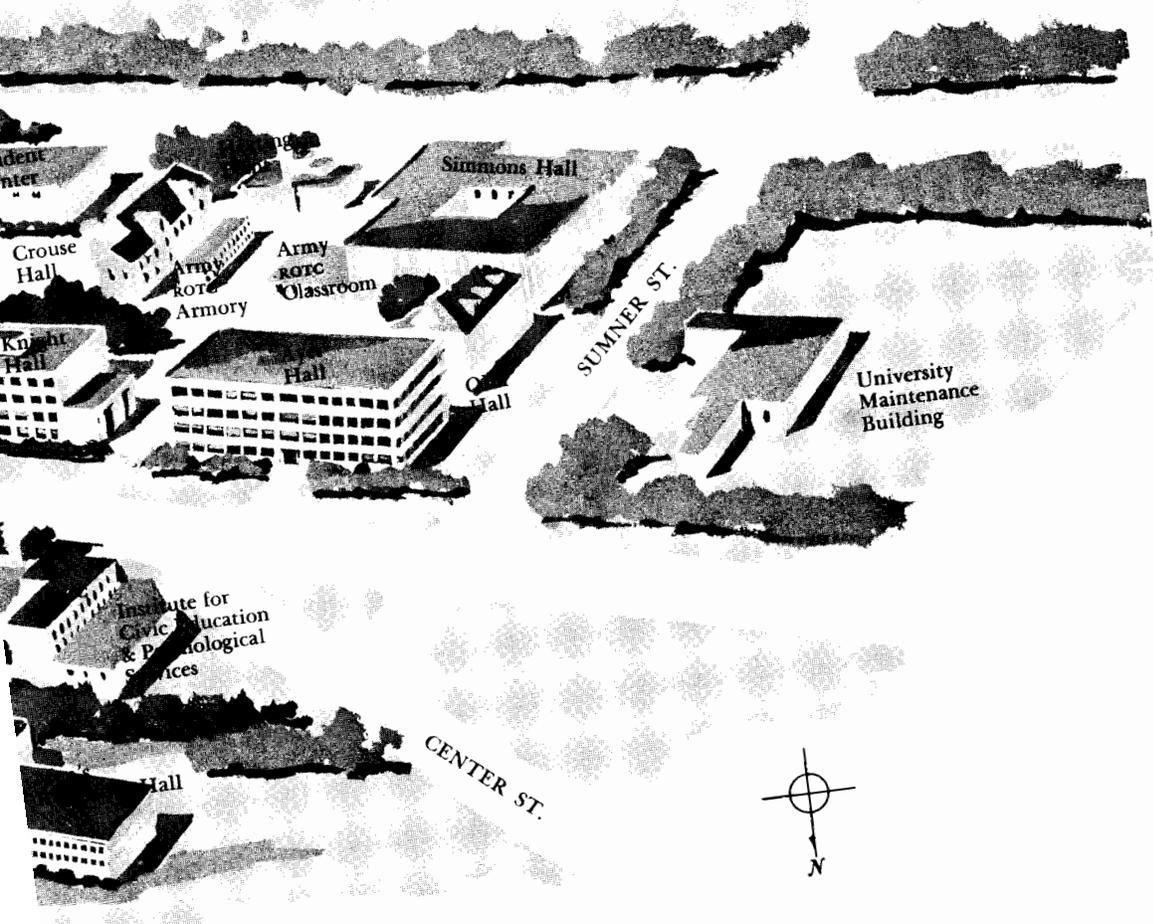
The Music

COLLEGE ST.

4 blocks to Firestone Conservatory of Music

to  
Field

23-acre University  
Urban Renewal Area



Student  
Center

Crouse  
Hall

Knight  
Hall

Institute for  
Civic Education  
& Psychological  
Services

Hall

CENTER ST.

Simmons Hall

Army  
ROTC  
Classroom

Armory

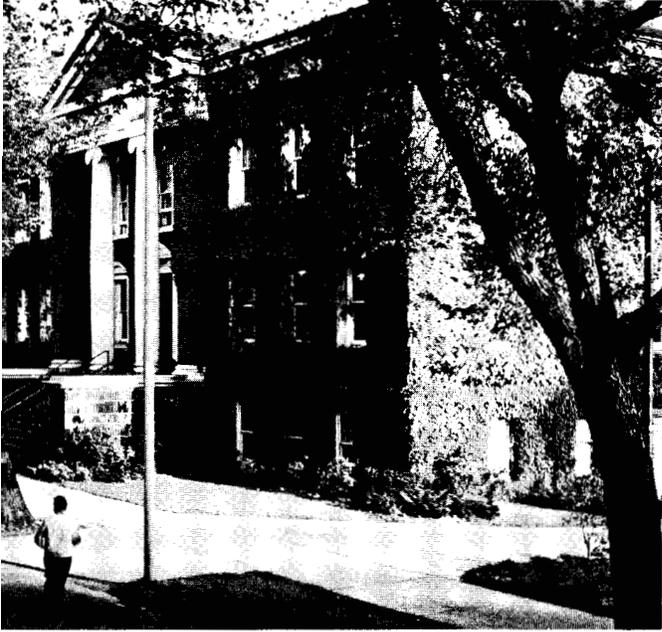
Hall

Q  
Hall

SUMNER ST.

University  
Maintenance  
Building





*Buchtel Hall*



*The Firestone Conservatory*

## Buildings on The University of Akron campus

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 Assistant to the President, 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 Admissions Office, the Registrar and the Department of University Rela-

tions. It is named for the institution's first benefactor, John R. Buchtel.

BUSINESS ADMINISTRATION AND LAW BUILDING, now under construction, will house 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 new location of the Institute for Civic Education and headquarters of the University Psychological Services.

CROUSE HALL, on the west side of the main campus, is one of the oldest campus structures and is now used principally for large lecture classes. Army R.O.T.C. supply headquarters



*Knight Hall*



*Kolbe Hall*

are located here. It is named for a former Buchtel College trustee, George W. Crouse, Sr.

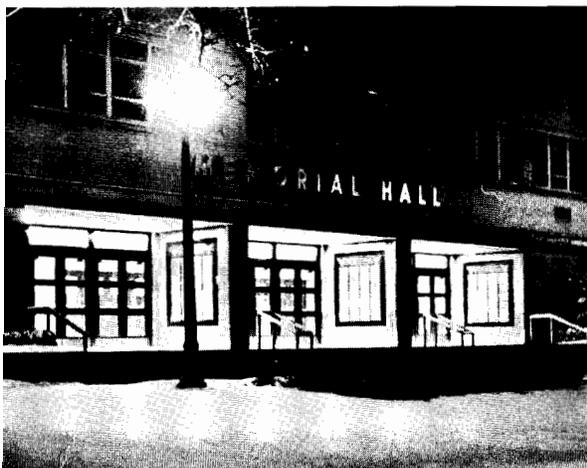
EDUCATION BUILDING, in the center of the campus, is a modern, air-conditioned classroom building completed in 1962; it provides a lecture room that seats 260, and 25 general classrooms; also, it includes a handicrafts room, an auxiliary closed circuit television studio, a teaching demonstration classroom and 30 offices.

A new, modern communications control center is provided on the ground floor. This building is headquarters for the Dean of the Graduate Division and the Dean of the College of Education and his staff.

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. It has a large auditorium for student recitals.

KNIGHT HALL, east of Ayer Hall, in the north central part of the main campus, is the location of the chemistry department, providing its classrooms, laboratories and office space. It was enlarged in 1961 to provide further area for lectures and research laboratories of the Institute of Rubber Research. 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, on the northeast corner of the main campus, is one of the newest and largest University buildings. It includes classrooms and offices of the Buchtel College of Liberal Arts. The University Theatre, the Speech and Hearing Clinic, the Language Laboratory, WAUP-FM radio station, and instructional television studios are in this building, as well as the English, speech and biology departments. It is named for the first president of the municipal University.



*Memorial Hall*



*College of Education*

THE LIBRARY, between the Student Center and Memorial Hall on the south side of the main campus, is air-conditioned and was recently enlarged to house 200,000 volumes.

The University Library houses a General Circulation area, General Periodicals Room and General Reference Room. It includes 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 third floor of the Library, with classrooms, studios and offices.

The offices and Library of the College of Law are on the ground floor

until the new Colleges of Business Administration and Law Building is completed. Also, on the ground floor is the Audio-Visual Services office with a library of films and records for student and community use.

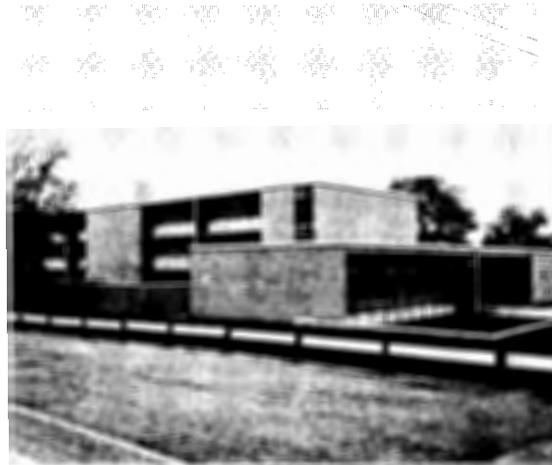
MEMORIAL HALL, on the southeastern corner of the main campus, is the recently constructed center of men's and women's physical education activities. It contains two large gymnasiums, swimming pool, classrooms and offices and houses the University Health Service Center and the Duplicating offices. It is dedicated to the memory of Summit County men and women who died in World War II.

RITCHIE HALL FOR MEN, 269 E. Buchtel Avenue, is located on the North Campus facing the northwest area of the Main Campus. This building, modern and spacious, affords accommodations for 96 men and has large lounges, recreation areas and complete laundry facilities.

MEN'S RESIDENCE HALL #II, 211 E.



*Ritchie Hall for Men*



*Gertrude F. Orr Residence Hall for Women*

Center Street, also located on the North Campus, is a modern residence for 120 men. It, too, has a large recreational area and roomy lounges, with an area for laundry provided. Both buildings are furnished in a functional, attractive decor.

OLIN HALL, on the west margin of the campus, houses the Home Economics and Industrial Management Departments. It is named for Charles R. Olin, former Secretary-Treasurer of the University and Oscar Olin, former Professor of Philosophy.

GERTRUDE F. ORR RESIDENCE HALL FOR WOMEN, 188 S. College Street, located on the North Campus, is a modern residence for 120 women. This building is equipped with the finest built-in room furniture, large main lounge, floor lounges, storage rooms and a recreation area.

R.O.T.C. offices are located in the Armory, situated between Simmons Hall and Crouse Hall on the west side of the main campus. Air Force R.O.T.C. offices are in a building on Buchtel Avenue, opposite Knight Hall.

SIMMONS HALL, on the southwest corner of the main campus, contains offices and classrooms of the College of Business Administration and additional 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.

STUDENT CENTER, in the south central part of the main campus, was recently built to increase the services offered to students and faculty. This air-conditioned building houses dining facilities, snack bar, student and faculty lounges, meeting rooms, and recreation areas, the University Bookstore, Post Office and Central Stores, Alumni Offices, Spanton Memorial Room, Residence Hall residents' dining hall area and offices for student publications and organizations.



*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.

## Special Teaching Aids and Facilities at the University

In a University with several Colleges and dozens of Departments, there are always new teaching methods being put into action. Sometimes these methods are unique. Other times they are just the necessary steps taken in order to "keep up with the times." The University of Akron has many new methods in both categories. Typical of the recent strides taken to impart knowledge as widely and as thoroughly as possible are the following examples:

**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 edu-

cational 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 3000 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, 60 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 AND GRAPHIC ARTS SERVICES** date back to 1945 when film strips were purchased to supplement several University professors' lectures.

*Men's Residence Hall I*



This teaching aid has increased in value and popularity in all 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 Kolbe Hall, with 36 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 instructor's console has a microphone, tape-deck and turntable.



*Individual Listening Room*

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

THE PHOTOGRAMMETRIC LABORATORY in Ayer Hall is a recently added 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 meth-



Photogrammetric Lab



ods of drawing maps and making terrestrial measurements.

Measuring rules which form an X on the photogrammetric model are arranged so that the Engineering student may recognize distortion in his photographs. He takes pictures of the wall model in pairs, since the photogrammetric measurements depend on stereoscopic comparisons of two views.

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.

Training sessions conducted by the Director of the Computer Center have equipped about 50 faculty members to operate this new data processing equipment. It is to be expected that it will be increasingly utilized in connection with problems in the natural and social sciences. Also, 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.



# The Academic Community

The University has its share of brick, stone, concrete, hardwood, steel, glass and metal, put together to form buildings, sidewalks, basketball floors, test tubes and lockers. ☞ But *things* do not a campus make. ☞ *People* do. ☞ Many are Students. Others are Faculty. And some are Administration.

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## Students

The formal objectives state what the activities of faculty and Administration prove: the important person on the campus is the Student.

He may arrive in early morning for an eight o'clock class or sit at his desk in a classroom at ten o'clock at night. But whatever his goal, whenever he studies, he is the focal point of plans and programs . . . the inspiration for and recipient of constant advancement of educational services at the University.

To understand the importance of students to the University, one should visit the campus at two separate times

—first, when the Student is NOT there and second, when the Student IS there. On the first visit, one should wait until early morning hours, since Students do not call it a day when the sun goes down. Many attend lectures in the evening, practice with athletic teams or rehearse with casts of University plays. And when a prom is being held in Memorial Hall, couples stream across campus at midnight in their colorful costumes.

For a view of the University without its principal people, one must wait till well after midnight when the campus is silent and bleak. The soli-

tude is eerie. Buildings are just shadowy heaps of brick stuck together with mortar.

For the sharpest contrast, one should visit the campus at high noon. At midday, each campus walk and each building shows the influence of youthful energy and activity. The University is awake and alive with the sight and sound of students.

What children are to a family, Students are to the University . . . proof of life, hope for the future, reason for being.

Knowing this, the University has developed its activities around the Students, encouraging groups to be Student-formed and Student-governed whenever possible.

## What Are the Akron Students Like?

A composite picture of an Akron student would be a hard one to sketch.

But if one limits his attentions to the typical undergraduate, the following capsule comments will draw a remarkably 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 clearly show an enthusiastic response to the University's crusade for scholars; they avail themselves of scholarships, fellowships and other grants and loans.

☞ 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 take advantage of their chance to find gainful occupations, either full or part-time, while they are attending the University. This adds impact to their knowledge of the world and adds to their awareness of higher educational values.

☞ Akron Students show the results of their being enrolled in a University which has a forceful course of study in its General College. Even those Students with specialized professional preparation have a broad cultural base of knowledge. For instance, in a recent University production of *Othello*, the leading rôle was enacted by a Student in the College of Engineering.

☞ 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.

## Do Akron Students Have Fun?

*Yes.* Campus activities, extracurricular projects and a wide variety of social events are a standard part of Student life at The University of Akron.

Academic efforts are well organized and it is possible for Students to maintain high scholastic standards and still conveniently schedule their leisure time with activities to enrich the "whole person" of each individual.

## Faculty

In an educational institution which has the word, "excellence," as its guide-word, only a carefully selected group of men and women could inject life into this philosophy or put true meaning behind the word.

At The University of Akron, about 275 people have this responsibility. They face the students, imparting knowledge day-by-day with the enduring patience of good teachers.

These 275 people are the Faculty. They are well-trained, friendly and dedicated. Their individual standards of achievement are necessarily high. Through their untiring efforts to im-

part knowledge of the world and a grasp of its culture, the students gain awareness of their own potential abilities.

This is education in action. A teacher teaches. And if he does it well, his students learn . . . about themselves and about the world.

At the University, 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. This variety of outlook which flourishes at the University is of firm cultural value to the Akron student. When he graduates, he can expect to face a diverse, complex world. It is only logical that he should learn of its many facets through the influences of a versatile Faculty.

It goes without saying that the old bromide about "absent-minded professors" has become an outmoded phrase at the University. The Akron professors are functioning in an academic sphere removed from the world, in a climate reflecting current progress in these modern times. They could be described as mature versions of the students they teach . . . coming from busy American homes where an education

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Carnegie Tech and Michigan. Outside of the U.S.: The Universities of Manitoba, Frankfurt, Halifax, McGill, London, Tübingen, Jadvpur, San Francisco Xavier de Chuquisaca, Bolivia and The Sorbonne. This variety of background of educational training is part of the University's richness.

☞ Most Akron professors are in the most vigorous, productive years of their lives. Average age is barely over 40.

☞ 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.

☞ Akron professors are expected to be forceful in their academic areas, both in and out of the classroom, and in return, they enjoy an annual income above the national average. The salary schedule, determined by academic rank, (i.e. instructor, assistant professor, associate professor and full professor) is considered excellent by standards of comparison with other colleges and universities. Indefinite tenure can be achieved by a professor who has been on staff for three years. And his retirement years are planned in accordance with the State Teachers' Retirement System of Ohio.

☞ Many Akron professors are adding to the University's and their own stature by turning their talents into fields of research. This is classified under the headings of both applied and pure. It is made financially possible through grants by nationally known industries, government agen-

had to be worked for and was properly respected, once it was earned.

Members of the Faculty work cooperatively together and their efforts maintain the consistent, unified pattern of progress at the University. Whether they teach poetry or polymer chemistry, their bond of congeniality is their adherence to the expected standard of achievement and their dedication to the common effort of higher education.

### Some Pertinent Facts About the Faculty

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

cies, foundations, local firms and individuals, as well as by the University itself to the individual faculty member. Some of the projects are in these areas: polymer physics and study of the atom . . . the effect of teaching machines, with observation of children learning this way being recorded on film . . . training program for police officers . . . study of heat transfer by fluids . . . study of the American Indian . . . psychological testing improvements . . . and research to gain increased knowledge in the field of rubber chemistry.

☞ Akron professors are active in classrooms and laboratories; they are also busy at their desks. During the past academic year alone, faculty members produced more than 115 published articles in periodicals of a popular or scholarly nature.

## Administration

In defining their responsibilities, the members of the Administration of The University of Akron are traditionalists, using the word as Webster describes it, with its derivation traceable to the Romans. *Administrare* is the Latin word meaning "to serve." It is this that the Administrators of the University try to do.

Another way of explaining the function of the members of the administrative staff is to describe them as a link between "the people of the community" and "the students and faculty members." Their goal is to satisfy the educational needs of the community by devising the oper-

ational pattern for those who are on the campus.

The determining force of all academic action at the University is the Faculty. But in the broadest sense, it is the people themselves who vote financial assistance in the form of tax levies. It is the people themselves who send their children to be the majority of the University's students.

The public responsibility for educational advancement at the Univer-



sity 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, two Vice Presidents, ten Deans, an Assistant to the President and an Auditor, Controller, Registrar, Librarian, Purchasing Agent, 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, 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.

The essence of administration in a great institution of higher education is leadership. The administrators at

The University of Akron have been selected on a basis of their experience and professional preparation with this prime characteristic in mind.

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Educational backgrounds of the members of Administration are widely diversified, but in quality, their academic records are as thorough and specialized as those of Faculty members.

In fact, most of the leaders in Administration have previously been fulltime teachers on the college level and many of them still lecture at the University in fields covering mathematics, astronomy, business administration, engineering, teaching, psychology, history, social and natural sciences and physical education.

For this reason and by the very nature of their present responsibilities, Administration members are not far-removed or unaware of the professor-student relationship. This is a value to the University since most of the administrative duties are concerned with planning for the welfare of the two dominant campus groups . . . Faculty and Students.



# 4

## How to Enter, What to Do, The Costs\*

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 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) Learn some of the basic academic words and phrases which all colleges and universities use.
- 3) Be sure that your high school studies constitute an acceptable college preparatory course for the college or university you hope to enter.
- 4) Study the listed fees and ex-

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\*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 to be regarded as a contract.

penses 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 . . . or arrange to get a job.

In making these four steps easy to follow, the University has these four suggestions, directly related to the steps listed above:

- 1) It is a University policy to welcome prospective students on the campus at all times. Conducted campus tours can be arranged for individuals or groups.
- 2) For the development of a student's basic academic vocabulary, the University submits a list of words and phrases.
- 3) To clarify in definite terms the courses which are required of every high school graduate who expects to enroll at the University, a list of college preparatory studies is presented.
- 4) So that the "dollar and cents" requirements are readily understood, a concise listing of fees for the University student is briefly outlined.

## Definitions of Academic Words and Phrases

**ADMISSION**—the process of taking tests, filling in forms and filing documents prior to actual registration for courses. This is handled in the Admissions Office.

**REGISTRATION**—the process of being formally entered on class lists of spe-

cific courses. At this time, a student pays his fees to the Controller.

**FEES**—an inclusive word referring to money (tuition and/or maintenance) which all students pay to the University. Fees go into a fund which takes care of faculty and staff salaries, University supplies, upkeep of the institution itself, etc.

**TUITION**—the fees paid by nonresident students only.

**MAINTENANCE**—the fees paid by both resident and nonresident students. *Explanation: In addition to the Maintenance Fee paid by all students, non-residents 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.*

**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 postgraduate students, College of Law students, summer students and undergraduate students enrolled for less than nine hours.

**APPLICATION FEE**—a check, money order or cash in the amount of \$25 which must accompany a new student's application for admission to day courses at the University. This fee is in effect only for the semester for which the student applies and \$10 of this is non-refundable. When a student is accepted, \$15 of his ap-

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plication fee is regarded as a down payment on his fees and is deducted from the total amount assessed at the time of registration for his first semester, provided that he enrolls in the semester for which he applied. If a student should be denied admission, this \$15 is refunded. If the student is admitted but decides not to attend the University the full \$25 is forfeited.

**SEMESTER**—a term of study which is half of an academic year. In 1965, Orientation begins on September 15 and Fall semester classes are scheduled to begin on September 20. The Spring semester classes are scheduled to open on January 31, 1966.

Fees are paid by University students on the semester basis, as they register for courses.

**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.

**SPECIAL STUDENT**—one who does not meet the Admissions requirements but is admitted by petitioning the Dean concerned for permission to take courses for which he is qualified by certain abilities or maturity. A special student may not take more than 15 credits unless he gains official transfer to the status of a regular student.

**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. (e.g. Law students are postgraduates.)

**CASUAL STUDENT**—one who may or may not hold academic degrees but desires to enroll in certain selected graduate courses, gaining admission by meeting requirements of the Graduate Division.

**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.

**WITHDRAWING FROM A COURSE**—the *right* way to leave a course because a withdrawal does not count on a student's permanent record. To withdraw, a student must have the permission of his Dean.

**DROPPING A COURSE**—the *wrong* way to leave a course. If a student leaves a course without the permission of his Dean, the course goes on his record as one attempted and failed.

**CREDIT**—the unit of academic value placed on every University credit course. A student does not just sign up for classes, as he did in high school. Instead, he signs up for classes with an exact number of credit hours, based on the number of hours which the

class is in session each week. For instance, Written English is a three-credit course, which means the class meets for three hours of instruction per week during the semester.

**STUDENT ACTIVITIES CARD**—a plastic, wallet-size identification card with a photo of an individual student imprinted on each one. It is a “pass” to football games, basketball games, University plays and Town and Gown performances. It is required to be shown when registering for courses, when using the University library, etc. This card is given without additional charge to each student after he pays his required fees for credit courses. (“Pass” privileges available only to students carrying 8½ credits or more.)

### Undergraduate Expenses for a Semester at the University

Fee for an undergraduate resident of Akron taking a regular load of 16 credits .....	\$228.00
Fee for an undergraduate resident of Ohio, but living outside Akron, taking a regular load of 16 credits .....	\$436.00
Fee for an undergraduate nonresident of Ohio taking a regular load of 16 credits .....	\$500.00

*These fees are explained as follows:*

General Service Fee paid by each undergraduate student enrolled for nine credits or more per semester .....	\$20.00
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

(The above fees do not cover any expenses for books, food or housing.) Estimated expenditures for books, food and housing as follows:

- 1) It is estimated that an average undergraduate pays about \$50.00 *per semester* for books.
- 2) 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 \$875. Payment plans can be arranged with the Director of Housing.

A prospective student or an enrolled student at the University has several possibilities of receiving financial aid which can facilitate his earning a college degree.

Information about grants can be obtained from the office of the Chairman of the University Committee on Fellowships, Scholarships, Awards, and Loans. Further advice to students interested in financial assistance is available in the Office of Student Services.

### Required College Preparatory Course for University of Akron Students

- 4 units of English
  - 1 unit of mathematics
  - 3 units of social studies  
(including American History)
  - 1 unit of natural science
  - 1 additional unit from the above
- Additional subject requirements for students planning to major in:
-

## SCIENCE, PREMEDICAL OR PREDEENTAL

- 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 Akron 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 or from the Standard Achievement Test of the College Entrance Examination Board. Other applicants for admission may be admitted upon the basis of the quality of their secondary school work and their standing in the entrance and counseling tests as given by the University.

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 CEEB 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 Descriptive 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 \$25 which is non-refundable. Of this amount, \$15 will apply to the tuition and maintenance fees assessed at time of registration, in the semester for which an application fee has been sent. This \$15 will be credited toward your tuition at time of enrollment. If admission is denied \$15 is refunded. Should you decide not to attend the University after being accepted, the full \$25 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 American College Test or the College Entrance Examination Board Standard Achievement Test. (The University of Akron is 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 CEEB.

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) **GET A UNIVERSITY HEALTH RECORD** from the Admissions Office. 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.

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.

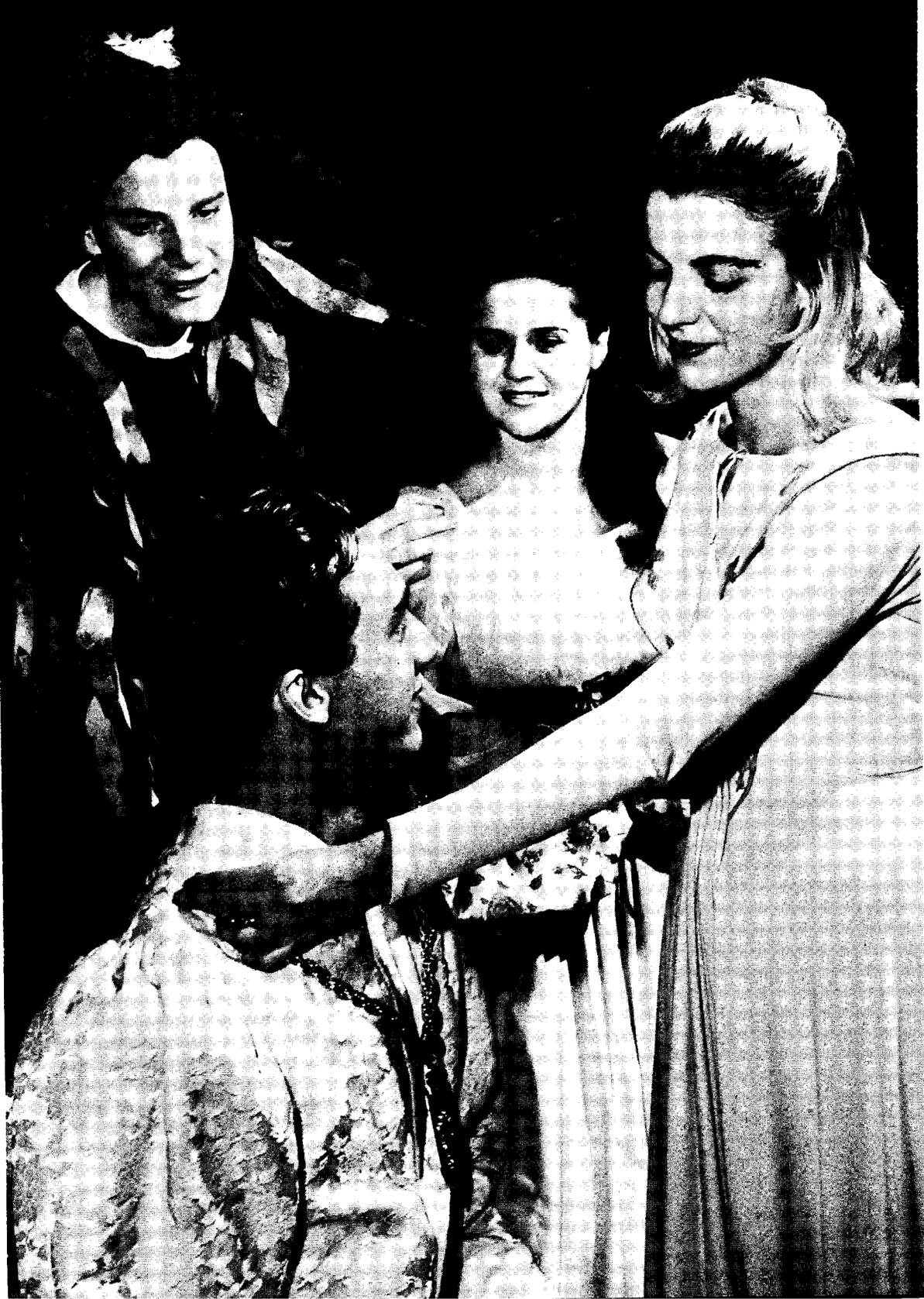
(All checks should be made payable to: The University of Akron. All checks should specify *what fees* and for *which student* payment is being made.)

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.




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# 5

## Outside of the Classroom

College life is real and earnest. Students have to study now as never before. They attend classes and are constantly faced with hurdles labeled "mid-terms", "term papers" and "finals." And at the end, they participate in an impressive ceremony called Commencement, complete with cap, gown and diploma.

All of this comes under the heading of "curricular." A word expert will explain that this is derived from the Latin word, *currere*, meaning "to run." A student at the University will agree that things have not changed much since the days of ancient Rome because they are kept running to finish assignments, get the books they need from the Library and decipher their own lecture notes.

But—even the Romans knew that there was more to higher learning than work, work, work. Maybe that's why the word, "extracurricular" was coined. Everything which prevents Jack from becoming a dull boy comes under this heading.

This phase of University life can be described, but there cannot be a comprehensive list because of the scope of "extracurricular" activity. Let it be sufficient to say that all students have a chance to gain in poise and maturity, to improve in social grace and develop their personalities, to choose their own activities or develop new ones, if they wish.

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, Casbah skits, kaffee klatsches, University radio workshops, Town and Gown concerts, 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, Evening College Jazz sessions, Founders

Day programs, homecoming dances, band practices, newspaper staff meetings, wrestling matches, swimming meets, soccer games, cross country running races.

### How Are Extracurricular Activities Controlled?

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 workshop 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 adviser 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.

### Is Spiritual Guidance Available to Students?

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 offices are located at 333 Hastings Place. 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.

### What About Sports at The University?

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.

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.

Practice area for athletic teams is at Buchtel Field which is located four blocks south of the main campus.

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.

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## What about 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 in Memorial Hall, 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.

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.



## What's the Prospect for Students Interested in the 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 tryouts 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.

### Do Musicians Have Opportunities to Perform?

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 membership in the University Singers or the Madrigal Singers.

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 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





## How About Fraternities and Sororities at The University?

There are ten national sororities for women and eight 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 do not have residence facilities in their houses but eight 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 at the time of the Acme-Zip game in the Fall and May Day in the Spring. During the year there are several competitive events such as Casbah Skit Night and 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 22 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 O.D.K. and Mortar Board.

## What Are the Student Publications at The University?

THE BUCHELITE . . . a weekly newspaper with 25 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. A few months after the closing 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.

*Buchtelite* and *Tel-Buch* offices are on the third floor of the Student Center.

*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.

*Nite-Life* offices are in the Evening College offices on the ground floor of Buchtel Hall.

## What if a Student Wants Housing on or near the Campus?

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:

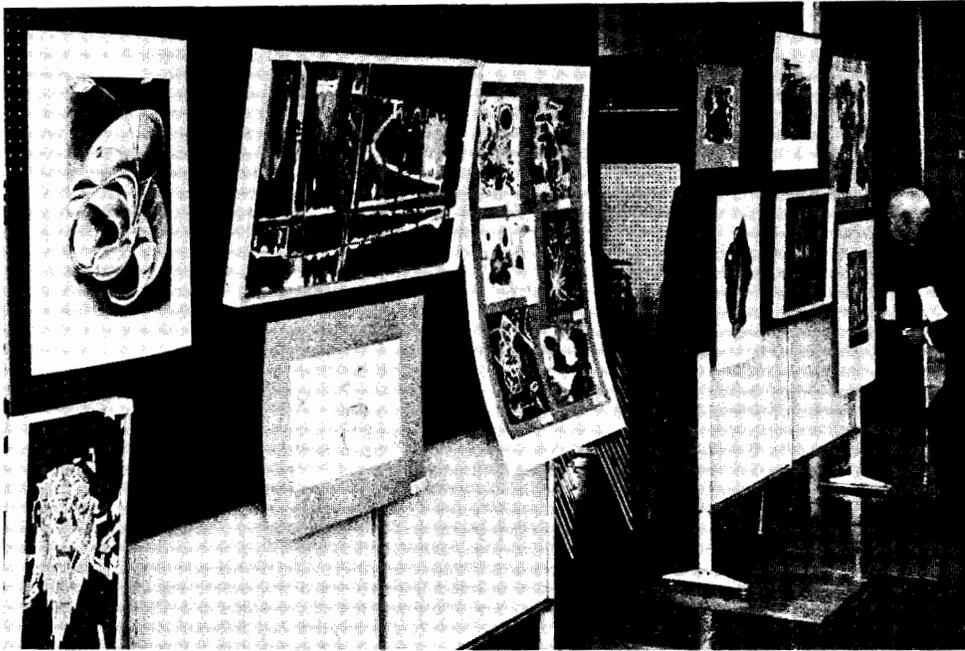
*Unmarried women students under 21 years of age are required to live with their parents, legal guardians or in University Residence Halls.*

*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 three new Residence Halls for non-commuting students: two for men and one for women. Comfortable double room accommodations are thereby provided for 120 women and 216 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 \$875.00, the student receives living accommodations, bed linen and 20 nourishing meals a week.



### What if a Student Needs Help?

Facilities to keep a student healthy, happy and well adjusted are part of the services offered to those who enroll at the University. At all times, a student has access to the guidance of trained counselors in 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.

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

Increased numbers of University

students have brought about expanded Health Service facilities. At the present time, an infirmary area is provided for five in-patients, with facilities for intermediate care when hospital treatment is required.

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. This is 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 Testing and Counseling Bureau which is 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.

### Is There a Placement Service to Help Students Get Jobs?

Student placement aids are available in the Office of Student Services 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 100 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 who needs a part-time job, there are more than 300 possibilities of employment on the campus itself.

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

### Is There Regulation of Outside Work?

Yes. 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 Serv-

ices, 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.

### Are There Many All-Campus Meetings of the Student Body?

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.

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

In addition, students are expected to attend Town and Gown performances, described later in this section.

## Is There Required Military Training at The University?

A basic course in either Army or Air Force R.O.T.C. is required of all male students at The University of Akron.

First year 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.

## What Are the Cultural Offerings on Campus?

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, presented on Monday evenings during the year in the Summit lounge of the Student Center. These presentations 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. The 1961 season featured the pianist, Alec Templeton and the 1962 season, the Metropolitan soprano, Licia Albanese. In 1963, Heidi Krall was featured with the University Singers and in 1964 the Festival featured such artists as pianist Leon Fleisher, art expert Dr. Henry R. Hope and folk singer Len Chandler. The Akron Symphony Orchestra participated each year.

At all times, the extracurricular 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 in-

tegrated 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.

Many events are traditional and have occurred year after year—but a new group with a satisfactory objective may join together and request permission to organize and function on campus.

Student groups are encouraged to plan their social activities sensibly so that they provide meaningful experiences for their members. Faculty members are often guests at student affairs and through their attendance are able to develop relationships with the students which are both enjoyable and valuable.

A campus-wide calendar is carefully maintained so that social events do not conflict and so that they can be carried out for maximum pleasure and in accordance with University social rules.





# 6

## An Academic Melting Pot:

### The University of Akron

One of the most appealing aspects of the University is the diversity of its students. A five-minute stroll on campus can give a dramatic first-hand view of several hundred men and women. They are good-looking young people. They are friendly, one to the other. They stop to talk in informal clusters, wearing the conventional college garb of the year as seen on any campus.

But these students who are part of the accepted campus scene are more diverse than they might seem to be at a glance. Their futures will prove it!

The simple explanation which most people know but occasionally need to be reminded of is this: "going to a University" is much more than merely "going to college."

Attending The University of Akron means joining a campus community which is big enough to be a city. The University citizens have their shared occupation: students. But these same University citizens do not have a shared occupation in their futures!

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 Associate Degree at the end of two years in such vocations as chemical technology, industrial electronics, mechanical design, sales merchandising, 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. Although common bonds are strong between enrollees in all of these colleges, their professional diversity now begins to assert itself. A future teacher now plans his courses to become a teacher. A future physicist begins to *specialize*. Each student begins devoting more and more of his time and attention to a specific area of study.

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To meet such diverse interests, the University has established 44 departments, each offering courses in well-defined areas. And, because it is such a large and complex community, it is necessary for each student to adopt a whole new vocabulary, learning new terms and understanding the organization of the University as a whole.

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, Latin and Greek, 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 44 departments teach more than 1200 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

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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 Undergraduate courses for which either undergraduate or graduate credit may be earned.
- 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*.

## THE UNIVERSITY OF AKRON

### The General College

Department of General Studies (1:)

### The Buchtel College of Liberal Arts

#### Humanities Division

Art (2:)  
 English (7:)  
 French (8:)  
 German (10:)  
 Greek (11:)  
 Russian (14:)  
 The Classics (15:)  
 Latin (16:)  
 Music (18:)

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Philosophy (19:)  
Spanish (23:)  
Speech (24:)

**Social Sciences Division**

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

**Natural Sciences Division**

Biology (3:)  
Chemistry (5:)  
Home Economics (13:)  
Mathematics (17:)  
Physics (20:)

**College of Engineering**

Civil Engineering (34:)  
Electrical Engineering (35:)  
Mechanical Engineering (36:)  
Chemical Engineering (37:)

**College of Education**

Education (27:)  
Health and Physical Education (29)  
Nursing Education (31:)

**College of Business Administration**

Accounting (39:)  
Marketing and Finance (40:)  
Industrial Management (42:)

**Reserve Officers Training Corps (ROTC)**

Air ROTC (46:)  
Army ROTC (47:)

**College of Law**

Law (50:)

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## Community and Technical College

Industrial Electronics (61:)  
Mechanical Design (62:)  
Chemical Technology (63:)  
Transportation (64:)  
Associate Studies (65:)  
Sales and Merchandising (66:)  
Secretarial Science (67:)

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 Chapter 13, beginning on Page 169 of the University's General Bulletin.



# 7

## Higher Education Begins:

The General College  
The Community and  
Technical College

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# The General College

THOMAS SUMMER, 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.

Students enrolling at The University of Akron with less than two years' previous college experience and who are aiming toward a baccalaureate degree enter the General College. This policy has been in effect since 1935 and the General College has consistently provided a comprehensive cultural foundation for all entering students.

In President Auburn's words, "No student is graduated from any department, even such vocationally-directed ones as engineering, chemistry or business administration, unless he has mastered our general education courses in the humanities and the social and physical sciences. 'Akron U' pioneered in general education; it does not now propose to eliminate 'know-why' courses in order to offer more 'know-how' techniques."

#### 1: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.

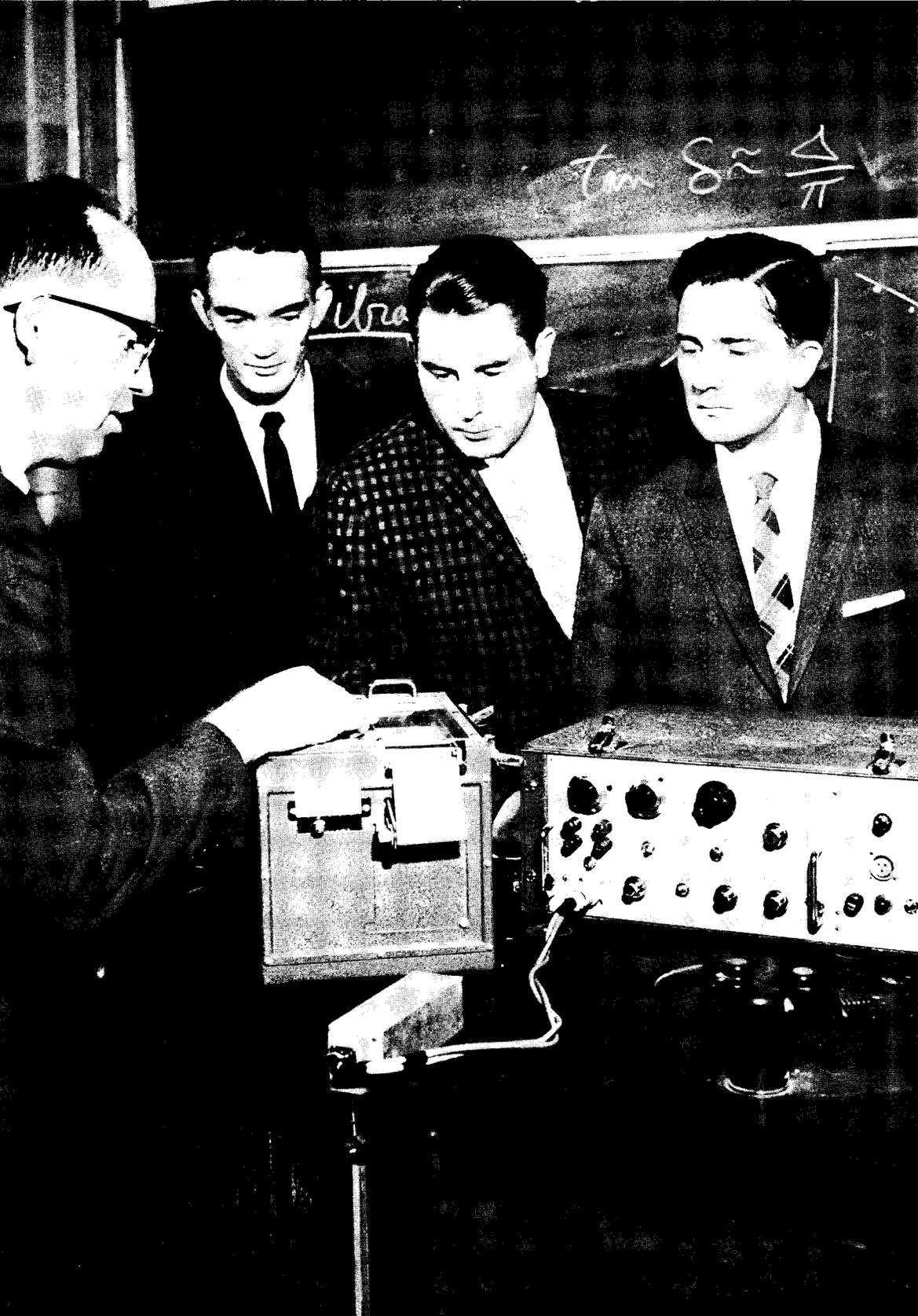
Students, well-grounded in the General Studies, are academically prepared to continue into realms of higher education; this curriculum has proved the most advantageous starting point for a student, no matter his eventual scholastic goal. It is valuable in equal measure to the enrollee who is indecisive 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 hours
1:8 Effective Speaking .....	3 credits, before 64 hours
1:11 Numbers Communication .....	3 credits, before 64 hours
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 hours
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 hours



# 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 Community and Technical College offers specialized vocationally oriented programs of study of less than four years duration for the rapidly increasing number of high school graduates who, for various reasons, do not desire the conventional four-year Baccalaureate Degree; but do have a growing conviction that education beyond the high school is necessary if they are to be self supporting, useful, intelligent members of modern complex society.

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-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  
 INDUSTRIAL ELECTRONICS  
 MECHANICAL DESIGN  
 SALES AND MERCHANDISING  
 TRANSPORTATION  
 SECRETARIAL SCIENCE  
     Medical and Dental Office Assistant  
     Technical Secretarial  
     Executive Secretarial  
     Legal Secretarial

The Associate Programs are designed for those persons who desire specialized vocationally oriented training of less than four-year duration. The Associate Programs require two years for their completion and are designed to give the graduate concepts and skills that are in demand in today's Commercial and Industrial Society.

## REQUIREMENTS FOR GRADUATION

Candidates for the Associate Degree must

- 1) Earn credit in all of the required courses listed in the schedule;
  - 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.
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## 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. Descriptions of these courses are found in Section VIII.

## 61: INDUSTRIAL ELECTRONICS

## First Year

First Semester		Credits	Second Semester		Credits
65:31	Mathematical Analysis .....	3	65:32	Mathematical Analysis .....	3
61:21	Circuit Theory .....	3	61:22	Circuit Theory .....	3
20:25	Physics .....	4	61:23	Electronics .....	4
61:20	Electrical 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
		18			18

## Second Year

First Semester		Credits	Second Semester		Credits
61:24	Electronics .....	4	61:46	Semi-Conduction Devices .....	4
61:42	Machinery .....	3	61:25	Electronics .....	3
1:8	Effective Speaking .....	3	61:47	Digital Computers .....	2
65:33	Mathematical Analysis .....	3	61:48	Systems Control .....	3
61:45	Analog Computers .....	3	65:40	Human Relations .....	3
	ROTC or Elective .....	1 1/2		ROTC or Elective .....	1 1/2
		17 1/2			15 1/2

## 62: MECHANICAL DESIGN PROGRAM

## First Year

First Semester		Credits	Second Semester		Credits
20:25	Physics .....	4	20:26	Physics .....	4
65:31	Mathematical Analysis .....	3	65:32	Mathematical Analysis .....	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
		15		ROTC or Elective .....	1 1/2
				18	

## 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
		17 1/2			17 1/2

## 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
		15			18

*Second Year*

First Semester		Credits	Second Semester		Credits
20:25	Physics .....	4	20:26	Physics .....	4
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
		15 1/2			16 1/2

## 64: TRANSPORTATION PROGRAM

*First Year*

First Semester		Credits	Second Semester		Credits
65:20	English .....	3	1:8	Effective Speaking .....	3
6:82	Consumer 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
		14		ROTC or Elective .....	1 1/2
					16

*Second Year*

First Semester		Credits	Second Semester		Credits
67:11	Basic Accounting or 39:21 Accounting .....	3	40:61	Business Organization 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 and Procedures I .....	3	64:42	Interstate Traffic Practices 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			
		17 1/2			16 1/2

66: SALES AND MERCHANDISING PROGRAM

*First Year*

First Semester		Credits	Second Semester		Credits
65:20	English .....	3	67:35	Business English .....	2
66:20	Elements of Distribution .....	3	65:40	Human Relations .....	3
6:82	Consumer Economics .....	3	66:22	Personnel Practices .....	3
67:70	Business Mathematics .....	3	66:21	Principles of Display and Advertising .....	3
2:21	Design .....	2	2:37	Design and Composition in Commercial Art .....	2
1:21	Physical Education .....	1/2	1:22	Physical Education .....	1/2
	ROTC or Elective .....	1 1/2		Elective .....	2
		—		ROTC or Elective .....	1 1/2
		16			17

*Second Year*

First Semester		Credits	Second Semester		Credits
67:11	Basic Accounting or 39:21 Accounting .....	3	40:61	Business Organization .....	3
13:21	Textiles or Elective .....	3	21:41	American Government .....	3
40:81	Principles of Salesmanship .....	3	13:58	Selection of House Furnishings or Elective .....	3
1:8	Effective Speaking .....	3	67:93	Business Communications .....	2
40:84	Public Relations .....	2	66:30	Retailing Problems .....	3
	ROTC or Elective .....	1 1/2		ROTC or Elective .....	1 1/2
		—			15 1/2
		15 1/2			15 1/2

67: SECRETARIAL SCIENCE

MEDICAL AND DENTAL OFFICE ASSISTANT 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 1/2		ROTC or Elective .....	1 1/2
		—			19
		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 1/2	67:80	Essentials of Law .....	3
		—		ROTC or Elective .....	1 1/2
		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
6:82	Consumer Economics .....	3	67:80	Essentials of Law .....	3
67:11	Basic Accounting or 39:21 Accounting .....	3	66:22	Personnel Practices .....	3
5:25	Chemistry .....	3	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/>
		17 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
6:82	Consumer 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
6:82	Consumer Economics .....	3	21:41	American Government .....	3
67:11	Basic Accounting of 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

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	13:43	Foods & Nutrition .....	3
1:21-22	Physical Education .....	3	22:41	Sociology .....	3
3:33	Microbiology .....	3	30:41	Psychology .....	3
3:47-48	Anatomy & Physiology .....	6	31:59	History of Nursing .....	2
5:25	Chemistry .....	3			<hr/>
		<hr/>			<hr/>
		18			11

# 8

## The Upper Colleges

The Buchtel College of Liberal Arts

The College of Engineering

The College of Education

The College of Business Administration

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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 curricula 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.

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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 further 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 and a feeling of aesthetic responsibility is motivated.

Among the countless careers which graduates of this division enter, typical examples 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, language, music and library science, as well as being culturally equipped to be at home in intellectual circles.

II. **THE SOCIAL SCIENCES DIVISION**—stresses the accruing of knowledge in such fields as history, economics, geography-geology, political science, psychology and sociology. A main objective is to develop students to be leaders in their communities and active participants in leisure hour civic projects, regardless of their chosen professions.

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. Many Social Science graduates pursue graduate study in specific fields, relating their avocational pursuits with their former academic major subjects.

III. **THE NATURAL SCIENCES DIVISION**—is the most professionally-directed 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 receives fundamental education which can serve as an excellent point of departure for entering the highly important technical areas of specialization such as medicine or dentistry. Also, 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.

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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 admission to graduate study will be found in the Graduate Division section of the bulletin.

#### REQUIREMENTS FOR 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, 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 typing 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.
3. Except in the labor relations and medical technology curriculums, 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 "Additional Requirements for Graduation" in Section X and on the following pages.

#### DEGREES

The following 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 Relations.

The Natural Sciences: Bachelor of Science; Bachelor of Science in Medical Technology. (However, at the discretion of the Dean, 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.)

For information concerning advanced degrees see Section VIII, *Areas of Advanced Study*.

#### 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 professional 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.

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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 their 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 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

The 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, English, Latin and Greek, 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, Latin, and Greek.
- 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. 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 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, 29, 30, 43, 45, 57, 59, 60, 69, 90, 102, 105, 115, 116, 131, 132, either 151-152 or 171-172, 200, 201, 202, 209, and six credits of Art electives.

Engineering Graphics, 36:21.

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## 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 including 3:265.
- (2) Zoological, which must include 3:265, 146, and as many of the following as feasible: 3:141, 144, 248, 255, 256, 135-136.
- (3) Botanical, which must include 3:265, 113-114, 215-216, 146 or 217, 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 5:32-32 or 5:23-24 (for some biological work organic chemistry is also essential); Psychology 30:41, and the second year of a foreign language. 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 19:241, Philosophy of Science, 3 credits, is recommended for this degree.

## PRE-MEDICAL

<i>First Year</i>				<i>Second Semester</i>			
First Semester	Credits				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			5		
17:25 Elementary Functions .....	4	Qualitative Analysis .....			2		
		Elective .....					
<i>Second Year</i>							
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		
5:61 Organic Chemistry .....	5	5:62 Organic Chemistry .....			5		
10:21 German .....	4	10:22 German .....			4		
3:21 Prin. Biology .....	4	3:22 Prin. Biology .....			4		
<i>Third Year</i>							
3:255 Anatomy .....	4	3:256 Embryology .....			4		
20:25 Physics .....	4	20:26 Physics .....			4		
10:43 German .....	3	10:44 German .....			3		
5:111 Analytical Chemistry .....	5	1:103 East Civiliz. or 3:248 Genetics .....			3 or 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.

*Fourth Year*

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

*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	1:15	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	3:21	Prin. Biology .....	4
	Elective .....	3		Elective .....	3

*Second Year\**

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

*Third Year*

3:207	Bacteriology .....	4	3:208	Bacteriology .....	4
5:47	Analytical Chem. ....	4	5:48	Analytical Chem. ....	4
20:25	Physics or Elective .....	4	20:26	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, 61-62, 111-112, 151-152, 163, 172.

Mathematics: Must complete 17:76.

Physics 20:31-32.

\* 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 Relations) 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) and Thesis, two credits (either 6:295 or 6:296).

Requirements for a major in Labor Relations and Labor Economics:

The General Studies.

Economics 6:45, 46, 146, 148, 208, 239, 260, 296, and six additional credits of Upper College Economics.

Sociology 22:41

Political Science 21:41

Psychology 30:41

Business 40:147, 42:264

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.

### 11: GREEK

Requirements for major:

The General Studies.

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

### 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.

The Graduate Record Examination or 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.

Home Economics 13:115, 118, 119, 120, 121, 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.

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## 16: LATIN

## Requirements for a major:

The General Studies.

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

## 17: MATHEMATICS

## Requirements for a major:

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

The courses 17:25, 74, 75, 76, 114, 200, 201 shall be required for all majors in Mathematics concomitant with two additional 200 level courses.

The courses 17:21 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 organization, four credits in 18:30, four credits in 130, 43, 44, 45, 46, 71, 72, 101, 102, 110, 111, 114, 201, 202, passage of jury examination in functional piano, 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 jury examination in functional piano 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. Prepared accompaniments for elementary teaching pieces, songs or school choruses.
2. Sight reading of familiar hymns, community songs or simple accompaniments.
3. Harmonization at the piano of familiar melodies in familiar keys.
4. Preparation and performance by the student alone, of an easy piece for the piano, selected by the teacher not more than two weeks before the examination.

### 19: PHILOSOPHY

Requirements for a major:

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

At least 24 credits in the department including 19:103-104.

### 20: PHYSICS

Requirements for a major:

The General Studies and the second year of a foreign language. (Preferably German or Russian.)

At least 34 credits in the department.

Mathematics 17:25, 74, 75, 76, 114; Chemistry 5:31-32.

Courses 20:25 and 26 do not meet major requirements.

### 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, 225.

### 24: SPEECH

Requirements for all speech majors:

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

For general speech majors:

Courses: 24:41, 51, 71 or 104 and 76. 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.

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For speech correction majors:

Courses: 24:41, 51, 71, 76, Psychology 30:41. Biology 3:91.

Upper College courses: 24:104, 171, 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-GEOLOGY

Requirements for a major:

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

At least 30 credits in the department including courses 28:21, 33, 43, 55 and 264.

Urban Geography option: At least 30 credits to include: The required courses listed above plus 28:141, 150, 241 and at least six additional credits determined by the Head of the Department.

### 30: PSYCHOLOGY

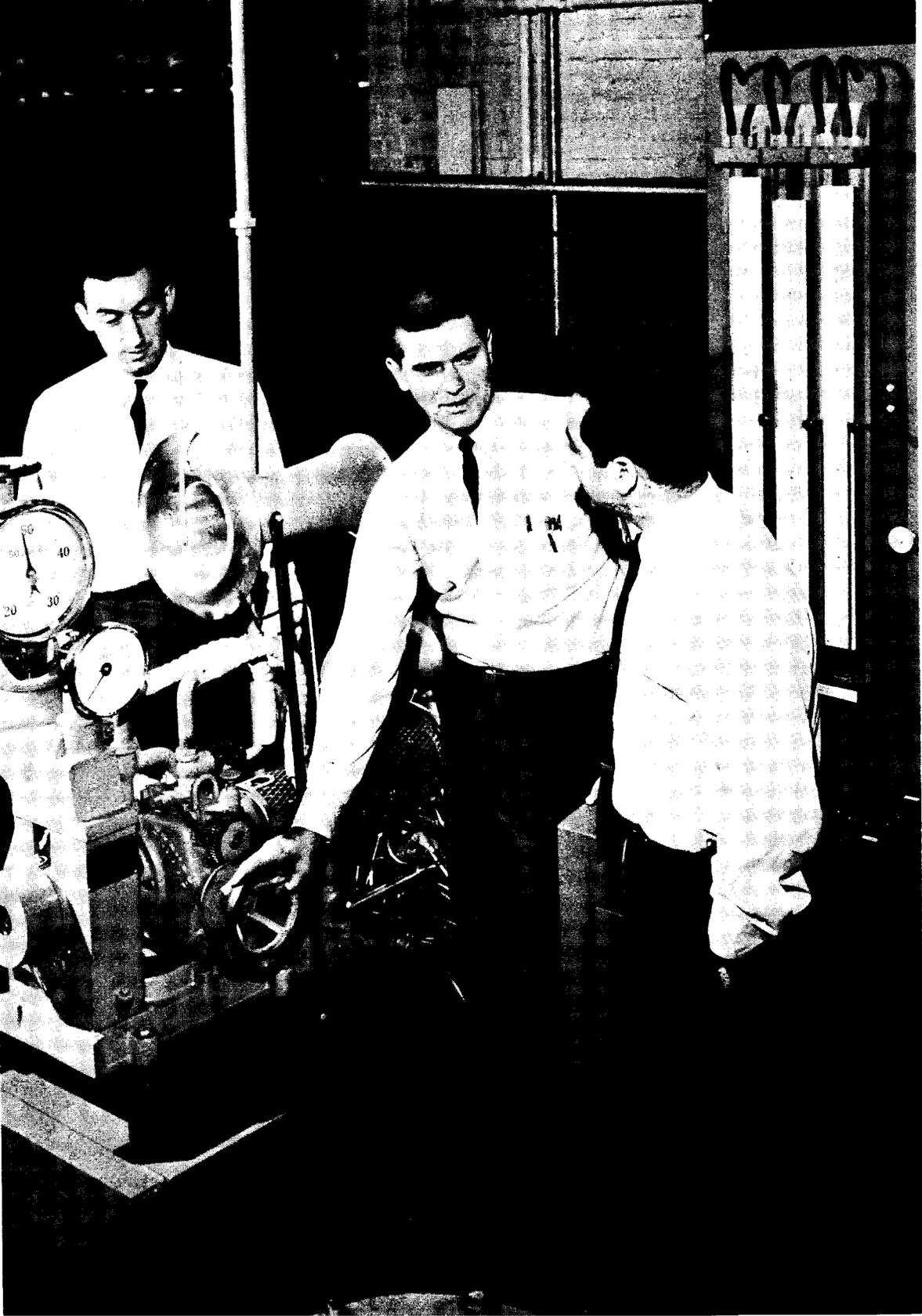
Requirements for a major:

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

At least 30 credits in the department including 30:41, 45, 47, 206, 207, 212.

Algebra 7:21 is recommended.

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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.

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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 for Civil, Electrical and Mechanical engineers are offered, as well as pre-engineering courses in the fields of Aeronautical, Chemical and Metallurgical Engineering.

Although the College of Engineering is one emphasizing 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 three principal areas of this college are as follows:

- I. CIVIL ENGINEERING
- II. ELECTRICAL ENGINEERING
- III. MECHANICAL ENGINEERING

#### 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.

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## THE ENGINEERING SCHEDULE

*Freshman Year*

(Full Time)

First Semester  
(Fall)  
In SchoolSecond Semester  
(Spring)  
In School*Sophomore Year*

(Full Time)

First Semester  
(Fall)  
In SchoolSecond Semester  
(Spring)  
In SchoolThird Term\*  
(Summer)  
In School*Pre-Junior Year*First Semester  
(Fall)  
In SchoolSecond Semester  
(Spring)  
At WorkThird Term  
(Summer)  
In School*Junior Year*First Semester  
(Fall)  
At WorkSecond Semester  
(Spring)  
In SchoolThird Term  
(Summer)  
At Work*Senior Year*Fall Semester  
(Fall)  
In SchoolSecond Semester  
(Spring)  
In 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  $1\frac{1}{2}$  units                      Plane Geometry 1 unit  
 Solid Geometry or Trigonometry  $\frac{1}{2}$  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 Civil, Electrical and Mechanical Engineering with an Industrial Option in Mechanical Engineering. The

degrees conferred include the Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering and Bachelor of Science in Mechanical Engineering.

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

### REQUIREMENTS FOR GRADUATION

In addition to the regular University requirements, candidates for the Bachelor's degree in Engineering must: 1) earn credit in all of the required courses listed in the schedule, 2) accumulate at least 150 credits,\* 3) earn a quality point ratio of at least 2 in Engineering courses as well as in total credits and 4) complete three cooperative work periods satisfactorily.

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\*

<i>Freshman Year (Full Time)</i>								
First Semester (Fall)				Second Semester (Spring)				
Subject	Rec.	Lab.	Cr.	Subject	Rec.	Lab.	Cr.	
17:25 Elementary Functions .....	4	0	4	17:74 Anal.-Calculus I .....	4	0	4	
5:27 Chemistry .....	3	3	4	5:28 Chemistry .....	3	3	4	
36:21 Engr. Graphics I .....	1	6	3	36:22 Engr. Graphics II .....	1	6	3	
1:1 Written English .....	3	0	3	1:2 Written English .....	3	0	3	
ROTC .....	2	1	1½	34:47 Surveying .....	1	3	2	
1:21 Physical Education .....	0	2	½	ROTC .....	2	1	1½	
				1:22 Physical Education .....	0	2	½	
	13	12	16		14	15	18	

<i>Sophomore Year (Full Time)</i>								
First Semester (Fall)				Second Semester (Spring)				
Subject	Rec.	Lab.	Cr.	Subject	Rec.	Lab.	Cr.	
17:75 Analytic-Calculus .....	4	0	4	17:76 Analytic-Calculus .....	4	0	4	
20:31 Physics .....	4	2	5	20:32 Physics .....	4	2	5	
1:5 Written English .....	3	0	3	1:8 Effective Speaking .....	3	0	3	
1:15 Institutions in the U.S. ....	3	0	3	17:50 Digital Computers .....	2	2	2	
34:48 Applied Mechanics I .....	3	0	3	35:90 AC Circuits I .....	2	3	3	
ROTC .....	2	1	1½	ROTC .....	2	1	1½	
	19	3	19½		17	8	18½	

#### Third Term (Half Semester) (Summer)

Subject	Rec.	Lab.	Cr.
17:114 Differential Equations .....	6	0	3
20:150 Modern Physics .....	4	0	2
34:101 Mechanics of Materials ....	6	0	3
35:100 Analog Computers .....	1	2	1
	17	2	9

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

## DEPARTMENTS OF INSTRUCTION

### 34: CIVIL ENGINEERING

Civil Engineering is a professional field rather intimately related to each of us and 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

##### *Pre-Junior Year*

First Semester (Fall)			Second Semester (Spring)		
	Rec.	Lab.	Cr.		
34:103 Applied Mechanics II .....	3	0	3	33:151 Co-op Work I	
36:177 Thermodynamics I .....	3	0	3		
35:132 Electrical Machinery .....	2	3	3		
3:77 Bacteriology .....	1	3	2		
35:105 Structural Analysis I .....	2	0	2		
1:17 Western Culture .....	3	0	3		
	—	—	—		
	14	6	16		

##### *Summer Term*

	Rec.	Lab.	Cr.
34:106 Structural Analysis II .....	6	0	3
34:100 Advanced Surveying .....	4	6	3
34:138 Engineering Mtls. ....	5	3	3
	—	—	—
	15	9	9

##### *Junior Year*

First Semester (Fall)			Second Semester (Spring)		
	Rec.	Lab.	Cr.		
33:152 Co-op Work II					
				36:171 Fluid Mechanics .....	3 0 3
				1:18 Western Culture .....	3 0 3
				6:45 Economics .....	3 0 3
				34:107 Hydrology .....	2 0 2
				34:111 Hydraulics .....	1 3 2
				34:141 Structural Design I .....	3 0 3
					— — —
					15 3 16

*Summer Term*

## 33:153 Co-op Work III

*Senior Year*

First Semester (Fall)				Second Semester (Spring)			
	Rec.	Lab.	Cr.		Rec.	Lab.	Cr.
34:142 Structural Design II .....	2	0	2	34:143 Structural Design III .....	3	0	3
34:120 Soil Mechanics .....	2	3	3	34:125 Highways .....	3	0	3
34:121 Water Supply .....	2	0	2	34:122 Sewerage .....	3	0	3
34:110 Highway Materials .....	2	3	3	34:123 Sanitary Lab .....	1	3	2
34:119 Photogrammetry .....	1	3	2	34:126 Urban Planning .....	3	0	3
1:103 Eastern Civilization .....	3	0	3	1:101 Senior Seminar .....	2	0	2
	—	—	—		—	—	—
	12	9	15		15	3	16

## 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

## Electrical Engineering

*Pre-Junior Year*

First Semester (Fall)				Second Semester (Spring)			
	Rec.	Lab.	Cr.		Rec.	Lab.	Cr.
34:103 Applied Mechanics II .....	3	0	3	33:151 Co-op Work I			
36:177 Thermodynamics .....	3	0	3				
1:17 Western Culture .....	3	0	3				
35:134 AC Circuits II .....	2	3	3				
35:152 Electrical Fields .....	3	0	3				
35:139 Electrical Measurements I	2	3	3				
	—	—	—				
	16	6	18				

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*Summer Term*

	Rec.	Lab.	Cr.
34:138 Engineering Materials .....	5	3	3
35:140 Elec. Measurements II .....	2	3	3
35:141 AC Circuits III .....	4	0	2
	11	6	8

*Junior Year*

First Semester (Fall)		Second Semester (Spring)		
	Rec.	Lab.	Cr.	
33:152 Co-op Work II				
	1:18	Western Culture .....	3	0 3
	6:45	Economics .....	3	0 3
	35:142	AC Circuits IV .....	2	0 2
	35:165	Electronics I .....	3	3 4
	35:155	Machines I .....	3	3 4
			14	6 16

*Summer Term*

33:153 Co-op Work III

*Senior Year*

First Semester (Fall)		Second Semester (Spring)					
	Rec.	Lab.	Cr.				
35:156 Machines II .....	3	3	4	35:172 Control Systems .....	3	3	4
35:166 Electronics II .....	3	3	4	35: Additional E.E. Course .....	4	0	4
1:103 Eastern Civilization .....	3	0	3	35:145 Illumination .....	2	0	2
35:159 Trans-Lines .....	2	3	3	1:101 Senior Seminar .....	2	0	2
35:171 Servo-Mechanisms .....	2	0	2	35:168 Ultra High Frequency or			
				35:173 Symmetrical Components	3	3	4
	13	9	16		14	6	16

**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

*Pre-Junior Year*

First Semester (Fall)			Second Semester (Spring)			
	Rec.	Lab.	Cr.			
34:103 Applied Mechanics II .....	3	0	3	33:151 Co-op Work I		
1:17 Western Culture .....	3	0	3			
35:132 Electrical Machinery .....	2	3	3			
36:168 Production Engineering ....	3	0	3			
36:177 Thermodynamics I .....	3	0	3			
36:178 Kinematics .....	2	0	2			
	<u>16</u>	<u>3</u>	<u>17</u>			

*Summer Term*

	Rec.	Lab.	Cr.
34:138 Engineering Matls. ....	5	3	3
36:181 Thermodynamics II .....	2	3	3
36:176 Mechanical Measurements	2	3	3
	<u>9</u>	<u>9</u>	<u>9</u>

First Semester (Fall)			<i>Junior Year</i>			Second Semester (Spring)		
	Rec.	Lab.	Cr.					
33:152 Co-op Work II				36:135 Metallurgy .....	2	3	3	
				36:179 Dynamics of Machines .....	3	3	4	
				6:45 Economics .....	3	0	3	
				36:171 Fluid Mechanics .....	3	0	3	
				36:169 Engineering Admin. ....	2	0	2	
				1:18 Western Culture .....	3	0	3	
					<u>16</u>	<u>6</u>	<u>18</u>	

*Summer Term*

33:153 Co-op Work III

First Semester (Fall)			<i>Senior Year</i>			Second Semester (Spring)		
	Rec.	Lab.	Cr.					
35:154 Electronic Fundamentals ..	2	3	3	36:175 Compressible Fluid Mech.	2	0	2	
36:128 Engineering Economy .....	3	0	3	1:101 Senior Seminar .....	2	0	2	
1:103 Eastern Civilization .....	3	0	3	36:197 Mechanical Engr. Probs. ....	1	6	3	
36:184 Heat Transfer .....	2	3	3	36:193 Heat Machines .....	2	3	3	
36:185 Mechanical Design I .....	3	3	4	36:195 Auto Controls .....	2	3	3	
	<u>13</u>	<u>9</u>	<u>16</u>	36:186 Mechanical Design II .....	2	3	3	
					<u>11</u>	<u>15</u>	<u>16</u>	

INDUSTRIAL OPTION

Mechanical Engineering students may elect an Industrial Option by substituting approved Industrial Management courses for 36:193 and 195 and by selecting an appropriate project in 197 for a total of 9 credits. The approved Industrial Management courses include:

- 42:165 Motion and Time Study (Required)
- 42:203 Production Planning and Control
- 42:205 Quality Control

37: CHEMICAL ENGINEERING

A complete undergraduate program will be available in this field as of September 1, 1965.

AN UPPER COLLEGE:

## The College of Education

CHESTER T. MCNERNEY, Ph.D., *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.

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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.

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 have an average quality point ratio of 2 in all work carried.
  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.
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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 .....	Dean Reidenbach, Mrs. Tucker
Elementary .....	Miss Becker, Mr. Beisel, Miss Cann, Mr. Hunt, Mr. Maben, Mrs. Painter, Miss Yount
High School .....	Miss Riedinger, Mr. Brumbaugh, Mr. Doverspike, Mr. Hoedt, Mr. Johnson, Mr. Ocasek, Mr. Painter, Mr. Watt
Home Economics .....	Miss Bear
Music .....	Mr. Hutchins
Nursing .....	Miss Tovey
Physical Education .....	Mr. Cochrane, Miss Ruman, Mr. Maluke
Speech .....	Mr. Sandefur
Graduate .....	Dean McNerney, Mr. Hunt, Miss Riedinger, 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 Education (see page 56.) 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. The B.S. in Nursing degree is granted to registered nurses who return to complete the requirements for the degree.

#### 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

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included in the four year sequence on p. 145. 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 on the following page. 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
18:23	*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	1:8	*Reasoning and Understanding Science .....	3
1:11	*Reasoning and Understanding Science .....	3	1:14	*Children's Literature .....	3
27:56	*Education in American Society ..	2	27:86	*Principles of Geography .....	3
21:41	*American Government or/ U.S. to 1865 or/ U.S. since 1865 .....	3	28:23	*ROTC .....	1 1/2
12:41		1 1/2		Elective (Academic Minor) .....	3
12:42	*ROTC .....	3			15 or 16 1/2
	Elective (Academic Minor) .....	3			
		17 or 18 1/2			

*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 .....	3	13:65	Child Development .....	3
13:45-46	General Foods .....	6	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 below.

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. The specific requirements for the various teaching fields will be outlined 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	or 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>					
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>					
1:101	Senior Seminar .....	2	or 1:101	Senior Seminar .....	2
1:103	Eastern Civilizations .....	3	or 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. Fields†
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 following fields will follow the four-year pattern of courses which are required as stated earlier under the heading, *Secondary Education*. However, in addition to these generally-required courses, certain special courses will be required for those who are preparing to teach in the special fields of Art Education, Business Education, Home Economics Education, Music Education and Speech Education, as follows:

#### ART EDUCATION

* 2:21 Design	2:131-132 Commercial Art
2:29-30 Art Appreciation	2:152 Costume Design or
* 2:45 Drawing	2:172 Interior Design
* 2:57 Design in Crafts	2:151 Costume Design or
* 2:59-60 Ceramics	2:171 Interior Design
* 2:69 Life Drawing	2:179 Book Illustration
* 2:90 Advanced Drawing	* 2:200-201 History of Art
2:102 Advanced Design in Crafts	2:209 Advanced Life Drawing
2:105 Graphic Arts	27:121 Art for the Grades
2:106 Weaving	36:21 Engineering Graphics
* 2:116 Painting	

\* Suggested courses for minor in Art. Minimum requirements in teaching of Art for the Provisional High School Certificate.

## BUSINESS EDUCATION

6:45	Principles of Economics	40:181	Principles of Salesmanship
27:173	Methods in Typewriting	67:21	Introduction to Office Problems
27:174	Methods in Shorthand and Transcription	67:25	Business Machines
27:175	Methods in Bookkeeping	67:53	Typewriting Principles
*39:21-22	Accounting	67:54	Typewriting Projects
40:61	Business Organization and Management	67:55	Secretarial Machines
40:83	Marketing	67:61	Shorthand Principles
40:141	Business Law	67:62	Shorthand and Transcription
		67:63	Advanced Dictation and Transcription
		67:64	Executive Dictation and Transcription
		67:93	Business Communications

\* Students with previous training may be excused from these courses by special examination.

## HOME ECONOMICS EDUCATION

13:21	Textiles	13:65	Child Development
13:23	Clothing	13:105	Tailoring
13:45-46	General Foods	13:106	Advanced Clothing
13:53	Home Econ. Orientation	13:115	Experimental Foods
13:58	Household Furnishings	13:119	Nutrition
13:62	Home Management	27:151	Home Econ. in Education

## MUSIC EDUCATION

18:30 and 18:130	Student Recitals	*18:101-102	History of Music
*18:43	Theory I	18:71	Theory III
*18:44	Theory II	18:72	Theory IV
*18:45	Music Literature I	*18:110	Conducting
*18:46	Music Literature II	18:111	Composition
18:50	Voice Class	18:114	Orchestration
18:55-56	String Class	27:122	Prim. Elem. Mus. Educ.
18:57	Woodwind Class	*27:123	Sec. Music Educ.
18:58	Brass and Percussion Class		
27:62	Elem. Music Lit. and Apprec.		

Suggestion: One of the academic courses in the curriculum for the second year may be deferred until the third year. Courses which are strongly recommended for the fourth year include the following:

18:116 Advanced Conducting  
18:201 Intro. to Musicology  
18:202 Bibliography and Research  
These courses are essential to all students who contemplate eventual graduate study.

\* Courses required for a minor in music, according to State Requirements. In addition, it must be noted that while a minor teaching field in music does exist in the certification law, it should be emphasized that virtually no school systems now employ persons with minors in music, for the purpose of teaching music. A minor in music may be taken by interested students as a cultural course.

## MUSIC ORGANIZATIONS

The University Orchestra, University Band and University Singers are open to all qualified students, with or without college credit. There is no fee for participation.

## MUSIC DEPARTMENT REQUIREMENTS

1. To major in Music Education, a student should have reached a satisfactory level of achievement in voice or some instrument before entrance.
2. Participation in one of the Music Organizations is required each semester.
3. Attendance at Student Recital is required each semester.
4. A jury examination in "functional piano" is a requirement for graduation.
5. Basic Music Department requirements for graduation, conforming to the standards established by the National Association of Schools of Music, include 42 hours in general culture; 18 in basic music courses; 42 credits in musical performance, including Applied Music, Conducting, Voice, String, Brass and Woodwind Classes, and Student Recital; and 26 in Professional Education.
6. Applied Music study must include piano until passage of the examination in functional piano; it should include at least one year, and preferably two years of voice; and may include any other instruments.

NOTE: It is possible for qualified students to combine the curriculum in Music Education with the Bachelor of Music curriculum of the College of Liberal Arts, in five years of study and thus to prepare both for teaching and for graduate study of music.

## SPEECH EDUCATION

7:37-38	Rep. Amer. Writers	24:104	Phonetics
7:42	Making of Mod. Eng.	*24:76	Fund. of Speech
7:46	Apprec. of Poetry	*24:161	Play Prod.
24:41	Pub. Spkg.	24:290	Speech Crit.
*24:51	Reading Aloud	*24:297	Speech Seminar
24:71	Voice and Artic. or		

\* Speech may be used in the Bachelor of Arts in Education program, either as an 18-credit teaching field or as a major of 24 credits for graduation purposes. The courses marked with a single asterisk are required for the 18-credit teaching field. Additional courses to make the 24-credit field may be selected upon consultation with the adviser.

## 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	24:51	Reading Aloud	3
	Elective	4-5		Elective	2-3

*Second Year*

1:13	Reasoning and Understanding Science	3	1:5	Written English or Effective Speaking	3
1:5	Written English or Effective Speaking	3	24:71	Voice and Articulation	2
1:8	Effective Speaking	3	1:14	Reasoning and Understanding Science	3
	ROTC	1 1/2		ROTC	1 1/2
27:56	Education in American Society	2	24:41	Public Speaking	3
24:76	Fundamentals of Speech	3	1:	Elective (Speech)	3
3:91	Introduction to Human Physiology	4		Elective (Speech)	8-9

*Third Year*

1:17 Western Cultural Traditions .....	3	1:18 Western Cultural Traditions .....	3
27:114 Teaching of Speech .....	2	24:104 Phonetics .....	2
24:171 Lip 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.

## HEALTH AND PHYSICAL EDUCATION

Students preparing to teach Health Education and Physical Education have a choice of four curricula. Two of them lead to certification for high school teaching and two for special certification which entitles the teacher to teach in all of the grades, kindergarten through twelfth.

Students will be required to meet the general requirements for promotion to the College of Education and certain courses which will be required in the Freshman and Sophomore years.

## REQUIREMENTS FOR HEALTH AND PHYSICAL EDUCATION

## MEN

*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	
ROTC .....	1½		ROTC .....	1½	
29:45 Physical Education** .....	2		27:57 Human Development and Learning .....	3	
30:41 General Psychology .....	3		29:46 Physical Education** .....	2	
Electives .....	2-3		Electives .....	2-3	

*Second Year*

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	or	1:11	Numbers Communication .....
1:13	Reasoning And Under- standing Science .....	3	1:14	Reasoning And Under- standing Science .....	3
	ROTC .....	1½		ROTC .....	1½
29:93	Theory & Practice .....	2	29:94	Theory & Practice .....	2
27:56	Education in American Society .....	2	29:98	Physiology** .....	3
29:97	Anatomy** .....	3	29:70	Org. & Adm. of Recreation .....	2
				Electives (teaching field) .....	1-2

*Third Year*

	Credits			Credits	
1:17	Western Cultural Traditions .....	3	1:18	Western Cultural Traditions .....	3
29:105	Theory and Practice** .....	2	29:106	Theory and Practice** .....	2
27:113	Principles and Practices in Secondary Education* .....	3	29:114	Theory & Practice of Swimming ..	2
29:121	Org. & Adm. of Phys. Ed.** .....	2	27:150	Tests & Measurements .....	2
29:111	First Aid .....	1	29:122	Org. & Adm. of Phys. Ed.** .....	2
29:112	Massage .....	1	27:133	Meth. & Materials in Teaching Health Education** .....	3
29:115	Adaptive Physical Education .....	2	29:134	Games & Rhythms for Elemen- tary Grades** .....	2
29:125	Org. & Adm. of School Health** .....	3			

*Fourth Year*

1:101	Senior Seminar .....	2	or	1:101	Senior Seminar .....	2
1:103	Eastern Civilizations .....	3	or	1:103	Eastern Civilizations .....	3
27:202	Student Teaching and Seminar ..	8	27:201	Problems in Education .....	3-7	
	Electives .....	4	29:119	Community Hygiene** .....	3	
			29:120	Camping & Outdoor Education ..	2	
				Electives .....	6	

\*\* Required Physical Education courses for 24-credit teaching field.

WOMEN

*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
29:45	Physical Education* .....	2	29:46	Physical Education* .....	2
30:41	General Psychology .....	3	27:57	Human Development And Learning .....	3
	Electives .....	3-4		Electives .....	3-4

*Second Year*

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	or	1:11	Numbers Communication .....
1:13	Reasoning And Under- standing Science .....	3	1:14	Reasoning And Under- standing Science .....	3
29:97	Anatomy* .....	3	29:98	Physiology* .....	3
29:95	Theory & Practice (Team Spts.)* .....	2	29:96	Theory & Practice (Ind. Spts.)* ..	2
27:56	Education in American Society .....	2	29:70	Org. & Adm. of Recreation .....	2
	Electives .....	2-3		Electives .....	2-3

*Third Year*

1:17 Western Cultural Traditions .....	3	1:18 Western Cultural Traditions .....	3
29:115 Adaptive Physical Education .....	2	27:150 Tests & Measurements .....	2
29:111 Red Cross First Aid .....	1	29:122 Org. & Adm. of Phys. Educ.* .....	2
27:113 Principles and Practices in Secondary Education** .....	3	29:134 Games & Rhythms for Elementary Grades* .....	2
29:121 Org. & Adm. of Phys. Educ.* .....	2	29:103 Theory & Practice .....	2
29:125 Org. & Adm. School Health** .....	3	29:133 Meth. & Materials in Tchg. Health Education* .....	3
29:108 Theory & Practice of Dance .....	2	Electives .....	3-4
Electives .....	3-4		

*Fourth Year*

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
29:114 Theory & Practice of Swimming ..	2	27:202 Student Teaching and Seminar ..	8
Electives .....	7-8	27:201 Problems in Education .....	3
		29:119 Community Hygiene** .....	3
		29:120 Camping & Outdoor Education ...	2

**30: PSYCHOLOGY**

Students in the Buchtel College of Liberal Arts or the College of Education may complete a major or minor in the field of Psychology. This field 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 take several courses in this field.

- \* Required Physical Education courses for 24-credit teaching field.
- \*\* Required if student wishes to teach the academic minor as well as in the major field.

**31: NURSING**

The University of Akron began a cooperative program with the hospitals of the city of Akron in 1943. Under this program the University provided a preclinical curriculum. Later on it was decided to provide students with an opportunity to become nurses and obtain a degree under the auspices of the University. Provision was also made for the degree B.S. in Nursing Education for registered nurses who wished to continue and complete the requirements for a Bachelor's degree. The hospital schools of nursing affiliated with the University in the preclinical program are Akron City, Akron General and St. Thomas in Akron and Massillon City Hospital in Massillon.

**BASIC NURSING PROGRAM LEADING TO  
A DIPLOMA IN NURSING**

Student nurses are regularly enrolled in the University, with college credit for the courses satisfactorily completed.

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

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

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

**LEADING TO B.S. DEGREE IN NURSING**

This five-year basic program permits candidates to be admitted directly to the University. The first two years and second semester of the fifth year are spent on the campus. The remaining time is spent in hospitals and allied health centers. This program includes general cultural courses and courses directly related to nursing. Clinical experience in medical, surgical, pediatric, communicable disease, tuberculosis, psychiatric, and public health nursing is provided through affiliations at various hospitals and health centers. No new students will be admitted to this program.

**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 supplement for the registered nurse of the three-year program in basic nursing 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		Credits	PROFESSIONAL COURSES		Credits
1:1	through 1:103 Courses (Except		31:100	Nursing Trends .....	3
	1:13-1:14 .....	32	31:105	Prin. & Meth. of Teaching	
27:57	Human Development and			Nursing .....	3
	Learning .....	3	31:106	Ward Mgt. & Tchg. ....	3
30:115	or 116 Psychology .....	3	31:113	Public Health Nursing Practice ..	3
27:150	Tests & Measurements .....	2	31:114	Comprehensive Nursing Care .....	3
	Chemistry, Physics, Bacteriology		31:115	Comprehensive Nursing	
	or Physiology .....	6-8		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.

**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; Mrs. Evelyn Downey, 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.



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.

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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.

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.

In an era when progress of the world is importantly concerned with economic production and efficient distribution of its material products, it is essential that business be guided and transactions be arranged and carried out by well-educated men and women with high ideals.

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 an average of "C" 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.

To undertake a major leading to the Business Administration or the Industrial Management degree, the student must have a "C" average.

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DEGREES

Degree programs are provided by several of the departments in the evening as well as in the day sessions.

Degrees granted by the College of Business Administration are: Bachelor of Science in Business Administration, Bachelor of Science in Industrial Management, Master of Science in Accounting, Master of Business Administration and Master of Science in Industrial Management.

REQUIREMENTS FOR GRADUATION

1. A minimum of 128 credits, including the work in the General College. Not more than two credits of physical education activities, eight credits of applied music, four credits of typing, or eight hours of advanced ROTC may be included.
2. Other requirements, including the residence requirement, listed in this Bulletin.
3. At least a "C" 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.			

39: ACCOUNTING DEPARTMENT

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.

Private and public business 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 hours of elementary accounting (39:21 and 39:22)
- 3 hours of cost accounting (39:127)
- 6 hours of intermediate accounting (39:143 and 39:144)
- 3 hours of Federal income tax procedures (39:233)
- 3 hours of auditing (39:237)
- 3 hours of controllership problems (39:239)

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 231. 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 17:21, is also strongly recommended.

## ACCOUNTING CURRICULUM

### *First Year*

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
	Behavioral Science .....	3		Behavioral Science .....	3
40:61	Business Organization .....	3	17:21	Algebra .....	3
1:21	Physical Education .....	1/2	1:22	Physical Education .....	1/2
	ROTC 11 or 13 .....	1 1/2		Elective .....	3
		—		ROTC 12 or 14 .....	1 1/2
		14			—
					17

*Second Year*

1:5	Written English .....	3	1:8	Effective Speaking .....	3
39:21	Accounting .....	3	39:22	Accounting .....	3
6:45	Economics .....	3	6:46	Economics .....	3
1:13	R & U in Science .....	3	40:62	Production Management .....	3
	ROTC 43 or 53 .....	1½		ROTC 44 or 54 .....	1½
	Liberal Arts Elective .....	3	1:14	R & U in Science .....	3
	—			—	
	16½			16½	

*Third Year*

1:17	Western Cult. Trad. ....	3	1:18	Western Cult. Trad. ....	3
39:143	Accounting .....	3	39:144	Accounting .....	3
40:141	Business Law .....	3	40:142	Business Law .....	3
39:127	Cost Accounting .....	3	40:147	Statistics .....	3
40:83	Marketing .....	3		Economics Elective .....	3
40:171	Finance .....	3		—	
	—			15	
	18				

*Fourth Year*

1:103	Eastern Civilizations .....	3	1:101	Senior Seminar .....	2
39:233	Taxation .....	3	39:239	Controllership Problems .....	3
39:237	Auditing .....	3	40:268	Business Policy .....	3
	Liberal Arts Elective .....	3		Electives .....	8
	Accounting Elective .....	3		—	
	—			16	
	15				

## 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.

## MARKETING AND FINANCE CURRICULUM

*First Year*

First Semester		Credits	Second Semester		Credits
1:1	Written English .....	3	1:2	Written English .....	3
17:21	College Algebra .....	3	40:61	Business Organization .....	3
	or			or	
40:61	Business Organization .....	3	17:21	College Algebra .....	3
1:15	Institutions in U.S. ....	3	1:16	Institutions in U.S. ....	3
1:21	Physical Education .....	½	1:22	Physical Education .....	½
	ROTC 11 or 13 .....	1½		ROTC 12 or 14 .....	1½
30:41	General Psychology .....	3	30:43	Applied Psychology .....	3
	—			—	
	14			14	

*Second Year*

1:8 Effective Speaking		1:5 Written English	
or		or	
1:5 Written English	3	1:8 Effective Speaking	3
1:13 R & U in Science	3	1:14 R & U in Science	3
6:45 Economics	3	6:46 Economics	3
40:62 Production Management	3	40:83 Marketing	3
39:21 or 121 Accounting	3	39:22 Accounting*	3
ROTC 43 or 53	1½	ROTC 44 or 54	1½
	<u>16½</u>		<u>16½</u>

\* Not to be taken by those students who have taken 39:121.

*Third Year*

First Semester		Credits	Second Semester		Credits
1:17 Western Cult. Trad.		3	1:18 Western Cult. Trad.		3
40:141 Business Law		3	39:124 Managerial Accounting		3
40:171 Business Finance		3	40:147 Statistics		3
Economics Elective		3	Related Elective		3
Major Elective		3	Major Elective		3
		<u>15</u>			<u>15</u>

During the Junior year, the student will elect a major in which he wishes to specialize. He must complete a minimum of 15 hours of work in his major, including two 3-credit courses on the 200 level, excluding Business Policy 268.

*Fourth Year*

Credits		Credits	
1:101 Senior Seminar	2	40:268 Business Policy	3
1:103 Eastern Civilizations	3	Major Electives	6
Major Elective	3	Related Electives	6
Related Electives	8		<u>15</u>
	<u>16</u>		

Fields of specialization are: Marketing and Finance. Fifteen hours are required to complete a major. 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	40:185 Advertising	3
40:291 Sales Administration*	3	40:284 Problems in Retail Management	3
40:293 Problems in Marketing*	3	40:188 Sales Promotion and Market Development	3
40:296 Marketing Analysis*	3		
40:194 Principles of Merchandising	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.

### INDUSTRIAL MANAGEMENT CURRICULUM

#### *First Year*

First Semester		Credits	Second Semester		Credits
1:1	Written English .....	3	1:2	Written English .....	3
17:21	College Algebra† .....	3	1:16	Institutions in U.S. ....	3
40:61	Bus. Org. & Mgt.† .....	3	1:14	R & U in Science .....	3
1:15	Institutions in U.S. ....	3	1:22	Physical Education .....	1/2
1:13	R & U in Science .....	3	ROTC 12 or 14 .....		1 1/2
1:21	Physical Education .....	1/2	Behavioral Science† .....		3
	ROTC 11 or 13 .....	1 1/2	Elective .....		3
		<hr/>			<hr/>
		17			17

#### *Second Year*

1:5	Written English .....	3	1:8	Effective Speaking .....	3
6:45	Economics .....	3	6:46	Economics .....	3
39:21	Accounting .....	3	40:83	Marketing† .....	3
	ROTC 43 or 53 .....	1 1/2	39:22	Accounting .....	3
	Elective† .....	3	ROTC 44 or 54 .....		1 1/2
		<hr/>	Behavioral Science† .....		3
		16 1/2			<hr/>
					16 1/2

*Third Year*

1:17 Western Cult. Trad. ....	3	1:18 Western Cult. Trad. ....	3
42:101 Industrial Plants .....	3	42:165 Motion & Time Study .....	3
40:147 Statistics .....	3	42:162 Personnel Mgt. ....	3
40:171 Business Finance .....	3	40:141 Business Law .....	3
39:127 Cost Accounting .....	3	Economics Elective* .....	3
	<hr/>		<hr/>
	15		15

*Fourth Year*

1:101 Senior Seminar .....	2	40:268 Business Policy .....	3
1:103 Eastern Civilizations .....	3	42:256 Ind. Mgt. Problems .....	3
42:203 Production Control .....	3	Electives .....	3
Major Elective* .....	3	Major Elective* .....	3
Electives .....	5		
	<hr/>		<hr/>
	16		15

† May be taken either semester.

\* Electives must be approved by major adviser.

## 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.

*First Year*

First Semester		Credits	Second Semester		Credits
1:1	Written English .....	3	1:2	Written English .....	3
17:21	Algebra .....	3	1:16	Institutions in U.S. ....	3
40:61	Bus. Org. & Mgt. ....	3	1:14	R & U in Science .....	3
1:15	Institutions in U.S. ....	3	1:22	Physical Education .....	1/2
1:13	R & U in Science .....	3		ROTC 12 or 14 .....	1 1/2
1:21	Physical Education .....	1/2		Behavioral Science .....	3
	ROTC 11 or 13 .....	1/2		Elective .....	3
		<hr/>			<hr/>
		17			17

*Second Year*

1:5	Written English .....	3	1:8	Effective Speaking .....	3
6:45	Economics .....	3	6:46	Economics .....	3
40:62	Production Mgt. ....	3	40:83	Marketing .....	3
39:21	Accounting .....	3	39:22	Accounting .....	3
	ROTC 43 or 53 .....	1 1/2		ROTC 44 or 54 .....	1 1/2
	Behavioral Science .....	3	40:191	Data Processing .....	3
		<hr/>			<hr/>
		16 1/2			16 1/2

*Third Year*

1:17 Western Cult. Trad. ....	3	1:18 Western Cult. Trad. ....	3
42:101 Industrial Plants .....	3	42:165 Motion & Time Study .....	3
40:147 Statistics .....	3	42:162 Personnel Mgt. ....	3
40:171 Business Finance .....	3	40:141 Business Law .....	3
39:127 Cost Accounting .....	3	39:123 Budgeting .....	3
	<hr/>		<hr/>
	15		15

*Fourth Year*

1:101 Senior Seminar .....	2	40:268 Business Policy .....	3
1:103 Eastern Civilizations .....	3	42:205 Quality Control .....	3
42:203 Production Control .....	3	39:239 Controllership Problems .....	3
Electives .....	8	Electives .....	6
	<hr/>		<hr/>
	16		15

*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 R.O.T.C.

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 R.O.T.C. was organized in 1919, making it one of the oldest in the country, and young men of the University were trained to become officers in World War I.

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 R.O.T.C. was formed to give both basic and advanced instruction to University men, just as the Army R.O.T.C. had been doing in the preceding quarter century.

A basic course in either Army or Air Force R.O.T.C. is required of all male students at the University.

First year 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 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 R.O.T.C. 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 R.O.T.C. is a General Military Science type 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 R.O.T.C. 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 opportunity for the male population of the University to become active citizens of The Air Age.

Advanced courses are available for men at the University as well as Advanced Summer Camps for both of the military units.

#### THE ADVANCED R.O.T.C. COURSE

The Army R.O.T.C. program consists of five hours per week during the junior and senior years. The advanced course is open to all students who have satisfactorily completed the basic course and veterans who have been honorably discharged or transferred to the Enlisted Reserve Corps and relieved from active duty, provided that they are selected by the President of the University and the Professor of Military Science.

While the student is enrolled in the advanced course, the government pays a total of \$100 toward the purchase of a complete, individually tailored uniform that becomes the property of the cadet upon graduation and may be worn upon entry to active duty. In addition, the government pays the cadet a monetary allowance.

The Army unit requires that the student must be eligible to qualify for a commission prior to attaining the age of 28.

Once the student enters the advanced course, he must complete it to qualify for a University degree unless excused by the President of the University.

The Army R.O.T.C. student qualifies for his commission in the Army Reserve Corps by completing the advanced course and by completing the academic requirements for a Bachelor's degree. Upon being commissioned he will be called to active duty as an officer for either six months or two years, unless deferred. Deferment is granted for up to three years to work on a Master's or Doctor's degree.

On the basis of scholastic attainment and demonstrated leadership, students may be designated distinguished military students and be given an opportunity to qualify for a regular Army commission upon graduation.

Army R.O.T.C. cadets may, during their senior (graduating) year, enroll in the Army Flight Training Program. This program, leading to an FAA-approved pilot's license and offered without cost to the cadet, is designed to afford an opportunity for those who, upon being commissioned, wish to qualify for Army pilot training. Consisting of 35 hours of flying instruction and 35 hours of ground instruction, the program is extra-curricular and is taken in addition to regular classroom work.

The constantly expanding field of rockets and guided missiles offers many opportunities for Army officers in the operational area (firing and controlling missiles) and in the research and development area (such as engineers, physicists, biologists, chemists, etc.).

#### THE ADVANCED R.O.T.C. CAMP

Six-week Advanced R.O.T.C. camps are conducted each Summer. Students will be required to attend one Summer camp program unless sooner discharged from the R.O.T.C. The student will receive the pay of the first enlisted grade while at the advanced camp, and he will be reimbursed for his travel to and from the camp.

### THE ADVANCED A.F.R.O.T.C. COURSE

The advanced program consists of five class hours per week during the junior and senior years.

The advanced program is open to men who are physically qualified and are interested in flying with the United States Air Force, either as a pilot or observer, and to a limited number of selected engineering and science majors. Entrance into the advanced phase is limited to men who have successfully completed the basic course, will be in upper college at the time of entrance, who are in phase scholastically, and to veterans who have been honorably discharged from the Armed Forces or transferred to the Enlisted Reserve Corps and relieved from active duty.

Air Force directives now require all veterans enrolling at universities or colleges, who plan to enter the advanced phase of A.F.R.O.T.C., to attend basic A.F.R.O.T.C. class. However, the Professor of Air Science may waive so much of the basic course as he considers equivalent to the active service training provided that he does not waive any portion which the cadet can complete prior to entrance into the advanced course. To satisfy entrance requirements for the advanced course, veterans entering an institution at freshman or sophomore level who desire a commission through A.F.R.O.T.C. will be required to take in phase with nonveteran contemporaries that portion of the basic program which remains. Final selection will be made by the President of the University and the Professor of Air Science.

The student must be less than 28 years of age at the time of graduation if enrolling as a Category II (engineering) applicant, or 27 years of age at the time of graduation, if enrolling as a Category I or IA (flight) applicant.

Once the student enters the advanced course, he must complete all requirements for a degree within two years (engineering students, three years) in order to qualify for a commission. Once a student enters the advanced course he must complete it to qualify for a University degree unless excused by the President of the University.

Senior A.F.R.O.T.C. 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. A private pilot's license is issued to those who complete this flying course.

### THE ADVANCED A.F.R.O.T.C. CAMP

A four-week Summer camp is conducted each Summer. Students will be required to attend one Summer camp, usually between the junior and senior year, unless sooner discharged from the A.F.R.O.T.C. program. Students will receive the pay of an airman basic while at camp and will be reimbursed for their travel to and from camp.

# 9

## 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.

### When Does Daytime End and Evening Begin on the University Campus?

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.

### Is There Any Extracurricular Life For Evening College Students?

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 3,900 STUDENTS, compared to the approximate enrollment of daytime students which is estimated at about 4,400. (These figures do not include students registered in the Department of Special Programs non-credit courses.)

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## The Summer Sessions

For more than 43 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. Programs are offered for teachers who wish to obtain emergency certificates or renew their teaching certificates.

Student teaching is scheduled as follows for the 1965 Summer Sessions:

Spicer Elementary .....	June 14—July 23
Barberton High School .....	June 21—July 30
Akron Central High School .....	June 14—August 6
West Junior High School .....	June 14—August 6

(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 1965 Summer Sessions, indicate this to the Director during the first week of classes.

**INFORMATION** to 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:

6 wks.—\$70      8 wks.—\$90      12 wks.—\$140  
(this does not include meals)

**DATES** of the University Summer Sessions for 1965:

First Six Weeks Session .....	June 14—July 23
Second Six Weeks Session .....	July 26—Sept. 3
Eight Weeks Session .....	June 14—August 6



# IO

## Advanced Study

The Graduate Division  
and  
The College of Law

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# The Graduate Division

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## 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.

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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 and Doctor of Philosophy in Polymer Science. The staff and facilities of the Institute of Rubber Research, which has conducted basic research on campus since 1943, are available to qualified students pursuing these objectives. 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, 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.

#### 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

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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

The applicant for admission to graduate study must show that he has received the Bachelor's Degree from a regionally accredited college or university. This he will do by requesting the Registrar of such college or university to send directly to the Dean of the Graduate Division, The University of Akron, a complete transcript of his undergraduate record. If he has taken undergraduate and/or graduate work at more than one college or university, official, final transcripts of all such work must be so provided.

It is the further responsibility of the applicant to make certain that all transcripts reach the Dean of the Graduate Division 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.

The applicant also will fill out *in triplicate* and return to the Dean the form Application for Admission to the Graduate Division. On it he will outline his academic background (to be substantiated by the official transcripts of his record) and he will indicate the area of study which he wishes to pursue. He will also state whether or not he desires to become a candidate for an advanced degree. 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.

#### 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:

1. A minimum of thirty credits of graduate work.
2. A quality point average of at least 3.00 ("B" average) must be maintained 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 such 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. A comprehensive final examination may be required. Such examination may be oral, written, or a combination of both. For detailed information the head of the major department should be consulted.
4. In a number of departments a thesis or formal problem report is required. The thesis topic, a brief description, and certification of topic approval by the adviser will 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 will bear the signatures of approval or acceptance by the adviser, faculty reader, department head and college dean. They will be bound and placed in the University Library. The research project and thesis or report will comprise from two to six of the credits required for the graduate degree.
5. Up to a maximum of 10 credits (6 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 twelve graduate credits at The University of Akron.

6. 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.

7. Each degree candidate will file an Application for Diploma with the Registrar no later than November 1 of the academic year in which he plans to receive the degree.

8. Degree candidates must attend and participate in the Baccalaureate and Commencement exercises at which the degree is conferred and must discharge all University obligations.

9. Additional requirements, if any, are listed hereafter under the college in which the program contemplated is offered.

### 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.

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 scholarships and fellowships are available for graduate study leading to the Master of Science or Doctor of Philosophy Degree in Rubber and Polymer Chemistry. They range in amount up to annual stipends of \$3,600. In addition, tuition and fees may be remitted by the University to the recipients of some fellowships in return for nine hours of work per week as laboratory assistants.

Several research assistantships, carrying stipends of \$3,300 to \$3,600 per year, are offered jointly by the Institute of Rubber Research and the Chemistry Department. Recipients devote about 20 hours per week to work on sponsored research contracts and about 15 hours per week to undergraduate laboratory supervision. Frequently the contract research performed is applicable, at least in part, to the requirements for a graduate degree. Enrollment in evening graduate courses usually enables the research assistant to complete the work for the Master's Degree in two years.

Teaching Internships are available in most departments for students with excellent undergraduate records and a desire to prepare for college teaching. 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.

#### 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 a similar 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.

### BUCHTEL COLLEGE OF LIBERAL ARTS

#### THE DOCTOR OF PHILOSOPHY DEGREE

The following programs leading to the Ph.D. Degree are offered in the Buchtel College of Liberal Arts: The Doctor of Philosophy in Chemistry with specialization in Polymer Chemistry, and the Doctor of Philosophy in Polymer Science offered through the Institute of Rubber Research and administered by an interdepartmental committee.

The degrees will be awarded to students who show a mastery of the field, who demonstrate their ability to pursue independently and carry to successful conclusion a significant piece of original research, and who have met the following:

1. All general requirements for admission to the Graduate Division.
2. At least one calendar year in full-time residence research.
3. Satisfactory completion in the judgment of the Head of the Chemistry Department and/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.
4. Evidence of ability to use in his work at least two modern foreign languages approved by the Head of the Chemistry Department and/or the Chairman of the Interdepartmental Committee.

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 should fail the language examination he shall pay a fee of \$5 for the second examination and \$10 each for any additional examinations.

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5. The passing of an oral examination upon completion of his 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 these examinations as a degree requirement.

6. Preparation of a dissertation based upon original research which has been approved by the Head of the Chemistry 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 unforeseen limitations that may arise out of 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 (of the year in which the degree is desired) bearing the approval of the adviser, faculty reader, departmental head and college dean.

These official 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. The candidate shall pay the binding and microfilm fees (currently \$30.00) plus \$5.00 for each bound copy in addition to the required two. Credit for the dissertation will be established by enrollment in Chemistry 401 and shall be equivalent to 36 credits of graduate work and shall be in addition to the 48 credits of graduate courses mentioned in "3." The amount of credit for the dissertation in each academic semester or term shall be determined by the Head of the Chemistry Department and/or the Chairman of the Interdepartmental Committee.

7. Completion of the work and examinations for the degree within ten years from the date of admission, unless excused from this requirement by the Head of the Chemistry Department and/or the Chairman of the Interdepartmental Committee, and the Dean of the Graduate Division.

#### Doctor of Philosophy in Chemistry with Specialization in Polymers

A program leading to the Ph.D. in Chemistry, with specialization in polymers, is administered through the Department of Chemistry in cooperation with the Institute of Rubber Research.

#### COURSE PROGRAM FOR PH.D. IN CHEMISTRY WITH SPECIALIZATION IN POLYMERS

##### *Specified Courses for all Students*

	Credits
5:301-302 Chemistry of Polymers .....	4
5:311-312 Theoretical Organic Chemistry ..	4
5:319-320 Theoretical Inorganic Chemistry	4
5:331-332 Physical Chemistry of Polymers	4
5:333-334 Experimental Physical Chemistry of Polymers .....	4
5:335-336 Advanced Physical Chemistry ....	4
5:351-352 Polymer Technology .....	6
5:401 Doctoral Research .....	36

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Beyond this core, the student must complete further requirements in one of two options, organic chemistry or physical chemistry. The specified and elective courses in these

options will be identified in consultation with the Head of the Chemistry Department or such adviser as he may appoint.

### Doctor of Philosophy in Polymer Science

An interdisciplinary Program leading to the Ph.D. 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 Ph.D. 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 Ph.D. 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.

### CHEMISTRY PROGRAM

#### *Specified Courses for All Students*

	Credits
5:301-302 Chemistry of Polymers .....	4
5:311-312 Theoretical Organic Chem. ....	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
5:351-352 Polymer Technology .....	6
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#### (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		ELECTIVE COURSES		
5:351-352	Polymer Technology .....	6	5:332 Physical Chem. of Polymers .....	2
17:201	Advanced Calculus .....	3	5:334 Experimental Physical	
17:208	Vector Calculus .....	3	Chemistry of Polymers .....	2
17:210	Theory of Functions of		20:314-315 X-rays and Laboratory .....	4
	a Complex Variable .....	3	20:344 Solid State Physics .....	3
17:212	Partial Differential Equations ..	3	20:351 Atomic Spectra .....	3
20:321	Theoretical Mechanics .....	4	20:352 Molecular Spectra .....	3
20:322	Theoretical Electricity		34:300 Theory of Elasticity .....	3
	and Magnetism .....	4	36:300 Vibration Isolation .....	3
20:324	Intro. to Quantum Mechanics ..	3	Other approved Chemistry, Engineering	
20:341	Statistical Thermodynamics .....	3	and/or Mathematics Courses.	
20:343	Solid State Physics .....	3		
20:347-348	Physics of Polymers .....	4		
20:349-350	Physics of Polymers Lab. ....	4		
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## ENGINEERING PROGRAM

SPECIFIED COURSES		ELECTIVE COURSES		
5:351-352	Polymer Technology .....	6	5:332 Physical Chem. of Polymers ....	2
17:201	Advanced Calculus .....	3	5:334 Experimental Physical	
17:212	Partial Differential Equations ..	3	Chemistry of Polymers .....	2
20:211-212	Mechanics .....	6	35:305 Computers and	
20:347-348	Physics of Polymers .....	4	Computer Methods .....	3
20:349-350	Physics of Polymers Lab. ....	4	36:303 Heat Transfer Problems .....	3
34:300	Theory of Elasticity		Other approved Chemistry, Physics	
34:330	Adv. Engineering Materials ....	3	and/or Mathematics courses.	
36:300	Vibration Isolation .....	3		
36:302	Fluid Dynamics .....	3		
36:312	Polymer Processing .....	3		
36:313	Des. of Rubber Components ....	2		
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## 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, 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. (See Item 4, previous page.) 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: 5:307, 309, 311-312, 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. (See Item 4, previous section.)

**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 courses must be included in the program: 7:201, 215 or 216, 397-398. Three credits will be earned in 301. 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. (See Item 4, previous section.)

**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 12:412 for a total of three credits; 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. (See Item 4, previous section.)

**MATHEMATICS:** A minimum of 12 credits of course work shall be taken at the 300-level, and a course in Real Function Theory shall be required. All students will be required to enroll in 17:390 for three credits. Upon recommendation of the department, certain students may enroll in 17:391 for an additional three credits. The individual problem studied by the student in 17:390 will be the basis for the student's thesis.

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PHYSICS: The following courses must be included in the program: 20:321, 322, 324, 360. In addition each student will complete one of the following sequences:

1. 20:231, 333, 335.
2. 20:231, 333.
3. Other sequence acceptable to adviser.
4. Comprehensive examination.

POLITICAL SCIENCE: Completion of 21:401 for a total of three credits.

PSYCHOLOGY: Completion of 30:300, 400 and 402; oral examination.

SOCIOLOGY: Based on 30 hours credits including 3 hours for thesis. Required courses are 22:301, 22:303, 22:399 and 30:300, remaining hours 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, 366, 367, 368, 394.
- C. Speech Correction programs will include 24:277, 297, 371, 372, 373, 374, 394, 3:251, Anatomy and Physiology of Speech and Hearing.

## 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

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:

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

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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 Pupil Personnel 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

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## 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
30:206 Normal and Abnormal Personality .....	3 credits

## Required:

27:302 Orientation to Pupil Personnel Services .....	2 credits
27:304 Techniques of Guidance .....	2 credits
27:309 Vocational Guidance and Occupational Information .....	2 credits
27:314 Evaluation and Diagnosis of Learning Problems .....	3 credits
27:315 Practicum in School Counseling .....	1-2 credits
27:319 Secondary School Curriculum and Instruction .....	2 credits
(or 27:330)	
27:320 Secondary School Administration .....	2 credits
(or 27:331)	
27:327 Group and Educational Guidance .....	2 credits
30:204 Psychology of Exceptional Children & Adolescents .....	3 credits
30:207 Psychological Tests and Measurements .....	3 credits
30:208 Techniques in Guidance and Counseling .....	2 credits
30:304 Advanced Developmental Psychology .....	3 credits

## 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.

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## TEACHER OF SLOW-LEARNING CHILDREN

## Prerequisites:

30:204 Psychology of Exceptional Children & Adolescents ..... 3 credits

## 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 Speech 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 Pupil Personnel 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 hours
  - B. Reading Instruction ..... 10-12 hours
    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 hours  
 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 hours  
 With the approval of his adviser, each student will schedule a minimum of two courses from among the following:  
 27:302 Orientation to Pupil Personnel 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:

- 30:47 Introduction to Experimental Psychology ..... 3 credits  
 30:107 Psychology of Childhood and Adolescence ..... 3 credits  
 30:204 Psychology of Exceptional Children and Adolescents ..... 3 credits  
 30:206 Normal and Abnormal Personality ..... 3 credits

#### Required:

- 27:322 Supervision of Instruction ..... 3 credits  
 27:330 Elementary School Curriculum and Instruction ..... 2 credits  
 27:331 Elementary School Administration ..... 2 credits  
 30:207 Psychological Tests and Measurements ..... 3 credits  
 30:208 Techniques in Guidance and Counseling ..... 2 credits  
 30:212 Psychology of Learning ..... 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  
 30:309 Theories of Personality ..... 2 credits  
 30:310 Theories of Psychotherapy ..... 2 credits  
 30:311 The Psychology of Individual Differences ..... 3 credits  
 30:319 Surveys of Projective Techniques ..... 3 credits  
 30:320 Practicum in Clinical and Counseling Psychology ..... 3 credits
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### 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 Administration of Student Personnel Programs .....	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 or .....	2 credits
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.
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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 hours required:
  - a. Required of all majors:
 

39:421 Advanced Accounting Theory .....	3 credits
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  - b. Accounting electives—12 hours required from the following courses:
 

39:231 Accounting Systems .....	3 credits
39:232 Consolidated Statements .....	3 credits
39:234 Advanced Federal Income Taxation .....	3 credits
39:239 Controllershship 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
6:341 Economic Analysis .....	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.

#### ACCOUNTING

39:399                      39:421                      39:427                      39:498

#### BIOLOGY

3:347                      3:367-368

#### CHEMISTRY

5:301-302	5:310	5:321-322	5:337-338	5:350
5:303-304	5:311-312	5:325	5:339	5:351-352
5:307-308	5:315-316	5:331-332	5:343-344	5:365
5:309	5:319-320	5:333-334	5:349	5:401
		5:335-336		

#### CHEMICAL ENGINEERING

37:300                      37:301                      37:302

#### CIVIL ENGINEERING

34:300	34:303	34:305	34:311	34:330
34:301	34:304	34:310	34:320	

## ECONOMICS

6:341                      6:351                      6:355-356

## EDUCATION

27:300	27:311	27:322	27:354	27:437
27:301	27:314	27:327	27:356	27:441
27:302	27:315	27:330	27:392	27:445
27:303	27:317	27:331	27:393	27:459
27:304	27:319	27:345	27:420	27:460-461
27:309	27:320	27:350	27:433	27:499
	27:321	27:352	27:436	

## ELECTRICAL ENGINEERING

35:300	35:302	35:304	35:306
35:301	35:303	35:305	35:310

## ENGLISH

7:303	7:311	7:328	7:338	7:397-398
	7:322	7:332	7:340	7:401

## HISTORY

12:311-312	12:331	12:333	12:343	12:412
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## 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	40:498
40:465	40:469	40:490	

## MATHEMATICS

17:310	17:320	17:330-331	17:337
17:314	17:324	17:335	17:390-391
17:316	17:326	17:336	

## MECHANICAL ENGINEERING

36:300	36:302	36:304	36:310	36:313
36:301	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	18:327-2	18:328-3	18:329-3
18:324	18:327-3	18:328-4	18:329-4
18:325	18:327-4	18:328-5	18:329-5
18:326	18:328-1	18:329-1	18:331
18:327-1	18:328-2	18:329-2	

## PHYSICAL EDUCATION

29:301	29:303	29:306	29:308
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## PHYSICS

20:314	20:324	20:335	20:343-344	20:351
20:315	20:332	20:340	20:347-348	20:352
20:321	20:333	20:341	20:349-350	20:360
20:322				

## POLITICAL SCIENCE

21:301	21:303	21:308	21:344
21:302	21:305	21:331	21:401

## PSYCHOLOGY

30:300	30:306	30:310	30:317	30:320
30:301	30:307	30:311	30:318	30:400
30:304	30:309		30:319	30:402

## SOCIOLOGY

22:301	22:306	22:312	22:320	22:370
22:303	22:309	22:316	22:335	22:399

## SPEECH

24:361	24:366	24:371-372	24:390	24:393
24:365	24:367-368	24:373	24:391-392	24:394
		24:374		

## 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.

The following 200 level courses may be taken for graduate credit:

## ACCOUNTING

39:230	39:231-232	39:233-234	39:236	39:239
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## ART

2:203-204      2:209      2:225-226

## 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

## CIVIL ENGINEERING

34:200

## ECONOMICS

6:204	6:242	6:265	6:293	6:295-296
6:239	6:260	6:268	6:294	6:298

## EDUCATION

27:220	27:237	27:242	27:263	27:276-277
27:225	27:238	27:243	27:264	27:278-279
27:234	27:239	27:244	27:270-271	27:280
27:235	27:240	27:260	27:272-273	27:290
27:236	27:241	27:261	27:274-275	27:291
		27:262		

## ENGLISH

7:201	7:207	7:214	7:217	7:223
7:202	7:212	7:215	7:221	7:240
7:205	7:213	7:216	7:222	7:297-298

## GEOGRAPHY-GEOLOGY

28:241

## HISTORY

12:218	12:222	12:228	12:247	12:254
12:219	12:223	12:242	12:250	12:260
12:220	12:225	12:245	12:251	12:261
12:221	12:227	12:246	12:253	

## INDUSTRIAL MANAGEMENT

42:256      42:260      42:264

## LATIN AND GREEK

11:231-232      15:201-202      16:231-232

## LAW

50:220	50:233	50:253	50:266	50:268
50:222	50:234	50:254	50:267	50:269
		50:264		

## MARKETING AND FINANCE

40:247	40:277	40:291	40:296
40:268	40:279	40:293	

## MATHEMATICS

17:207	17:210	17:215	17:219	17:255
17:208	17:212	17:217	17:221	17:259
17:209	17:213	17:218	17:232	

## MECHANICAL ENGINEERING

36:210

## MODERN LANGUAGES

8:213-214	8:219-220	8:223-224	10:217-218	23:207-208
8:217-218	8:221-222	10:211-212	10:219-220	23:209-210
		10:213-214		

## PHILOSOPHY

19:211	19:221-222	19:229	19:242	19:258
19:212	19:224	19:241	19:256	

## PHYSICS

20:211-212	20:215	20:218	20:224	20:231
20:213	20:216	20:219	20:227	20:235
20:214	20:217	20:221-222	20:228	

## POLITICAL SCIENCE

21:201	21:205	21:210	21:213-214	21:230
21:202	21:208		21:220	21:243

## PSYCHOLOGY

30:204	30:206	30:207	30:211	30:212
		30:208		

## SOCIOLOGY

22:204	22:214	22:223	22:229-230	22:235
22:206	22:216	22:225	22:231	22:237
22:207	22:222	22:227	22:233	22:238

## SPEECH

24:244	24:265	24:271-272	24:290
24:262	24:267	24:273-274	24:297
	24:270	24:277	

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# 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 bachelor's degree upon satisfactory completion of the requirements.

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The College of Law was officially established as part of the University on September 1, 1959, in answer to the growing demand in Akron and surrounding cities for legal education opportunities. The historical roots of this college are in the Akron Law School which was founded in 1921 and produced two generations of distinguished members of the bench and bar.

Currently the College of Law has its offices and Law Library on the ground floor of the new University Library and classes are held principally in the Education Building. Increasing numbers of postgraduate students, ambitious to receive their formal legal education, have created an educational need for additional classroom space. Future construction plans at the University include a building which will be used jointly by the College of Law and the College of Business Administration.

At the present time, the College of Law offers a plan of part-time study with all classes scheduled in the evening hours. Daytime courses will be considered in the future, since it appears that there is a substantial need for a program of full-time study.

The schedule of courses is now designed for part-time students, providing them a normal semester academic load of nine credit hours. The summer session is an integral part of the program.

Except in the case of transfer students admitted to advanced standing, the Bachelor of Laws degree may be obtained in four academic years, consisting of four fall semesters, four spring semesters and three summer sessions. Students are encouraged to follow this evening hour program so that they can continue their advantageous progression of subject matter.

Primary purpose of students enrolling in the College of Law is to accrue a fund of knowledge of law and jurisprudence, interlaced with a mature grasp of the ethics of the profession, enabling them to become private attorneys, officers of the courts and leaders in governmental affairs. The students are trained to develop their powers of legal analysis and reasoning and they are taught the technical skills of legal advocacy and legal draftsmanship. It is a goal of the College of Law that its graduates will be legal statesmen as well as defenders of their own clients.

Special attention is given to the development of practical skills. In the third and fourth year, the student is introduced to professional methods of solving legal problems. He participates in discussion groups and in scheduled seminars.

Every student in the College of Law enjoys reasonable freedom in the selection of elective courses throughout his years of study.

The curriculum is based on the casebook system, as opposed to the strictly textbook and lecture type of instruction. Following this system, actual court cases are explained and discussed; each student's professional judgment is developed in an atmosphere of modern legal reality.

Actual clinical training is gained by taking a required course in legal aid. A student works in the Legal Aid Society office nearest his residence under the supervision of the Society's counsel, interviewing clients, formulating courses of

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action and preparing necessary letters, pleadings and briefs. He learns the processes of law through actual experience and firsthand observation of the workaday activities of a lawyer. This course is a joint effort of the College of Law and the Legal Aid Societies in Summit and Stark Counties.

In addition to his formal courses of study, a law student participates in a Student Bar which is patterned after the Akron Bar Association; this is a valuable implementation of his professional training.

At all times, awareness of a lawyer's responsibilities in western civilization is imparted to the law student. He becomes equipped to function productively in a complex society, helping to design and operate the legal and social machinery in peaceable accordance with the rule of the law.

The College of Law has as its aim, the development of graduates who will serve as guardians of society's traditions and architects of its future.

#### 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 cultivated 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 interpret balance sheets, income statements, etc.

*Economics*—valuable as a means of affording the financial terminology essential to a lawyer.

*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 "natural" for pre-law students because their future profession deals with principles of governmental and political policies.

*Sociology*—valuable because many jurists explain law in sociological terms and advocate a sociological, humanistic approach to the practice of law.

*Philosophy*—of basic value since much Anglo-American law has developed essentially in philosophic terms (e.g., case histories). Also, philosophic methods are useful in achieving orderly 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.

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### REQUIREMENTS FOR ADMISSION

An applicant for admission to the College of Law desiring to become a candidate for the Bachelor of Laws degree must satisfy the following requirements:

1. He must be of good 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 better than the minimum average required for such degree.
3. He must have taken prior to admission the Princeton Law Aptitude 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 two official copies 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 Aptitude Test which is given by the University, or submit evidence of the score if the test was taken elsewhere.
4. Arrange for a personal interview with the Dean of the College of Law.

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.

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### STANDARDS OF ACADEMIC WORK

The following systems of grades is used in recording the quality of a student's academic work:

<i>Grade</i>		<i>Quality Points Per Credit</i>	<i>Grade</i>		<i>Quality Points Per Credit</i>
A	Excellent	4	D	Poor	1
B	Good	3	F	Failed	0
C	Satisfactory	2	I	Incomplete	0

Academic averages are computed by dividing the quality points achieved by the hours attempted. When a course is failed and repeated, the hours and the quality points involved each time are included in the computation as if the repeated course were an independent course.

A quality point ratio of less than 2 is unsatisfactory. A law student whose scholarship is unsatisfactory may be placed on probation, suspended for a definite period of time or dropped from the University at any time by the Dean.

If a student withdraws from a course on the recommendation of the Dean it will not count as work attempted. If a student leaves a course without the recommendation of the Dean or is dropped from any course by the Dean, he is given a failing grade in the course and it is counted as work attempted.

### REQUIREMENTS FOR A DEGREE

The degree of Bachelor of Laws is conferred upon students of good 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 80 credits and a noncredit course of a clinical nature in legal aid. The legal aid requirement may be waived by the Dean.

Those students who were enrolled in the Akron Law School prior to January 1, 1957 and who were in attendance during the 1959-1960 academic year shall be awarded the degree on the basis of completing 74 credits. Those students from the Akron Law School who entered after January 1, 1957 and who were in attendance during the 1959-1960 academic year shall be awarded the degree on the basis of completing 76 credits.

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

The University Bulletin should be consulted for rules governing nonresident tuition and for special and miscellaneous fees that may be applicable.

A resident of Akron shall pay a fee of \$30.00 per credit for all credit work.

A nonresident of Akron shall pay a fee of \$35.00 per credit for all credit work.

Each student shall pay a library fee of \$15.00 for each semester and a \$5.00 fee for each summer session, irrespective of the number of credits for which he is enrolled.

### REFUNDS

The University Bulletin should be consulted for regulations regarding refunds. The schedule of refunds set out therein is as follows:

	<i>Regular</i>	<i>Summer</i>
First Week .....	80%	60%
Second Week .....	60%	20%
Third Week .....	40%	0
Fourth Week .....	20%	0
Thereafter .....	0	0

No refunds shall be issued when a student is dismissed or suspended from the College of Law for disciplinary reasons.

### LOAN FUNDS

The University will assist worthy students to finance their education through its loan funds. Application should be made through the Office of the Controller or the Dean of Student Services well in advance of the beginning of each semester. Loans for emergency purposes will be considered during the academic year. Law students are eligible for loans under the National Defense Student Loan Program, subject to the availability of funds and the system of priorities established for this program.

### 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 24,000 volumes. University libraries comprising more than 170,000 volumes are available to law students.

### ENROLLMENT IN OTHER SCHOOLS

A student who is enrolled in the program leading to the Bachelor of Laws 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 Bachelor of Laws degree.

### BAR ADMISSION REQUIREMENTS

Each student entering the College of Law is encouraged to read Rule XIV 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

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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.

An appellate moot court program known as BRACON'S INN is offered to all students. BRACON'S INN has as its purpose the development of skills in legal research, brief writing and oral advocacy before a moot appellate tribunal. BRACON'S INN is student-managed.

### HONORS AND AWARDS

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 American Law Book Company has authorized the West Publishing Company to award twenty titles comprising forty-four volumes 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.

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 advocatory 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

### *First Year*

First Semester	Credits	Second Semester	Credits
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		
50:219* Agency .....	2		

### *Second Year*

50:225* Property II .....	3	50:222* Administrative Process .....	3
50:236* Constitutional Law .....	3	50:226* Property III .....	2
50:239* Jurisdiction and Judgments .....	3	50:237* Remedies .....	4
Summer Session: Electives .....	2-3 Credits		

### *Third Year*

50:220* Business Associations .....	4	50:228* Legal Profession .....	1
50:233* Evidence I .....	2	50:234* Evidence II .....	2
90:235* Pleading and Joinder .....	3	50:238* Criminal Law .....	3
Summer Session: Electives .....	2-3 Credits		

### *Fourth Year*

50:241* Trusts .....	3	Electives .....	9
Electives .....	6		

### ELECTIVES

	Credits		Credits
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 Problems in Federal Jurisdiction and Procedure .....	2	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 .....	2		

\* Required courses.

# II

## Education for Many Others

### The Department of Special Programs

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**—Elementary Arabic, Everyday Usage of French, German Conversation, Russian for Children, Spanish Simplified-Beginning and Advanced.

**BUSINESS**—Blueprint Reading, Automobile Dealers' Bookkeeping, Corrosion Fundamentals, Electronic Circuits, Heat Treatment of Metals, Real Estate Law, Introduction to Rubber Chemistry, Trigonometry.

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SELF-IMPROVEMENT—English Grammar, Gregg Notehand, Interior Decorating, Investing for Tomorrow, Speed Reading, Vocabulary Improvement.

AVOCATIONAL—Ceramic Arts, Foods with a Flair, Millinery, Personalized Dressmaking, 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 \$14.00 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.

The administrative offices of the Department of Special Programs are located in the Community and Technical College, on the ground floor of Simmons Hall. Schedules of courses for Fall, Spring, and Summer Sessions can be obtained in this office.

#### COMMUNITY SERVICES AND SPECIAL PROJECTS

In addition to the opportunities for continuing education through the informal courses, the Department conducts a large number of programs for groups, agencies and organizations throughout the community. These include weekly study-discussion programs, weekly lecture series, film, radio, and television programs, conferences and institutes, cultural and civic field trips, and many other informal educational services.

The major focus of subject matter in these programs is the field of public affairs. Topics include community issues and problems of every variety, national conditions and problems, international relations, and the general area of civic leadership responsibilities. There are also many programs designed to help individuals in their search for more complete understandings of themselves, their society and life itself.

In addition to programs offered to the public at large, many services are provided for specific groups throughout the community. These range from providing speakers and programming advice for groups and organizations to conducting conferences in cooperation with professional organizations in the community. Throughout the year such program service is provided on more than 150 different occasions.

#### THE INSTITUTE FOR CIVIC EDUCATION

The community services and special projects are conducted through the Institute for Civic Education which is an integral part of the Department of Special Programs. The specific offerings are described in separate brochures and announce-

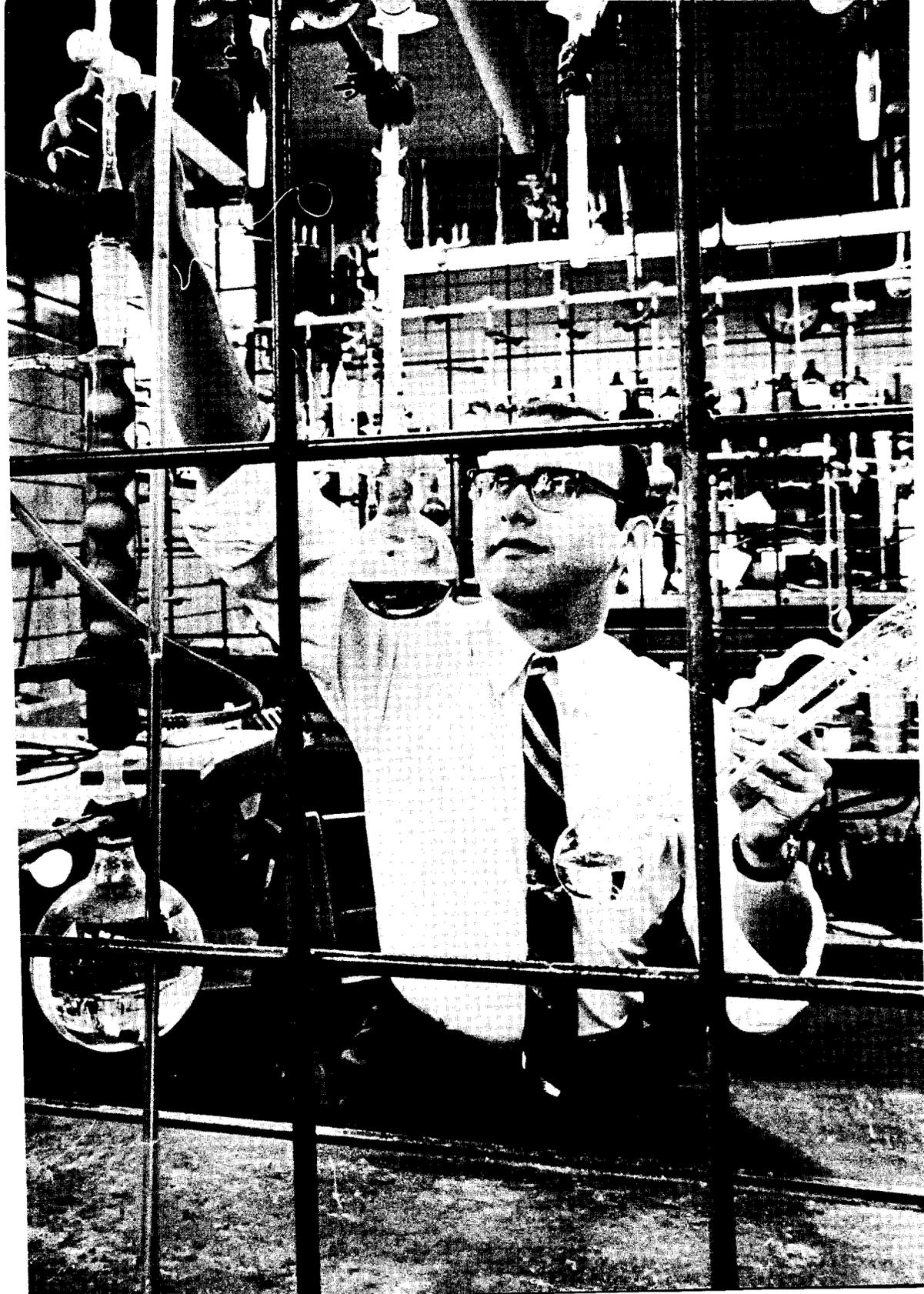
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... or the ... for explaining problems to participants ... C ... luncheon  
 sponsored by the Institute for Civic Education of the University's Department of Special Programs.

ments which are available to anyone on request from the Institute. The programs vary in length, frequency and cost. Many of the services are free of any charge.

Most activities are conducted on the University's campus in an informal setting, and most involve one or more University faculty members as lecturers or resource persons. However, none of the programs provide academic credit. These programs and services reflect the University's conviction that education is a never-ending process. The University recognizes its obligation to provide adult citizens with opportunities to continually enrich their own lives and to improve their civic knowledge and the exercise of their public responsibilities.



# I2

## Research:

### Looking at the World of Tomorrow

ROBERT C. CARSON, Ph.D., *Co-ordinator*

Colleges and universities have traditionally been looked upon as ivy-covered storehouses of knowledge where neat parcels of information are regularly dispensed to the eager young students of the day. But that is only part of the picture for, while it is true that a major responsibility of a university is to teach students, today's institutions of higher learning have other important obligations as well:

1. To advance knowledge,
2. To disseminate knowledge, and
3. To provide appropriate educational public service.

In order to achieve these purposes The University of Akron cannot adopt a passive role, acting simply as repository of the knowledge of the past, but must actively contribute to the knowledge of the future: And this contribution, if it is to be in the public interest, must be related to the problems of the society in which we live.

Therefore the University, recognizing its obligations to society, is actively seeking to ensure that the research which is performed here as an integral part of our life is relevant to the needs of those we serve.

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.

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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 under the direction of Dr. Robert C. Carson, Coordinator of Research, and consists of these four institutes:

Institute of Rubber Research, Dr. Maurice Morton, Director

Institute of Civic and Educational Research, Dean Chester McNerney, Director

Institute of Science and Engineering Research, Dean Michael Rzasa, Director

Institute of Business and Economic Research, Dean Richard Reidenbach, Director

The Research Council encourages research activities which will further the educational goals of the University and is the University's administrative arm for contract research conducted for business and governmental agencies. Dr. D. J. Guzzetta, Vice President and Dean of Administration, is ex-officio member of the council.

#### INSTITUTE OF RUBBER RESEARCH

Conducting basic research in the chemistry and physics of polymers, this Institute has an administrative and supervisory staff of eight faculty members, thirty full-time doctoral candidates and many graduate students.

Some of its research facilities include a Burrell Chromatograph, Perkins Elmer Infrared Spectrophotometer Model 21, UV Spectracord 4000, Brice-Phoenix Light Scattering Apparatus, Electron Microscope, Instron Stress-Strain Tester, Gammacell Cobalt 60 Source (1 megarad/hr.), and Rubber Processing and Testing Machinery.

*Typical projects underway or recently completed include:*

- Anionic Polymerization and Copolymerization
  - Properties of Cast Vulcanizate Films
  - Synthetic Polypeptides Containing Pyridyl Groups
  - Development of Crystallization in Molten Polymers
  - Mechanisms in Emulsion Polymerization
  - Structure Studies of Organolithium Compounds
  - Approach to Equilibrium in Deformed Networks
  - Measurement of Sequence Distribution in Copolymers
  - Preparation and Properties of Branched Polymers
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### INSTITUTE OF CIVIC AND EDUCATIONAL RESEARCH

The research activities of this Institute are concentrated on operation research in human relationships, communication in learning and development of instruction media materials.

Its resources include the facilities, faculties and libraries of the College of Education, the College of Law, the Department of Psychology, the Department of Sociology, and the Department of Political Science.

*Some of the projects underway or recently completed concern:*

Qualities of Leadership

Basic Principles of Human Learning in Relation to the Various Processes of Communication

Application and Suitability of the Various Media to Specific Academic Subjects

Determination of Qualifications of Teachers to Cope with Media-Supplemented Curriculum

Engineering and Management of Water Supply Systems (Sponsored by the Agency for International Development of the U.S. Department of State)

### INSTITUTE OF SCIENCE AND ENGINEERING RESEARCH

Concerned with the physical sciences, this Institute conducts extensive research in many fields of interest to government and business.

Its resources include the faculty and facilities of the College of Engineering, the Department of Biology, the Department of Chemistry, the Department of Mathematics, and the Department of Physics.

Research Facilities include: an Air Pollution Laboratory, Materials Testing Laboratory, Surveying and Photogrammetry Laboratory, Highway Materials Laboratory, Radiochemistry Laboratory and the Computer Center.

*Projects underway or recently completed by this institute:*

Missile Reliability and Maximality Principles and Their Equivalents

Power Spectral Analysis of Weather

Variational Methods in Complex Variables

Kinetic Behavior of Reactors

Effectiveness of Reactor Control Rods

Low Resolution Electron Paramagnetic Residence Measurements

### INSTITUTE OF BUSINESS AND ECONOMIC RESEARCH

The College of Business Administration's research activities come under the Institute of Business and Economic Research.

Resources include the faculty and facilities of the College of Business Administration, the College of Law, the Department of Accounting and the Department of Industrial Management.

*Project areas currently under study by this institute include:*

Job Evaluation	Sales Training
Marketing	Product Assortment
Market Research	Tax Problems
Executive Training	Financial Management
	Traffic Flow Surveys

While planning and organization of research projects are handled by faculty members, 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.

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# I3

## 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	18—Music	36—Engineering, Mechanical
2—Art	19—Philosophy	37—Engineering, Chemical
3—Biology	20—Physics	39—Accounting
5—Chemistry	21—Political Science	40—General Business
6—Economics	22—Sociology	42—Industrial Management
7—English	23—Spanish	46—ROTC, Air
8—French	24—Speech	47—ROTC, Army
10—German	27—Education	50—Law
11—Greek	28—Geography-Geology	61—Industrial Electronics
12—History	29—Health and Physical Education	62—Mechanical Design
13—Home Economics	30—Psychology	63—Chemical Technology
14—Russian	31—Nursing Education	64—Transportation
15—Classics	33—Comparative Work Courses	65—Associate Studies
16—Latin	34—Engineering, Civil	66—Sales and Merchandising
17—Mathematics and Astronomy	35—Engineering, Electrical	67—Secretarial Science

## I: 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.*

1:1 is prerequisite.

Through these courses 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 and a voluntary discussion period a 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 two discussion periods each week.

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## 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, Senior standing. 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.

## 2:29-30. ART APPRECIATION. 2 credits each semester.

A foundation for critical evaluation of visual arts, through basic principles of design as applied to our environment, past and present, possibilities and limitations of materials in relation to design. Lecture and discussion.

## 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.

## 2:37-38. 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 36:21. 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.

## 2:90. 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.

27:121. **ART FOR THE GRADES.** 2 credits.

Prerequisite, 21. Art requirements in elementary grades; laboratory work to give teachers a knowledge of materials, mediums, and skill in handling them.

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.

Prerequisite, 57, 45, and Engineering Graphic 36:21. 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.

2:200. **HISTORY OF ART, ANCIENT, CLASSICAL AND MEDIEVAL.** 3 credits.

Architecture, sculpture, painting and the minor arts in environment of Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic civilizations. Lecture.

2:201. **HISTORY OF ART, RENAISSANCE AND BAROQUE.** 3 credits.

The arts in Italy, Spain, Flanders, Holland, Germany, and England within their respective backgrounds. Lecture.

2:202. **HISTORY OF ART, MODERN.** 3 credits.

The arts in France from Gothic period, art in United States, influences leading to contemporary movements. Lecture.

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.

Sterilization, immunity and disease. Designed primarily for nursing students. 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 anatomy of all organ systems, and their functions or processes. 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 an 8-week course of 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. 22 is desirable as background. Laboratory.

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## 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.

## 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, 22 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, 22. 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.

## 3:248. 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 24:76. 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.

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## 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 FOR NURSES. 3 credits.

Planned especially for students taking nurses' training course in hospitals. Fundamentals of inorganic, organic, and physiological chemistry.

5:27-28. GENERAL INORGANIC CHEMISTRY FOR ENGINEERS. 4 credits each semester.

See description for 31-32.

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.

5:61-62. ORGANIC CHEMISTRY. 5 credits each semester.

Prerequisite, 32. Covalent bond; structure of organic molecules; aliphatic and aromatic compounds; functional groups, polynuclear hydrocarbons and heterocyclic compounds. Laboratory.

5:111-112. ANALYTICAL CHEMISTRY. 5 credits each semester.

Prerequisite, 62 or 32 and permission. Theoretical principles of qualitative and quantitative analysis. Technique and calculations, gravimetric and volumetric methods. Introduction to instrumental analysis. Laboratory.

5:151-152. PHYSICAL CHEMISTRY. 5 credits each semester.

Prerequisites, 62, 112, Physics 20:32, Mathematics 17:76. Gases, thermodynamics, thermochemistry, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria, atomic and molecular structure. Laboratory experiments to illustrate principles.

## 5:163. ADVANCED ORGANIC CHEMISTRY. 3 credits.

Prerequisite, 62. Discussion of organic reaction mechanisms, developed from consideration of reactive intermediates.

## 5:172. ADVANCED INORGANIC CHEMISTRY. 3 credits.

Prerequisite, 151. 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.

Prerequisite, 62. Constituents of cells and tissues, their organic and fundamental physical chemical properties. Proteins, enzymes, vitamins, carbohydrates, fats, energy relationships, intermediary metabolism.

## 5:250. INDUSTRIAL CHEMISTRY. 2 credits.

Prerequisites, 62, 112. 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.

Prerequisite, 62. 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.

Prerequisite, 62. 301-302 must be taken concurrently. Preparation of different polymers to illustrate methods of polymerization and properties of polymers discussed in 301-302.

## 5:307-308. QUALITATIVE ORGANIC ANALYSIS. 2 credits each semester.

Prerequisites, 62, 112. Characterization and identification of organic substances, separation and identification of components of organic mixtures. Laboratory.

## 5:309. MICRO-QUANTITATIVE ORGANIC ANALYSIS. 2 credits.

Prerequisites, 62, 112, and permission. Micro-quantitative analytical methods of 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, dyestuffs, medicinals, alkaloids, heterocyclic compounds, carbohydrates, proteins, etc.

## 5:311-312. THEORETICAL ORGANIC CHEMISTRY. 2 credits each semester.

Prerequisite, 163 and permission. Modern structural theory, resonance, reaction mechanisms, stereo-chemistry, rearrangements, free radicals, formation of carbon to carbon bonds.

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5:315-316. INSTRUMENTAL METHODS OF ANALYSIS. 3 credits each semester.

Prerequisites, 62, 152 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.

Prerequisite, 152, 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, 112, 152, 172. Methods for preparing and purifying inorganic compounds, crystallization, distillation, sublimation, precipitation, and liquefaction. Laboratory.

5:325. COLLOID CHEMISTRY. 2 credits.

Prerequisites, 62, 112. 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.

Prerequisite, 152. 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.

Prerequisite, 152, 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.

Prerequisite, 152. Thermodynamics, fugacity solutions, partial molar quantities, atomic-molecular structure, quantum-statistical principles.

5:337-338. ADVANCED PHYSICAL CHEMISTRY LABORATORY. 1 credit each semester.

Prerequisite, 152. 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.

5:343-344. 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, 62 or permission. A study of the molecular structure and chemical

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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, 62 and 152 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.

5:351-352. POLYMER TECHNOLOGY. (Lectures and laboratory). 3 *credits each semester*.

Prerequisites, 62 and 20:31 or 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.

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.

5:401. 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*.

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*.

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.

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## 6:148. MONEY AND BANKING. 3 credits.

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, 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.

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.

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, 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.

## 6:260. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING. 3 credits.

Prerequisite 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.

## 6:265. SOCIAL SECURITY. 3 credits.

Development of social security and social insurance programs, workmen's compensation, retirement and survivor's insurance, unemployment compensation, sickness and disability insurance, economic effect of these programs.

## 6:268. INTERNATIONAL ECONOMIC RELATIONS. 3 credits.

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.

Evolution of theory and method, relation of ideas of economists to contemporary conditions.

## 6:294. NATIONAL INCOME AND ITS VARIATIONS. 3 credits.

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.

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.

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: courses considered to be part of the Department's Journalism program are: 7:31, News Writing; 7:33, Radio and Television News Writing; 7:34, Editing; 7:36, Feature Writing; 7:39, Publications Production; and 7:135, Publications Supervision. Written English 1:2 is prerequisite for all Journalism courses.*

7:31. NEWS WRITING. 2 credits.

Writing of news stories; applying theory through discussions, illustrative material; actual writing for publication.

7:33. RADIO AND TELEVISION NEWS WRITING. 2 credits.

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 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.

Short newspaper and magazine articles; preparation of articles for publication; human interest situations; extensive writing with class discussions.

7:37-38. REPRESENTATIVE AMERICAN WRITERS. 3 credits each semester.

First Semester; to 1865; second semester; 1865 to the present.

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7:39. PUBLICATIONS PRODUCTION. 2 *credits*.

Prerequisite, 2:37. 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.

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.

7:45. 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. 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.

7:150. 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. May not be taken by students who have had 103 or 104.

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. May not be taken by students who have taken 215 or 216.

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.

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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, Marlow, 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*.

## 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. May not be taken by students who have taken 209-210.

## 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.

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## 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 Hauptmann, 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.

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.

## 12:161. 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.
- 12:225. THE OLD NORTHWEST. *3 credits.*  
Prerequisite, 41. French and British occupation of Ohio Valley and Great Lakes region; Northwest Territory and the states made from it; Western Reserve and Ohio to 1860.
- 12:227. THE UNITED STATES IN THE PROGRESSIVE ERA, 1890's TO 1921. *3 credits.*  
The 1890's, the progressive reform era, imperialism, World War I and its aftermath.
- 12:228. THE UNITED STATES SINCE THE TWENTIES, 1921 TO THE PRESENT. *3 credits.*  
Prosperity decade, depression, The New Deal, World War II and the postwar world.
- 12:242. HISTORIOGRAPHY. *3 credits.*  
Prerequisite, 12 credits in history. Historical writing in Europe and America; experience in research.
- 12:245. NINETEENTH CENTURY EUROPE, 1815-1914. *3 credits.*  
Europe from Congress of Vienna to World War I; revolutions of 1848; unification of Germany, Italy, background and causes 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. *3 credits.*  
Imperial expansion, policies; growth of Dominions; relations with India; Commonwealth 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.
- 12:343. STUDIES IN EUROPEAN INTELLECTUAL HISTORY. *3 credits.*  
Selected topics will be investigated in depth.
- 12:412. RESEARCH. *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.
- 13:41. FOOD FOR THE FAMILY. *3 credits.*  
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.
- 13:42. FOOD FOR THE FAMILY. *3 credits.*  
Continuation of 41. One hour lecture, four hours laboratory.
- 13:43. FOODS AND NUTRITION. *3 credits.*  
For student nurses. 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.

Economic, social, and health aspects of buying and caring for the family wardrobe; selecting ready-to-wear garments.

13:115. EXPERIMENTAL COOKERY. 3 credits.

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. Archaeology and History of Egypt from the predynastic cultures to the XIXth Dynasty and the decline of Egypt.

## 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.

Prerequisites depend upon subject, which may be either in language or archaeology.

### 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, etc. (No credit to those who have taken previous course Algebra 18.)

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.

Prerequisite, 43. 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.

17:50. DIGITAL COMPUTER PROGRAMMING I. 2 credits.

Programming and machine operation techniques pertinent to the IBM-1620 Data Processing System.

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.)

## 17:200. ALGEBRAIC STRUCTURES. 3 credits.

Prerequisite, 74 (or equivalent). Introduction to sets, functions, relations, mappings, transformations, homomorphism, and isomorphisms. Mathematics structures: groups, rings, fields, and boolean algebras, matrices, vectors and vector spaces, linear transformations, etc.

## 17:201. ADVANCED CALCULUS. 3 credits.

Prerequisite, 76. Infinite series, infinite, multiple, line and surface integrals, maxima and minima of functions of several variables, partial differentiation.

## 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.

17:215. FUNCTIONS OF A REAL VARIABLE I. 3 *credits*.

Prerequisite, 201. Structure of the real number system, sets and their properties, limit theorems, properties of continuous and semi-continuous functions, derivatives of functions, Borel sets and Baire functions.

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.

17:219. CALCULUS OF FINITE DIFFERENCES. 3 *credits*.

Prerequisite, 76. (114 is recommended.) Difference Formulas, Symbolic Operators, Finite Integration, Bernoulli and Euler Polynomials, Beta and Gamma Functions. Difference Equations with emphasis on the linear types.

17:221. PROJECTIVE GEOMETRY. 3 *credits*.

Prerequisite, 200 (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*.

Prerequisite, 201 (or equivalent). Topological spaces, metrization, homeomorphic invariants to point sets, structure of peano spaces, mappings, homotopy, the fundamental group, introduction to combinatorial topology.

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.

17:259. PROBABILITY AND STATISTICS. 3 *credits*.

Prerequisite, 76. An introduction to probability theory and probability distributions, theory of statistical inference, estimation, tests of hypotheses, large and small sample theory, normal, student's t, F, and Chi-Square distributions, regression.

## GRADUATE COURSES

17:310. ANALYTIC FUNCTION THEORY. 3 *credits*.

Prerequisite, 210 (or equivalent). Concepts of continuity, differentiation and integration, Cauchy's Theorem, Cauchy's Integral Formula, Laurent's Series, residues, con-

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tour integration, mapping, Riemann's Surfaces, analytic continuation, essential 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.

17:316. FUNCTIONS OF A REAL VARIABLE II. 3 credits.

Prerequisite, 215. Measure, measurable sets, measurable functions. Riemann and Lebesgue integration, the Lebesgue integral 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-Hermetian, Matrix Algebra, Inverse of Matrix, Rank, Linear Equations, Vector Spaces and Linear transformations, Characteristic Equation of Matrix, Bilinear, Quadratic and Hermetian Forms, Introduction to Algebra of Sets.

17:324. ALGEBRAIC GEOMETRY. 3 credits.

Prerequisite, 200. 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.

Prerequisite, 201. 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.

Prerequisite, 201 (or equivalent). 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.

17:335. EXPERIMENTAL DESIGNS. 3 credits.

Prerequisite, 255 or 259. Fundamental principle of designs, randomized blocks, latin squares, factorials, individual comparisons, components of error, confounding, fractional factorials, applications to problems in applied fields.

17:336. REGRESSION AND ANALYSIS OF VARIANCE. 3 credits.

Prerequisite, 259 or 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: 330-331 and 335 (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. Students seeking the B.S. degree in the College of Education degree in Buchtel College may include only four credits in the minimum 128 credits required for the degree.

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.

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. ENSEMBLE. *2 hours per week. 1 credit.*

Choral ensemble, brass ensemble, string quartet or other ensemble under faculty direction. Enrollment by audition only.

## 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.

18:21. PERCUSSION INSTRUMENTS	18:28-1. TRUMPET OR CORNET
18:24. VOICE	18:28-2. HORN
18:25. PIANO	18:28-3. TROMBONE
18:26. ORGAN	18:28-4. BARITONE
18:27-1. VIOLIN	18:28-5. TUBA
18:27-2. VIOLA	18:29-1. FLUTE OR PICCOLO
18:27-3. CELLO	18:29-2. OBOE
18:27-4. BASS	18:29-3. CLARINET

\* Three music education courses are offered through the College of Education, numbered 27:62, 27:121 and 27:123.

18:29-4. BASSOON  
18:29-5. SAXOPHONE

18:31. HARP

The final examination in Applied Music courses shall consist of performance before a committee of faculty members.

18:23. FUNDAMENTALS OF MUSIC. *2 credits.*

Functional introduction to music, notation, terminology, scale construction, simple melodic dictation, sightsinging, familiarity with piano keyboard and experience in singing part songs.

18:30. STUDENT RECITAL. *1 credit each semester.*

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.

18:43. 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. MUSIC LITERATURE I. *1 credit.*

One lecture and one laboratory per week. This course will familiarize the student of music with a large body of musical material from all branches of musical writing for vocal and instrumental, solo and ensemble, symphonic and choral groups. Special emphasis will be placed on style and structural procedures by principal composers.

18:46. MUSIC LITERATURE II. *1 credit.*

One lecture and one laboratory per week. A continuation of Music Literature I. Both courses are open to students not majoring in music.

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.

18:55-56. 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.

## 18:71. 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.

## 18:130. STUDENT RECITAL. 1 credit each semester.

(See 18:30 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

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## 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.

19:156. 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.

## 20: PHYSICS

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.

20:31. MECHANICS, HEAT AND SOUND. 5 *credits each semester*.

Corequisite, 17:75. For Chemistry, Mathematics, Physics and Engineering majors. Four lectures and/or recitations and one laboratory per week. Vectors and scalars; composition and resolution of vectors; equilibrium; rectilinear motion; Newton's laws; friction, rotary motion; moments of inertia; work and energy; properties of elasticity; simple harmonic motion; fluids and gases; surface tension; temperature; expansion; specific heat; change of state; method of mixtures; gas laws; transference of heat; elements of thermodynamics; wave motion; properties of sound; vibrating strings and air columns; Doppler effect; acoustics.

20:32. ELECTRICITY, LIGHT AND MODERN PHYSICS. 5 *credits*.

Prerequisite, 31. Corequisite, 17:76. Four lectures and/or recitations and one laboratory per week. Velocity of light; photometry; images and their formation in mirrors and lenses; prisms; spectra; optical instruments; interference; diffraction; polarization; electric charges; Coulomb's law; magnetic effect; electric field and electric potential; Ohm's law; Kirchhoff's law; heating effect; electrolysis; energy and power; electrical instruments; electromagnetic induction; motors and generators; capacitance; inductance; A.C. circuits; conduction through gases; cathode rays; X-rays; thermionic effect; photoelectric effect; radioactivity.

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20:150. MODERN PHYSICS. 2 *credits*.

Prerequisites, 32, 17:76. The atom and its nucleus, its use as a source of energy. Not open to Physics majors. Primarily for Engineers.

20:211-212. MECHANICS. 3 *credits each semester*.

Prerequisite, 32, 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, 32, 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.

20:215. ELECTRICAL MEASUREMENTS. 2 *credits*.

Prerequisites, 32, 17:114 or permission. Direct currents and their application, measurement of resistance and charge, bridges, measurement of E.M.F., power, measurement of magnetic quantities, alternating currents and their measurement, measurement of capacitance, self inductance, mutual inductance, frequency, measurement of temperature by electrical methods. Laboratory.

20:216. ELECTRONICS. 3 *credits*.

Prerequisite, 32, corequisite, 17:114 or permission. Thermionic diodes, triodes, triode amplifiers, high output amplifier, tetrodes and pentodes, feed back circuits, electron emission, gas in electron tubes, gas type tubes with grids, resonant circuit amplifiers and oscillators, special functions of electron tubes, modulation process, ultra high frequency electronics, electronic instruments. Laboratory.

20:217. MODERN PHYSICS. 3 *credits*.

Prerequisites, 32, 17:114. 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*.20:224. OPTICS. 4 *credits*.

Prerequisites, 32 and 17:76. Three lectures and one laboratory per week. Reflection

from mirrors; refraction; prisms, thin lenses, thick lenses; waves and their propagation; diffraction; interference; polarization; spectra; emission of light from the atom; velocity of light; photometry.

20:227. KINETIC THEORY AND THERMODYNAMICS. 3 *credits*.

Prerequisites, 32 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.

20:235. RADIATION SAFETY. 1 *credit*.

Prerequisite, 150 or 217. Types of radiation, units for measurement of radiation, biological effects of radiation, detection instruments and their calibration, calculation of radiation level, permissible radiation levels, shielding, safety rules and their importance.

#### GRADUATE COURSES

20:314. X-RAYS. 3 *credits*.

Prerequisite, 217. Theory and applications of X-rays to physical and chemical problems; use of X-ray camera and interpretation of X-ray photographs.

20:315. X-RAY LABORATORY. 1 *credit*.

Pre- or corequisite, 314. Laboratory practice in X-ray work.

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.

20:324. INTRODUCTION TO QUANTUM MECHANICS. 3 *credits*.

Prerequisite, 321. The physical basis of quantum mechanics, the Schroedinger wave equation, matrix formulation of quantum mechanics, motion in a centrally symmetric field, perturbation theory, spin and its quantum mechanical formulation, collision theory, elementary applications (hydrogen atom, harmonic oscillator), probability currents, linear operators and matrices.

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20:332. REACTOR PHYSICS. 3 *credits*.

Prerequisite, 231. Reactor kinetics; reactor control; shielding; reactor accidents and excursions; transport theory.

20:333. REACTOR LABORATORY. 2 *credits*.

Prerequisite, 217. Selected experiments using reactor and subcritical assembly.

20:335. ADVANCED NUCLEAR PHYSICS. 3 *credits*.

Prerequisites, 217, 324. Quantum mechanics applied to the nucleus, scattering, interaction of radiation with the nucleus, nuclear reactions; high energy accelerators, energy levels of nuclei.

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.

20:343-344. SOLID STATE PHYSICS. 3 *credits each semester*.

Prerequisite, 218 and 324 or permission. Description of crystal structures, classification of solids, lattice energy or ionic crystals, elastic constants of crystals, thermal properties of solids, dielectric properties of solids, diamagnetism and paramagnetism, free electron model of metals, band theory of solids, Brillouin zones, application of Brillouin zone theory to metals and alloys, semiconductors, ferromagnetism and antiferromagnetism, superconductivity, lattice vacancies, diffusion and color centers, excitons, photoconductivity, luminescence, and dislocations.

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.

20:349-350. PHYSICS OF POLYMERS LABORATORY. 2 *credits each semester*.

Prerequisites, 31, 347-348 must be taken concurrently. Selected laboratory experiments to illustrate the principles and methods discussed in course 347-348.

20:351. ATOMIC SPECTRA. 3 *credits*.

Prerequisite, 217. Atomic spectra and their relation to structure of matter, line spectra and development of theory, spectra, fine structure of lines.

20:352. MOLECULAR SPECTRA. 3 *credits*.

Prerequisite, 351. 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.

## 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.

## 21:108. PARLIAMENTARY LAW AND LEGISLATIVE PROCEDURE. 3 credits.

Drill in parliamentary law; modern legislative procedures and problems. Equal time for each part.

## 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.

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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 contest 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 official, 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 planning graduate work.

## 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 the 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.

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 interrelationships; 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.

## GRADUATE COURSES

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.

22:335. *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.

22:370. *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.

23:87-88. *INTRODUCTION TO HISPANIC LITERATURE. 3 credits each semester.*

Prerequisite, 44 (or equivalent). General view of literature written in Spanish. Conducted mainly in Spanish. Lectures and discussions based on readings from representative works and literary histories. Course 87 will deal with the literature of Spain and 88 with that of South America. Students with previous credit for 211-212 may take 88 for credit but not 87.

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.

23:207-208. *MODERN SPANISH LITERATURE. 3 credits each semester.*

Prerequisite, 44 (or equivalent).

23:209-210. SPANISH LITERATURE OF THE GOLDEN AGE AND EIGHTEENTH CENTURY (1550-1800). *3 credits each semester.*  
Prerequisite, 44 (or equivalent).

23:231-232. INDIVIDUAL READING IN SPANISH. *1 to 3 credits each semester.*  
Prerequisite, permission.

#### 24: SPEECH

24:41. PUBLIC SPEAKING. *3 credits.*

Training in types of public address; performance and individual criticism.

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.

24:47. BUSINESS AND PROFESSIONAL SPEAKING. *2 credits.*

Application of speech skills in business and professional life.

24:51. READING ALOUD. *3 credits.*

Oral interpretation from the printed page.

24:61. INTRODUCTION TO THEATRE. *3 credits.*

Theatre arts and the variety of crafts involved in dramatic production.

24:71. VOICE AND ARTICULATION. *2 credits.*

Study of vocal and articulatory mechanisms.

24:76. FUNDAMENTALS OF SPEECH. *3 credits.*

Introduction to the speech and hearing mechanisms and to the speech problems of the speech handicapped school child.

24:81. RADIO SPEAKING. *3 credits.*

Prerequisite, 51. Radio and television speaking, microphone and camera techniques, announcing.

24:104. PHONETICS. *2 credits.*

Phonetic transcription using international phonetic alphabet.

24:141. PERSUASION. *3 credits.*

Prerequisite, 41. Advanced performance course in public address.

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.

24:163-164. **ACTING.** 3 credits each semester.

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.

24:171. **LIP READING.** 3 credits.

History and methods of lip reading.

24:181. **RADIO-TELEVISION PRODUCTION.** 3 credits.

Prerequisites, 51 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, 51, 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, 41. 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 76.

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.

24:366. HISTORIC COSTUME FOR THE STAGE. 3 credits.

Costuming period plays; a history of stage costume; costume design.

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.

24:390. 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.*

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.

27:122. PRIMARY-ELEMENTARY MUSIC EDUCATION. *2 credits.*

Prerequisite, 18:23. Theory and practice of presenting vocal and instrumental music in the grades. Rote, observation, sight reading and part-songs and discussion of objectives and methods for grades one to six. Survey of materials in these fields and instruction in Rhythm Band, Melody Band and other pre-instrumental methods.

27:123. SECONDARY MUSIC EDUCATION. *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, 30:41, 27:56. 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. METHODS IN TYPEWRITING. *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. METHODS IN SHORTHAND AND TRANSCRIPTION. *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.

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27:175. METHODS IN BOOKKEEPING. 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.

27:220. 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.

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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, 27:244. 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 SPEECH FOR THE SLOW LEARNER. 2 credits.

Program and techniques especially suited to slow learners; diagnosing problems and planning remedial and corrective measures.

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.

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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 PUPIL PERSONNEL 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.

27:304. 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.

27:311. STATISTICS IN EDUCATION. 3 *credits*.

Statistical methods and techniques used in the field of measurement and by research workers in education.

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, 304. 100 hours of supervised experience per credit distributed as follows: 20 hours in selecting, evaluating, administering, scoring and interpreting tests. 20 hours in counseling with children and youth in such areas of concern as personal and home problems, health, scholastic achievement, school adjustment; 20 hours in educational guid-

ance, time-budgeting, choice of activities, vocational choice, guidance in self-appraisal; 20 hours in counseling with parents, in programs of in-service education of teachers, in community service and public relations; 20 hours 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. SUPERVISION OF INSTRUCTION. 3 *credits*.

Study of the principles, organizations and techniques of supervision with a view to the improvement of instruction.

27:327. 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.

27:330. 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.

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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.

27:392. ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION. 3 *credits*.

Prerequisites, 27:135 or 27:225; 27:303. 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 supervisors and consultants.

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.

27:433. 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 PUPIL PERSONNEL 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.

27:459. 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*.

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.

27:499. RESEARCH IN EDUCATION. 2-4 *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-GEOLOGY

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.

28:22. EARTH AND MAN. 3 *credits*.

Basic geographic concepts. Survey of major physical and cultural elements of man's environment and their interaction to influence man's activity. Methodology for studying the earth-man interaction.

28:23. PRINCIPLES OF GEOGRAPHY. 3 *credits*.

Principles which are basic in gaining an understanding of the relationship of man's activities to his natural environment.

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*.

Climate, landforms, mineral resources and vegetation and their influence upon economic activity. Required of all commerce students.

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.

28:61. 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*.

Prerequisite, 61. 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.

†28:72. GEOGRAPHY OF NORTH AMERICA. 3 *credits*.

Natural regions, climate, natural resources, work patterns and industries of the continent.

†28:73. GEOGRAPHY OF SOUTH 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.

† Prerequisite, Geography 71.

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## 28:77. GEOGRAPHY OF 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.

Prerequisite, 23. 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, 22 or 23 or 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.

## 28:145. PROBLEMS OF INDUSTRIAL AND COMMERCIAL SITE SELECTION. 3 credits.

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.

## 28:146. 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.

## 28:241. THE GEOGRAPHY OF THE METROPOLITAN AREA. 3 credits.

Association of phenomena within the metropolitan areas expressed in land use and occupance features. The changing function of the urban area; relationships between urban centers.

## 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.

## 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.

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- 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.
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## 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.

29:306. 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.

30:107. 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.

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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.

30:204. 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.

30:206. NORMAL AND ABNORMAL PERSONALITY. 3 *credits*.

Prerequisite, six credits in psychology. The nature, development and organization of normal personality; range of adjustment mechanisms including normal, minor maladjustment area, psychoneuroses and extreme psychoses.

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.

## GRADUATE COURSES

30:300. ADVANCED PSYCHOLOGICAL STATISTICS. 3 *credits*.

Prerequisite, 17:75 or permission. Analysis of variance and covariance, multiple correlation and regression, discriminant function, factor analysis, nonparametric statistics.

30:301. ADVANCED GENERAL PSYCHOLOGY. 2 *credits*.

Prerequisite, nine credits in psychology including 300. Major findings in the study of the normal human adult, physiological background and experimental results.

30:304. ADVANCED DEVELOPMENTAL PSYCHOLOGY. 3 *credits*.

Prerequisite, nine credits of psychology. Influence of developmental stages upon indi-

vidual 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-BELLEVUE. 2 *credits*.

Prerequisite, 207 and permission. Lectures and practice in the administration and scoring of the Wechsler-Bellevue.

30:309. THEORIES OF PERSONALITY. 2 *credits*.

Prerequisite, nine credits of psychology, including 206. Major personality theories and their respective contributions to the understanding of personality dynamics and organization.

30:310. THEORIES OF PSYCHOTHERAPY. 2 *credits*.

Prerequisite, 309 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.

30:317. HISTORY AND SYSTEMS OF PSYCHOLOGY. 2 *credits*.

Methods and concepts of psychology and contemporary points of view.

30:318. GRADUATE SEMINAR IN PSYCHOLOGY. 3 *credits*.

Prerequisite, 20 graduate credits of psychology. Special topics in the major areas.

30:319. SURVEY OF PROJECTIVE TECHNIQUES. 3 *credits*.

Prerequisite, 206 and 207; 309 and 310 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 206, 207, 309 and 310 and permission (306 and 307 are recommended). One class meeting per week and 300 hours of practice in field institutions which includes the State Department of Education requirement for certification of school psychologists. Diagnostic techniques, remedial methods and personal counseling.

30:400. THESIS SEMINAR. 2 *credits*.

Prerequisite, permission. Review and discussion of contemporary research; preparation for independent research and thesis preparation.

30:402. PSYCHOLOGY RESEARCH PROBLEM. 2 to 4 *credits*.

Prerequisite, 400. Research analysis of data and preparation of thesis for the Master's Degree.

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## 31: NURSING EDUCATION

31:59. HISTORY OF NURSING. 2 *credits*.

Nursing from prehistoric times to present day. An effort is made to show not only the relationship of the methods in care of the sick to political and economic conditions, but also to show the professional heritage of the present day nurse and the ethical backgrounds of her 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*.\*33:154. COOPERATIVE WORK PERIOD IV. 0 *credits*.\*33:155. COOPERATIVE WORK PERIOD V. 0 *credits*.\*33:156. COOPERATIVE WORK PERIOD VI. 0 *credits*.

\*To be discontinued as of September, 1966.

## 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*. (2)

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, 20:31. 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. 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.

34:107. HYDROLOGY. 2 *credits*. (2-0)

Prerequisite, 36:171. Factors affecting ground water and stream flow. Application of principles to problems of water supply and flood routing.

34:109. SURVEYING II. 2 *credits*. (1-1)

Prerequisite, 47. Precise leveling. Triangulation. Theory and adjustment of errors in networks. Astronomic observations pertinent to surveying. Field adjustment of instruments. Topography.

34:110. HIGHWAY MATERIALS. 2½ *credits*. (1½-1)

Standard tests of aggregates, cement, concrete, bituminous materials, and bituminous mixtures to determine their properties. Design of concrete and bituminous mixes.

34:111. HYDRAULICS. 2 *credits*. (1-1)

Prerequisite, 36:171. Application of fluid mechanics principles to water flowing in

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pipes and open channels. Verification of fluid mechanics and hydraulics concepts in the laboratory.

34:116. SURVEYING III. 2 credits. (1-1)

Prerequisite, 109. Surveying pertinent to highways. Circular, spiral and parabolic curves. Earthwork computations. Mass diagrams and establishment of final grade.

34:119. PHOTOGRAMMETRY. 2 credits. (1-1)

Prerequisite, 116. 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)

Prerequisites, 102, 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.

34:121. WATER SUPPLY. 2 credits. (2-0)

Prerequisites, 107, 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.

34:122. SEWERAGE. 3 credits. (3-0)

Prerequisites, 107, 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)

Corequisite, 122. Selected physical, chemical and bacteriological tests on raw and treated water and sewage.

34:125. HIGHWAYS. 3 credits. (3-0)

Prerequisites, 110, 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.

34:138. ENGINEERING MATERIALS. 3 credits. (2½-½)

Prerequisite or corequisite, 20:150. Basic principles underlying the behavior of solid materials used by engineers.

34:139. ENGINEERING MATERIALS LABORATORY. 1 credit. (½-½)

Prerequisite or corequisite, 138. Experimental understanding of the behavior of engineering materials.

34:141. STRUCTURAL DESIGN I. 3 credits. (3-0)

Prerequisite, 106. Structural steel design to include tension members, compression members, beams, combined flexural and axial loads. Riveted, bolted and welded connections. Plate girders. Plastic design.

## 34:142. STRUCTURAL DESIGN II. 2 credits. (2-0)

Prerequisite, 106. Reinforced concrete design to include elastic design of beams, footings, retaining walls and columns. Ultimate strength design of beams and columns.

## 34:143. STRUCTURAL DESIGN III. 3 credits. (3-0)

Prerequisites, 141, 142. Multi-story steel building. Multi-story reinforced concrete building: one-way slab system, two-way slab system, flat slab system. Creep, shrinkage, temperature effects. Prestressed concrete beams. Composite design in buildings.

## 34:199. C. E. UNDERGRADUATE RESEARCH. 3 credits. (1-2)

Prerequisite, permission. Lectures concerning research methods and data evaluation. Laboratory credit for the investigation or solution of an individual problem, including a formal report, as an undergraduate thesis.

## 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, 141. 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. ADVANCED REINFORCED CONCRETE DESIGN. 3 credits. (3-0)

Prerequisite, 143. Ultimate strength design of reinforced concrete members. Analysis and design of prestressed concrete beams and frames.

## 34:305. PLATES AND SHELLS. 3 credits. (3-0)

Prerequisites, 17:114 and permission. Small deflection theory of laterally loaded plates. Folded plates. Cylindrical shells. Spherical shells.

## 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.

## 34:320. SANITARY ENGINEERING PROBLEMS. 3 credits. (1½-1½)

Prerequisites, 121 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.

## 34:330. ADVANCED ENGINEERING MATERIALS. 3 credits. (3-0)

Prerequisite, 138 or permission. The behavior of solid materials used by engineers. Principles which explain, describe, and define such behavior.

## 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. (½-½)

Corequisite, 17:114. Basic concepts involved in the operation of analog computers. Application to engineering type of problems.

## 35:132. ELECTRICAL MACHINERY. 3 credits. (2½-½)

Prerequisite, 133. For M.E. and C.E. students. Study of principles, characteristics and applications of A.C. and D.C. machinery.

## 35:133. ALTERNATING CURRENT CIRCUITS I. 3½ credits. (2½-1)

Prerequisite, 20:32. Vector analysis of alternating current, voltage and power. Complex operator. Real and apparent power. Balanced and unbalanced polyphase circuits.

## 35:134. ALTERNATING CURRENT CIRCUITS II. 3 credits. (2½-½)

Prerequisite, 133. Balanced and unbalanced polyphase circuits. Study of circuit response to voltages having harmonic components.

## 35:136. ELECTRICAL MEASUREMENTS I. 2 credits. (1½-½)

Prerequisite, 134. Measurement of high and low resistance. Galvanometer fundamentals. Magnetic tests. D. C. meters. Potentiometers.

## 35:137. ELECTRICAL MEASUREMENTS II. 2 credits. (1½-½)

Prerequisite, 136. Basic characteristics and methods of measuring output of transducers, e. g. strain gauges, thermohm, LVDT.

## 35:138. ELECTRICAL MEASUREMENTS III. 2 credits. (1½-½)

Prerequisite, 137. Collection, interpretation and presentation of data obtained in scientific measurements.

## 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.

35:143. ELECTRICAL MACHINERY I. 2 credits. (1½-1½)

Prerequisite, 133. Magnetic circuits for machines. Principles of D. C. machinery, including construction, characteristics and operation.

35:144. ELECTRICAL MACHINERY II. 2 credits. (1½-1½)

Prerequisite, 143. Transformers, Induction motors. Equivalent circuits and characteristics.

35:145. ILLUMINATION. 2 credits. (2-0)

Prerequisite, 20:32. Fundamentals of illumination and principles underlying specifications and designs for adequate electrical lighting.

35:146. ELECTRICAL MACHINERY III. 2 credits. (1½-1½)

Prerequisite, 144. A. C. generator and synchronous motor characteristics. Generator regulation. Synchronous motor applications.

35:147. ELECTRICAL MACHINERY IV. 2 credits. (1½-1½)

Prerequisite, 146. Principles and applications of power and fractional horsepower single-phase motors.

35:148. ALTERNATING CURRENT CIRCUITS V. 1½ credits. (1½-0)

Prerequisite, 142. Analysis and synthesis of networks with emphasis on filters. Introduction to methods used in studying circuits with non-linear parameters.

35:150. ELECTROMAGNETIC FIELDS I. 1½ credits. (1½-0)

Prerequisite, 134. Basic laws of static electric fields. Vector analysis. Energy and potential. Capacitance.

35:151. ELECTROMAGNETIC FIELDS II. 1½ credits. (1½-0)

Prerequisite, 150. Basic laws of static magnetic fields. Inductance. Time varying fields. Use of Maxwell's equations. Effects of electromagnetic fields upon charged particles in motion.

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.

35:154. ELECTRONIC FUNDAMENTALS. 2½ credits. (2-1½)

Prerequisite, 132. For M.E. students. Characteristics of vacuum and gas tubes. Amplifiers, power supplies, oscillators, polyphase rectifiers. Industrial electronic control circuits.

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## 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.

## 35:158. TRANSMISSION LINES AND NETWORKS. 2½ credits. (2-½)

Prerequisite, 148. Steady-state and transient solutions of distributed constant circuits. Application of transmission line at power, audio and radio frequencies.

## 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.

## 35:161. ELECTRONICS I. 2 credits. (1½-½)

Prerequisites, 134, 17:114 or corequisite, 150. Physics of electron devices. Electron ballistics and emission. Vacuum and gas tubes. Semiconductors. Rectification and filtering.

## 35:162. ELECTRONICS II. 2 credits. (1½-½)

Prerequisite, 161. Tubes in A. C. circuits. Time delay. Photoelectric applications. Motor and generator control. Transistors. Gas tubes.

## 35:164. ELECTRONICS III. 2 credits. (1½-½)

Prerequisite, 162. Circuit analysis of electron devices in frequency domain. Equivalent circuits. Amplifiers. Oscillators.

## 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.

## 35:167. ELECTRICAL ENGINEERING PROBLEMS. 2 credits. (0-2)

Prerequisite, Senior standing. Selected comprehensive problems. Supervised discussion and computation periods. Talented students may substitute thesis project for problem work.

## 35:168. ULTRA HIGH FREQUENCIES. 4 credits. (3-1)

Prerequisites, 158, 169. Maxwell's Equations. Wave equations. Field analysis of waveguides. Microwave components. Klystron and magnetron oscillators.

## 35:169. ELECTRONICS IV. 2 credits. (1½-½)

Prerequisites, 164, 148. Transient circuit analysis of electron devices. Relaxation circuits. Wave shaping and generation. Pulse amplifiers. Instrumentation and systems. Modulation and detection.

35:170. COMPUTERS.  $1\frac{1}{2}$  credits. (1 $\frac{1}{2}$ -0)

Prerequisites, 164, 158. Fundamentals underlying the use, construction and operation of analog and digital computers. Switching circuits methods. Diodes in analog computers. Programming complex problems.

## 35:171. ELEMENTS OF SERVO-MECHANISMS. 2 credits. (2-0)

Prerequisites, 142, 162. 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, 169 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)

Prerequisites, 147, 148. Principles of symmetrical components as applied to the analysis of unbalanced electrical circuits.

## 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.

## 35:305. COMPUTERS AND COMPUTER METHODS. 3 credits. (3-0)

Prerequisite, 17:114. Construction and operation of analog and digital computers. Solution of equations. Numerical analysis principles. Programming. Special uses and techniques. Lectures, demonstrations, problems.

## 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.

35:310. 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.

## 36: MECHANICAL ENGINEERING COURSES

First number in parenthesis indicates hours in recitations; second number indicates hours of lab work.

36:21. ENGINEERING GRAPHICS I. 3 *credits*. (1-2)

Instruments and their use. Geometric drawing. Orthographic projection. Graphical methods of solving three dimensional problems involving lines and planes.

36:22. ENGINEERING GRAPHICS II. 3 *credits*. (1-2)

Prerequisite, 21. Sections and conventional practices. Screw threads. Dimensioning. Pictorial drawings. Working drawings. Intersection of lines and planes. Intersection and development of plane surfaces. Charts, graphs and diagrams. Vector geometry and nomography.

36:101. NUCLEAR ENGINEERING FUNDAMENTALS. 3 *credits*. (3-0)

Prerequisites, 17:76, 20:32. 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)

Prerequisite, Pre-Junior standing. Principles of engineering economy including equivalence, alternatives, costs, depreciation, valuation and selected project studies.

36:135. PHYSICAL METALLURGY. 3 *credits*. (2½-½)

Prerequisites, 5:28, 138. Principles of alloying. Alloy phase diagrams. Effects of alloying on physical properties. Crystal mechanism of metal processing. Powder metallurgy. Verification of principles by laboratory experiment.

36:168. PRODUCTION ENGINEERING. 3 *credits*. (3-0)

An analysis of the various tools and processes necessary in the design and 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.

36:171. 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*. (1½-½)

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)

Prerequisites, 17:114, 20:31. 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.

36:179. DYNAMICS OF MACHINES. 4 *credits*. (3-1)

Prerequisites, 178, 34:101. Transmission of forces in machines, including pin forces, gear forces and friction forces. Acceleration analysis including Coriolis acceleration, inertia and shaking forces. Balance of rotating and reciprocating masses. Single degree of freedom vibrations. Dynamic cam response.

36:181. THERMODYNAMICS II. 3 *credits*. (2½-½)

Prerequisite, 177. Cycles. Fluid flow. Combustion machines.

36:184. HEAT TRANSFER. 3 *credits*. (2½-½)

Prerequisite, 181. Fundamentals of heat transfer by conduction, convection, radiation and combinations of these.

36:185. MECHANICAL DESIGN I. 4 *credits*. (3-1)

Prerequisites, 179, 135. Limit dimensions. Materials and design stresses. Various projects which require fundamentals to be applied to actual design situations to achieve practical solutions.

36:186. MECHANICAL DESIGN II. 3 *credits*. (2-1)

Prerequisite, 185. Continuation of Mechanical Design I.

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, 179, 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. 3 *credits*. (1-2)

Prerequisite, Senior standing. Investigation of a project by individual or small student group. Detailed formal report required.

36:210. ELEMENTS OF VIBRATIONS. 2 *credits*. (2-0)

Prerequisite, 186. 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.

## 36:301. EXPERIMENTAL STRESS ANALYSIS. 3 credits. (3-0)

Prerequisites, 186 or 34:106. Experimental methods including use of brittle lacquer, strain gages, photoelasticity and membrane analogy. Advantages and limitations of each method.

## 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.

## GRADUATE COURSES

## 37:300. TRANSPORT PHENOMENA. 3 credits. (3-0)

Prerequisite, B.S. Degree in Engineering and permission. Incompressible and com-

pressible flow through conduits. Effect of heat transfer on fluid friction. Two-phase flow. Flow through packed beds, fluidized beds and microporous media.

37:301. 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.

### 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 hours 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 hours 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 account 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.

39:231-232. **ADVANCED ACCOUNTING.** 3 *credits each semester.*

Prerequisite, 144. First semester deals with partnerships, consignments, installment sales, insurance, estates and trusts, receivership and correction of statements and books. Second semester deals with branch accounting and consolidated statements. Accounting 232 may be taken before Accounting 231.

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.

39:299. **SEMINAR IN ACCOUNTING.** 1-3 *credits.*

#### GRADUATE COURSES

39:399. **CPA PROBLEMS.** 4 *credits.*

Prerequisites, 231, 232, 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.

39:498. **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 hours 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.

## 40:84. PUBLIC RELATIONS. 2 credits.

General course in Public Relations covering newspaper publicity, industrial publications and other types of organizational publicity.

## 40:141-142. BUSINESS LAW. Each semester. 3 credits.

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 hours 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. Each semester. 2 credits.

Prerequisite, 3 hours 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 hours 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.

## 40:165. EXECUTIVE SECRETARIAL DICTATION. 3 credits.

Prerequisite, 67:64 or equivalent. Dictating articles and letters, including special vo-

cabularies. Techniques of reporting and taking of lectures. Speed attainment: 120 to 140 words per minute.

40:171. BUSINESS FINANCE. 3 credits.

Prerequisite, 6 hours 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 hours 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.

40:181. PRINCIPLES OF SALESMANSHIP. 3 credits.

Prerequisite, 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.

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 hours 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.

40:195-196. OFFICE MANAGEMENT. Each semester. 2 credits.

Office functions and principles involved in office management, adapted for adults with office experience.

**40:234. ADVANCED BUSINESS COMMUNICATION. 2 credits.**

Prerequisite, 67:93. An advanced treatment of written business communication from the management standpoint, designed primarily for qualified persons experienced in some phase of business communication.

**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 by 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 and 181 or 185. Place of distribution in marketing scheme; determination of marketing objectives and policies and their implementation and control.

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40:292. EXECUTIVE OFFICE PROJECTS. 3 *credits*.

Prerequisites, 67:25, 67:64. Projects related to the secretary's work, general secretarial functions, administrative problems and office experience.

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 semester.

## 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.

40:490. 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.

40:498. SEMINAR IN GENERAL BUSINESS. 3 *credits*.

Research projects, group reports and discussions.

## 42: INDUSTRIAL MANAGEMENT

## 42:101. INDUSTRIAL PLANTS. 3 credits.

Prerequisites, 40:62 and 3 hours of Economics. Study of manufacturing principles and processes, economic considerations, and planning methods, from product specifications to a final layout for manufacturing.

## 42:107. INDUSTRIAL SAFETY. 2 credits.

Prerequisite, 40:62. Causes of accidents, fundamentals of accident prevention, maintenance of health standards, safety organization.

## 42:109. MAINTENANCE OF PLANTS AND EQUIPMENT. 2 credits.

Prerequisite, 101. Power metering; inspection, cleaning, lubrication and repair of equipment; estimating control of maintenance costs.

## 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.

## 42:162. PERSONNEL MANAGEMENT. 3 credits.

Prerequisites, 40:61 and 6 hours of Behavioral Science. 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, 42:162 and 6 hours 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 42:101 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. *Either semester.* 3 credits.

Prerequisites 42:203 and Senior standing. Modern practices and principles applied to an actual problem from industry.

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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, 42:162 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 semester.

#### 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: AIR SCIENCE

46:13-14. BASIC AIR SCIENCE. 1½ credits each semester.

Three 1-hour classes each week. Required of Freshmen not taking 47:11-12.

46:53-54. SECOND YEAR BASIC AIR SCIENCE. 1½ credits each semester.

Prerequisite, 14. 47:43-44 or 53-54 is required of second year men.

- 46:103-104. *ADVANCED AIR SCIENCE. 3 credits each semester.*  
Prerequisite, 54.
- 46:115-116. *ADVANCED AIR SCIENCE. 1½ credits each semester.*  
Prerequisite, 54. For Pre-Junior Cooperative Engineering Students.
- 46:117. *ADVANCED AIR SCIENCE. 1½ credits.*  
Prerequisite, 116. For Junior Cooperative Engineering Students.
- 46:125-126. *ADVANCED AIR SCIENCE. 1½ credits each semester.*  
Prerequisite, 115 or 116. For Junior Cooperative Engineering Students.
- 46:153-154. *ADVANCED AIR SCIENCE. 3 credits each semester.*  
Prerequisite, 104. Full-time students.
- 46:155. *ADVANCED AIR SCIENCE. 1½ credits.*  
Prerequisite, 126. For first semester Senior Cooperative Engineering Students.
- 46:156. *ADVANCED AIR SCIENCE. 3 credits.*  
For Second Semester Senior Cooperative Engineering Students.

#### U.S. ARMY R.O.T.C.

##### 47: MILITARY SCIENCE

- 47:11-12. *FIRST YEAR BASIC MILITARY SCIENCE. 1½ credits each semester.*  
Three 1-hour classes each week. Required of Freshmen not taking 46:13-14.
- 47:43-44. *SECOND YEAR BASIC MILITARY SCIENCE. 1½ credits each semester.*  
Prerequisite, 12. 43-44 or 46:53-54 is required of second year men.
- 47:101-102. *FIRST YEAR ADVANCED MILITARY SCIENCE. 3 credits each semester.*  
Prerequisite, 44.
- 47:111-112. *FIRST YEAR ADVANCED MILITARY SCIENCE. 1½ credits each semester.*  
Prerequisite, 44. For Pre-Junior Cooperative Engineering Students.
- 47:121-122. *FIRST YEAR ADVANCED MILITARY SCIENCE. 1½ credits each semester.*  
Prerequisite, 112. For Junior Cooperative Engineering Students.
- 47:123. *SECOND YEAR ADVANCED MILITARY SCIENCE. 1½ credits.*  
Prerequisite, 122. Summer term or Fall. For Cooperative Engineering Students.
- 47:141. *SECOND YEAR ADVANCED MILITARY SCIENCE. 1½ credits.*  
Prerequisite, 123. For Senior Cooperative Engineering Students.
- 47:151-152. *SECOND YEAR ADVANCED MILITARY SCIENCE. 3 credits each semester.*  
Prerequisite, 102, Cooperative Engineers, 141. 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.

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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*.

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.

## 61: INDUSTRIAL ELECTRONICS

61:20. ELECTRICAL DRAFTING. 3 *credits*.

Basic principles of drawing with emphasis on electrical circuit representation.

61:21. CIRCUIT THEORY. 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.

61:22. CIRCUIT THEORY. 3 *credits*. (3-0-3)

Prerequisite, 22. Solution of networks, network theorems, three phase systems, magnetic and electric field concepts.

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## 61:23. ELECTRONICS. 4 credits. (3-1-4)

Prerequisite, 21. Theory and characteristics of vacuum, gas and photo tubes, semi-conductors, rectifier circuits, amplifier circuits.

## 61:24. ELECTRONICS. 4 credits. (3-1-4)

Prerequisite, 23. Amplifier circuits continued, oscillators, modulation.

## 61:25. 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.

## 61:26. MEASUREMENTS. 3 credits. (2-1-3)

Prerequisite, 22. Principles of some of the important measuring circuits and instruments.

## 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.

## 61:46. SEMI-CONDUCTION DEVICES. 3 credits.

Prerequisite, 23. Properties and characteristics of semi-conductors, study of circuits using the devices including the controller rectifier.

## 61:47. DIGITAL COMPUTER. 3 credits.

Prerequisites, 23 and 24. Operation of various circuits used in a digital computer.

## 61:48. SYSTEMS CONTROL. 3 credits.

Prerequisites, 23 and 24. Closed loop control circuits, stability, synchros and error detectors.

## 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*. (2½-1½-3)\*

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*.

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.

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.

\* Three one-hour lectures odd number weeks.  
Two one-hour lectures and one three-hour lab even weeks.  
Total: 51 lectures and 8 three-hour lab periods.

## 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.

## 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.

## 67: SECRETARIAL SCIENCE

67:11. BASIC ACCOUNTING. 3 *credits*.

Fundamental principles and procedures of accounting for non-accounting majors.

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67:21. INTRODUCTION TO OFFICE PROBLEMS. *Either semester, 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) *First semester, 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. *Second semester, 3 credits.*

Application of typewriting skill on a problem basis to letter writing, data writing, report writing, and legal writing.

67:55. ADVANCED TYPEWRITING AND SECRETARIAL MACHINES. *Either semester, 3 credits.*

Prerequisite, 54. Advanced typewriting, transcription, business forms, duplication processes, dictating and transcribing machines.

67:59. SHORTHAND REFRESHER.

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. ADVANCED 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.*

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.*

A course designed to develop skill in the writing and transcribing of specialized shorthand dictation for the technical, science, and the 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*.

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.

# I4

## Grades and Graduation

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 training 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 designated classrooms, many 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 is maintained in the office of the Registrar. However, although the University maintains the records of each student, it is the individual student's own responsibility to know his academic standing and to know what courses to take in order to meet requirements for a degree.

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. Of those who are eligible, the students who maintain specified levels of scholastic achievement receive privileges to participate in extracurricular activities. Also, on the basis of their grades, they are given priority at registration-time and receive opportunities to take additional courses which will accelerate their academic progress. And 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."

At the University, many services are offered to aid each student to 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.

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

- 1) A student must present a record of his academic achievements in secondary school in order to be admitted to the University. (See Section V.)
- 2) A student must complete approximately 64 credit hours of study maintaining a quality point average of at least 2.0 (C) in order to be eligible to be promoted from the General College to an Upper College. Also, his acceptance is dependent on the approval of the Dean of the Upper College which he has chosen to enter. The Deans of Upper Colleges confer with the Dean of the General College and consult various heads of departments in which the student has taken courses. Any transfer from one Upper College to another is similarly conducted through the offices of the Deans and must be officially recorded in the office of the Registrar.
- 3) To complete Upper College requirements and receive a baccalaureate degree, a student is expected to have taken at least 50% and it is desirable that he take not more than 75% of his total work (outside of the General Education requirements) in a major division. Also, each student must have attained a quality point average of at least 2.0 (C) in order to graduate.

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 his instructor. 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 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

Percentage	Grade	Quality Points per Credit
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."

CREDIT AND QUALITY POINT REQUIREMENTS FOR GRADUATION

College	Degrees granted	Minimum Credit hours required	Qual. Pt. Average Required	
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	
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	
Engineering	Bachelor of Science in Civil Engineering	153	2.0	
	Bachelor of Science in Electrical Engineering	155	2.0	
	Bachelor of Science in Mechanical Engineering	157	2.0	
Community and Technical College	Associate Degree in:			
	Industrial Electronics	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		

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

### ADDITIONAL REQUIREMENTS FOR GRADUATION

A candidate for a 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 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 graduating student is required to participate in the Baccalaureate and Commencement exercises in order to receive his degree (unless excused by the University).

A graduating student 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 in 10 calendar years from the date of his beginning the first semester of his education at the University. Adjustments of requirements for a student who is enrolled for more than 10 years must be made with the Dean of the Upper College which will grant the degree.

A graduating student 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.

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.

### 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 Dean.

If a student withdraws from a course with permission of his 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 Dean or is dropped from any course by his Dean, he is given a failing grade in the course.

A student who is dropped from Army or Air Force R.O.T.C. for unsatisfac-

tory 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.

#### 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.

#### 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: (This rule became effective on September 1, 1962.)

- 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.

#### *REGULATIONS AT THE UNIVERSITY*

#### *WHICH STUDENTS ARE EXPECTED TO KNOW AND TO HEED:*

##### 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.

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

#### ACADEMIC AVERAGE

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.

#### DISCIPLINE

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

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# I5

## Fees and Finances\*

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 Registrar, for day classes, and of the Dean of the Evening College, for evening classes, 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.

### UNDERGRADUATE FEES

Fee for City of Akron residents, per credit per semester (maintenance only) .....	\$13.00
Fee for State of Ohio residents who are nonresidents of City of Akron, per credit per semester (maintenance plus tuition) .....	26.00
Fee for nonresidents of State of Ohio, per credit per semester (maintenance plus tuition) ..	30.00

All new students entering the University's daytime courses for the first time are required to pay an application fee of \$25.00, which is non-refundable. This fee is in effect only for the semester for which the student applies for admission. Of this amount, \$10.00 is an application fee. When a student is accepted, \$15.00 of his application fee is regarded as a down payment on his fees and is deducted from the total amount assessed (i.e. tuition and maintenance) at the time of registration for this semester.

\* Fees subject to change without notice.

Since 16 credit hours per semester constitute a regular academic load, most students will pay the following amounts per semester for an undergraduate schedule:

	<i>Akron Resident</i>	<i>Other Ohio Residents</i>	<i>Non-Ohio Residents</i>
Undergraduate Fees	\$208	\$416	\$480
General Service Fee**	20	20	20
Total	\$228	\$436	\$500

#### 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
Library fee, per semester	15.00
Library fee, summer	5.00

#### 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 of the Korea emergency 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 of the Korea emergency must pay their fees at the time they register. They will receive specified allowances under Public Law 550.

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: *Undergraduate Graduate*

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
<u>In Absentia (additional)</u>	<u>10.00</u>

\*\* Students enrolled for nine credits or more pay a General Service Fee of \$20 each semester. Students enrolled for less than nine credits, postgraduate, College of Law and summer students pay a Service Fee of \$5.

**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 \$15.00 is charged for each Department of Special Programs course unless otherwise noted in the circular printed each semester which describe the courses.

**EVENING COLLEGE**

A fee of \$10.00 is charged upon application for admission to the Evening College. This amount is non-refundable.

**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 .....	\$12.00 (Per Semester)
enrolled for 6 1/2 or less credit hours .....	6.00 (Per Semester)
Engineering Co-op Students—enrolled in day classes only .....	6.00 (Per Period)
enrolled in day and evening classes .....	10.00 (Per Semester)
enrolled in evening classes only .....	4.00 (Per Semester)
Evening College students .....	4.00 (Per Semester)
Summer Sessions students .....	4.00 (Per Session)
Department of Special Programs .....	2.00 (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 and Adult Education Division 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 are refunded in full if the University cancels the course, or if the University does not permit the student to enroll, or if the student is drafted, but not if one enlists, into the military forces of The United States of America.

A student who formally withdraws before his first regularly scheduled class, regardless of reason, will receive a full refund less \$5.00.

If it is determined that a refund is proper, it shall be made after the first four weeks of the semester, or one week after the receipt of the required evidence, whichever date comes later. It is also a requirement that the student return his identification card and parking permit before a refund will be made.

After the close of registration, a student who has no obligation to the Bookstore, Library, ROTC or other department, and who formally withdraws by direct notification to the appropriate registering office, upon request may have a partial refund under either of the following conditions:

- A. Withdrawal during the first week of classes.
- B. Withdrawal after the first week of classes, provided evidence is supplied to the satisfaction of the Dean of the College or Division that the student has been prevented from attending classes because of:
  - 1. Serious illness as evidenced by a written statement of a physician.
  - 2. Change in hours of employment as evidenced by a written statement of the employer.
  - 3. Any circumstance arising since the first day of the semester beyond the control of the student.

Refunds allowed will be made according to the following schedule:

	<i>Session or Semester</i>		
	<i>Regular</i>	<i>Cooperative</i>	<i>Summer</i>
First week .....	80%	60%	60%
Second week .....	60%	40%	20%
Third week .....	40%	20%	0
Fourth week .....	20%	0	0
Thereafter .....	0	0	0

No refunds will be made of the following fees:

- 1. Application
- 2. Late registration
- 3. Special examination and test
- 4. Change of schedule
- 5. Incomplete removal
- 6. Department of Special Programs, except by written request of the Dean
- 7. Towel

No refunds will be issued when a student is dismissed or suspended from the University for disciplinary reasons.

# 16

## Fellowships, Scholarships, Awards and Loans

A prospective student 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.

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 or loan.

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 about these financial aids and application forms can be obtained from the Chairman of University Committee on Fellowships, Scholarships, Awards and Loans in the office of the Dean of the General College. Further information about loans can be obtained from the Dean of Student Services.

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 DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS SCHOLARSHIP

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

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**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 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 and representatives of the College of Education.

**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 will cover maintenance fees only and may be renewed each year 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. The amount of the scholarship shall be a minimum of \$100 or a maximum of \$176, to be applied to fees only.

**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 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 PRODUCTION AND INVENTORY  
CONTROL SOCIETY AWARD**

This award is made by the Akron Section of American Production and Inventory Control Society to the outstanding senior in the Department of Industrial Management.

**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 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.

**THE BREWSTER AWARDS**

A fund established by Mr. and Mrs. Evan B. Brewster provides money for awards not to exceed \$100.00 a year plus interest and other accumulation to aid under-classmen, with special consideration any year to the application of pledges or members of Lone Star and/or Phi Delta Theta and/or Kappa Kappa Gamma. Awards will be made by the University Scholarship Committee upon the recommendation of the Dean of Student Services.

**THE BREWSTER SCHOLARSHIP**

A fund established by Mr. and Mrs. Evan B. Brewster (Margaret Zink, '25) is offered to provide scholarship assistance to upper-class students, not to exceed \$150.00 a year, at the discretion of the University Scholarship Committee.

**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.

**THE BUREAU OF NATIONAL AFFAIRS, INC.**

This award, a year's complimentary subscription to *Law Week*, is given to the graduating senior 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.

**DELTA GAMMA—RUTH K. BILLOW MEMORIAL SCHOLARSHIP**

Established by Akron Alumnae Chapter of Delta Gamma, this scholarship will provide \$100 or more per semester (and is renewable), 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 high school 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.

**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.

**FIRESTONE TIRE & RUBBER COMPANY FELLOWSHIP**

A fellowship in the Department of Chemistry is offered by the Firestone Tire & Rubber Company for the study of the chemistry and technology of rubber. The fellowship is open to graduates of standard American colleges and universities and is in the value of \$1,700 per year with remission of all University fees.

**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**

The Board of Directors of the University has voted to establish a maximum of 13 scholarships per year to be awarded to graduates of Akron high schools in the amount \$150 per semester. Principals of high schools in Akron may submit names of three candidates for these scholarships for the Freshman year. The candidate must be in the upper third of his graduating class and must become a full-time student. Scholastic achievement, citizenship, promise and leadership are the qualities used as the basis for the award, which is made by a committee of the University. Applications are made at the office of the high school principal in the last semester of the senior year. The award for the second semester is contingent upon satisfactory scholarship for the first semester.

**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.

**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.

#### GOODYEAR TIRE & RUBBER COMPANY FELLOWSHIP

A fellowship in the value of \$1,700 per year is available to all graduates of standard American colleges. This fellowship is offered for the study of the chemistry and technology of rubber in the Department of Chemistry.

#### GRAND LODGE OF FREE AND ACCEPTED MASONS OF OHIO SCHOLARSHIP

One \$400 scholarship for 1964-65 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.

#### 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 is awarded to a deserving student in the upper third of his high school class. The scholarship may be awarded either to a resident or a nonresident of Akron.

#### 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 MACHINE & ENGINEERING COMPANY SCHOLARSHIPS**

Four-year scholarships have been established by the McNeil Machine and Engineering Company 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.

**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 three 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 SCIENCE FOUNDATION COOPERATIVE GRADUATE FELLOWSHIPS**

These annual awards are made in the amount of \$2,400 to \$3,800 each to graduate students in special fields for specified academic years. Application deadline, November 1.

**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 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.

**M. O'NEIL COMPANY SCHOLARSHIPS**

The M. O'Neil Company has established four scholarships in the amount of \$300 a year each to be awarded to two students from the junior class and two students from the senior class who are preparing to enter the field of general business. In succeeding years the scholarships will be awarded to two juniors annually. 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 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

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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 \$200 a year, payable \$100 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.

#### SINGLETON & MACK, INC., SCHOLARSHIP IN CHEMISTRY

This scholarship is awarded to any male student majoring in chemistry who is a junior or higher, including post-graduate work. The award is based on need, character, and ability,

regardless of race, color or creed. It is awarded by the University Scholarship Committee and a representative of the Chemistry Department.

#### SOUTH AKRON BOARD OF TRADE SCHOLARSHIPS

The South Akron Board of Trade has established three scholarships to be awarded to an outstanding graduate from 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.

#### TOUCHDOWN CLUB AWARDS

The Touchdown Club Awards are for four years, renewable each semester upon satisfactory performance and scholarship. Candidates must be in the upper half of their high school graduation class and must become full-time students at The University of Akron. Scholastic achievement, citizenship, athletic ability, need and leadership will be used as a basis for making the 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.

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**WALL STREET JOURNAL AWARD**

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

**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.

**WITCO CHEMICAL COMPANY FELLOWSHIP**

The award is provided by the Witco Chemical Company to a graduate student in chemistry. An annual amount of \$2,500 for the student with an equal amount going to the University's current operating fund.

**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.

**NATIONAL DEFENSE EDUCATION 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 full-time student, or, if already attending an institution, be in good standing and in full-time attendance as an undergraduate or graduate student. 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 public elementary or secondary school.

**OTHER STUDENT LOAN FUNDS**

Akron College Club Loan Fund	Jessie and William Hyde Memorial Fund
Akron Council of Parent-Teacher Associations Loan Fund	Lodge No. 547 Independent Order of Odd Fellows Loan Fund
Homer C. Campbell Fund	Lichter Foundation Loan Fund
Katherine Claypole Loan Fund	Litchfield-Thomas Fund
Cuyahoga Portage Chapter D.A.R. Loan Fund	Jesse A. Riner and Blanche Pease Riner Fund
Evening College Loan Fund	Mabel Jane Rogers Memorial Fund
Harriet Hale Loan Fund	Milo W. Sample Loan Fund
Hermine Z. Hansen Loan Fund	Richard J. Witner Memorial

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## The Directories of the University

### BOARD OF DIRECTORS

#### TERM EXPIRES DECEMBER 31, 1965

Ike Gold ..... 317 Madison Avenue  
Mrs. W. A. Hoyt ..... 175 Merriman Road  
Arthur Kelly ..... 24 South Portage Path

#### TERM EXPIRES DECEMBER 31, 1967

Charles J. Jahant ..... 655 North Portage Path  
Bernard Rosen ..... 277 Hollywood  
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

#### OFFICERS FOR 1964

*Chairman* ..... Harry P. Schrank  
*Vice Chairman* ..... E. J. Thomas  
*Vice Chairman* ..... Joseph Thomas  
*Secretary* ..... Ian R. MacGregor

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## ADMINISTRATIVE OFFICERS

Norman P. Auburn, B.A., D.Sc., Litt.D., L.H.D., LL.D.	<i>President of the University</i>
D. J. Guzzetta, Ed.D.	<i>Vice President and Dean of Administration</i>
Ian R. MacGregor, Ph.D.	<i>Financial Vice President</i>
Ernest H. Cherrington, Jr., Ph.D.	<i>Dean of the Graduate Division</i>
George Knepper, Ph.D.	<i>Dean of the Buchtel College of Liberal Arts</i>
Michael J. Rzasa, Ph.D.	<i>Dean of the College of Engineering</i>
Chester T. Mc Nerney, Ph.D.	<i>Dean of the College of Education</i>
R. C. Reidenbach, Ph.D.	<i>Dean of the College of Business Administration</i>
Stanley A. Samad, LL.M.	<i>Dean of the College of Law</i>
Thomas Sumner, Ph.D.	<i>Dean of the General College</i>
W. M. Petry, M.S.M.E.	<i>Dean of the Community and Technical College</i>
William A. Rogers, Ed.M.	<i>Dean of the Evening College and Director of the Summer Sessions</i>
Richard L. Hansford, M.A.Ed.	<i>Dean of Student Services</i>
Robert C. Carson, Ph.D.	<i>Coordinator of Research</i>
Robert E. Peck, B.S.B.A., C.P.A.	<i>Controller</i>
Cecil A. Rogers, B.S.B.A.	<i>University Auditor</i>
Gordon A. Hagerman, B.A.	<i>Registrar</i>
Howard D. Haynes, B.A.	<i>Admissions Officer and Director of Housing</i>
Dorothy Hamlen, B.A., B.S.L.S.	<i>Librarian</i>
Maurice Morton, Ph.D.	<i>Director of the Institute of Rubber Research</i>
L. L. Smith, M.A.	<i>Director of the Institute for Civic Education</i>
George W. Ball, B.A.	<i>Director of University Relations</i>
Kenneth D. Bushnell, B.A.Ed.	<i>Director of Alumni Relations</i>
Robert W. Paul	<i>Superintendent of Buildings and Grounds</i>

## ADMINISTRATIVE ASSISTANTS

Fred B. Pockrandt	<i>Acting Assistant to the President</i>
Thomas F. Powell, D.S.S.	<i>Assistant to the Vice President and Dean of Administration</i>
R. Wayne Duff, LL.B.	<i>Assistant to the Financial Vice President</i>
John P. Williams, Ph.D.	<i>Assistant Dean of the Evening College</i>
Robert Berry, B.S.B.A.	<i>Adviser of Men</i>
Dudley C. Johnson, Jr., M.S.Ed.	<i>Adviser of Men</i>
Robert W. Larson, B.S.B.A.	<i>Adviser of Men and Financial Aid Officer</i>
John W. Stafford, M.S.Ed.	<i>Adviser of Men</i>
Robert T. Lawry	<i>Assistant Adviser of Men</i>
Ralph Larson, M.Ed.	<i>Director of the Student Center</i>
Mrs. Phyllis Paul, M.A.	<i>Adviser of Women</i>
Mrs. Kathryn Vegso, M.S.Ed.	<i>Adviser of Women</i>
Sidney Crouch, M.A.	<i>Adviser of Women</i>
Stuart Terrass, B.A., B.S.	<i>Assistant Registrar</i>
Robert S. Hathaway, B.S.Ch.E.	<i>Director of the Computer Center</i>
D. G. Leigh, M.B.A.	<i>Systems Analyst</i>
Robert W. Thorburn, B.A.Ed.	<i>Evening College Counselor</i>
John M. Denison	<i>Assistant Director of University Relations</i>
Robert S. Sartoris, B.S.	<i>Assistant to the Director of University Relations</i>
Charles V. Blair, B.A.	<i>Director of University News Bureau</i>
George E. Raymer, B.A.	<i>Assistant Director of University News Bureau</i>
Charles P. Braley, B.A.	<i>Assistant Admissions Officer</i>
Patricia Huber, B.A.	<i>Assistant Admissions Officer</i>
Donald Bowles, B.A.Ed., B.S.I.M.	<i>Purchasing Agent</i>
Henry Nettling, B.S.B.A.	<i>Assistant to the Controller</i>
C. Robert Blankenship, M.S.Ed.	<i>Director of Audio-Visual Services</i>

## UNIVERSITY EMERITUS FACULTY

- 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.
- ELMER ENDE, *Associate Professor Emeritus of Music* (1930)  
B.Mus., American Conservatory of Music, Chicago; M.A., Ohio State University, 1930.
- ELDORA FLINT, *Associate Professor Emeritus of Secretarial Science* (1929)  
B.E., The University of Akron; M.S.Ed., Syracuse University, 1935.
- 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.
- 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.
- WALTER C. KRAATZ, *Professor Emeritus of Biology* (1924)  
B.A., University of Wisconsin; M.A., Ph.D., Ohio State University, 1923.
- R. D. LANDON, *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.
- GENIE J. PRESTON, *Associate Professor Emeritus of Bibliography* (1939)  
B.A., Northwestern University; M.A., University of Illinois, 1936.
- RUTH MARGUERITE RAW, *Associate Professor Emeritus of Engineering English* (1929)  
B.A., M.A., Hiram College; M.A., Columbia University, 1924.

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.

- 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.
- 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

1964-1965

## 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.
- PAUL ACQUARONE, *Professor of Botany and Geology* (1931)  
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.
- DAVID G. ADOLPH, *Instructor in Physical Education* (August 1963)  
B.A.Ed., The University of Akron; M.S., University of Wisconsin, 1962.
- 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.
- JAMES W. BAILEY, *Assistant Professor of English* (1960)  
B.S., Long Island University; M.A., Ph.D., Wayne State University, 1963.
- GEORGE W. BALL, *Director of University Relations* (1957)  
B.A., Mount Union College, 1943.
- 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.
- WILLIAM H. BEISEL, JR., *Associate Professor of Education* (1960)  
B.S., West Chester State Teachers College; M.Ed., Ed.D., Pennsylvania State University, 1960.
- ARNOLD BENTON, *Professor of Physics* (1960)  
B.S., Massachusetts Institute of Technology; M.A., Ph.D., University of California, 1948.
- ROBERT C. BERRY, *Adviser of Men* (August 1946)  
B.S.B.A., The University of Akron, 1942.
- WILLIAM BEYER, *Associate 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.
- LESTER JAMES BILSKY, *Instructor in History* (1962)  
B.A., Washington University (St. Louis), 1956; University of Washington.
- ROBERT R. BLACK, *Assistant Professor of Economics* (1958)  
B.A., Carleton College; M.B.A., University of Chicago; Ph.D., University of California, 1963.
- CHARLES V. BLAIR, *Director, University News Bureau, and Instructor in Newswriting* (April 1959)  
B.A., M.A., The University of Akron, 1963.
- C. ROBERT BLANKENSHIP, *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.S., Brooklyn College; M.A., Ph.D., University of Wisconsin, 1958.
- CHARLES BRALEY, *Assistant Admissions Officer* (1962)  
B.A., State University of Iowa, 1957.

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.

- THOMAS BROWN, *Assistant Director and Counselor in the Testing and Counseling Bureau* (July 1964)  
B.S., M.Ed., Mississippi State University, 1958; University of Missouri.
- ROBERT B. BRUMBAUGH, *Assistant Professor of Education* (1963)  
B.A., Juniata College; M.Ed., Ed.D., Pennsylvania State University, 1963.
- KENNETH D. BUSHNELL, *Director of Alumni Relations* (January 1960)  
B.A.Ed., The University of Akron, 1954.
- RICHARD A. CALKINS, *Program Administrator in the Department of Special Programs of the Community and Technical College* (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.
- ROBERT C. CARSON, *Coordinator of Research and Associate Professor of Mathematics* (July 1963)  
B.S., M.S., Purdue University; Ph.D., University of Wisconsin, 1953.
- 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.
- FRANCES CLARK, *Assistant Professor of Accounting* (1946)  
B.S., The University of Akron; M.Ed., University of Pittsburgh, 1946.
- KENNETH COCHRANE, *Professor of Physical Education and Director of Athletics* (1948)  
B.E., The University of Akron; M.Ed., University of Pittsburgh, 1941.
- 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.
- WILLIAM F. CONLEY, *Instructor in Civil Engineering* (1964)  
B.C.E., The University of Akron; M.C.E., Catholic University, 1964.
- 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.
- MALCOLM J. DASHIELL, *Associate Professor of Art* (1953)  
B.F.A., John Herron Art School; M.F.A., State University of Iowa, 1953.
- EMILY DAVIS, *Professor of Art* (1945)  
B.A., Ohio State University; M.A., Columbia University, Teachers College; Ph.D., Ohio State University, 1936.
- JOHN M. DENISON, *Assistant Director of University Relations* (February 1946)  
The University of Akron.
- JAMES E. DOVERSPIKE, *Assistant Professor of Education* (1960)  
B.S., Indiana State College; M.Ed., Ed.D., Pennsylvania State University, 1961.
- R. WAYNE DUFF, *Assistant to the Financial Vice President* (May 1963)  
B.A., Oberlin College; LL.B., Cleveland-Marshall Law School, 1951.
- CHARLES DUFFY, *Pierce 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, *Associate 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.B.A., Ph.D., University of Arkansas, 1963.
- JOSEPH A. EDMISTER, *Assistant Professor of Electrical Engineering* (June 1957)  
B.E.E., M.S.E., The University of Akron, 1960.

- JOSEPH M. EGAR, *Associate Professor of Mathematics* (1963)  
B.S., University of Oklahoma; Ph.D., A&M College of Texas, 1959.
- 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.
- EUGENE FLAUMENHAFT, *Associate Professor of Biology* (1963)  
B.A., M.A., Adelphi College; Ph.D., University of Chicago, 1958.
- RICHARD M. FLETCHER, *Assistant Professor of English* (1962)  
B.A., Haverford College; M.A., Ph.D., University of Pennsylvania, 1962.
- VAUGHN WILBUR FLOUTZ, *Associate Professor of Chemistry* (1941)  
B.A., Olivet College; M.A., Ph.D., University of Colorado, 1932.
- OMER R. FOUTS, *Associate Professor of Physics* (1926)  
B.A., Wittenberg University; M.A., Ohio State University, 1925.
- 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.
- 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 Rubber Research* (April 1961)  
B.S., Leicester Technical College and University College (England); B.S. (Special), Ph.D., London University (England), 1955.
- DON R. GERLACH, *Assistant Professor of History* (1962)  
B.S.Ed., M.A., Ph.D., University of Nebraska, 1961.
- HUBERT L. GERSTMAN, *Assistant Professor of Speech* (1963)  
B.S., State University of New York at Geneseo; M.Ed., Ed.D., Pennsylvania State University, 1962.
- HASSAN S. GHAZI, *Assistant Professor of Mechanical Engineering* (1962)  
B.S.M.E., Purdue University; M.S.M.E., Ph.D., Ohio State University, 1962.
- DENNIS GORDON, *Professor of Accounting* (1946)  
B.A., M.B.A., University of Chicago, 1938; C.P.A., Ohio.
- 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, *Vice President and Dean of Administration, and Professor of Education* (1954)  
B.A., M.Ed., Ed.D., University of Buffalo, 1953.
- GORDON A. HAGERMAN, *Registrar* (July 1941)  
B.A., The University of Akron, 1941.
- DOROTHY HAMLIN, *Librarian and Professor of Bibliography* (February 1937)  
B.A., The University of Akron; B.S.L.S., Western Reserve University, 1942.
- E. K. HAMLIN, *Associate Professor of Coordination* (March 1946)  
M.E., The University of Akron, 1928; P.E., Ohio.
- 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, *Assistant Professor of Geography* (1963)  
B.A., Earlham College; M.A., Ph.D., University of Pittsburgh, 1962.
- MRS. PHYLLIS HARDENSTEIN, *Instructor in Speech* (February 1947) (1956)  
B.A., The University of Akron; M.A., University of Wisconsin, 1951.

- ROBERT T. HARRIS, *Assistant Professor of Psychology* (1961)  
B.A., Rice Institute; M.A., Ph.D., University of Houston, 1964.
- H. JAMES HARWOOD, *Associate Professor of Chemistry and Research Associate in the Institute of Rubber Research* (October 1959)  
B.S., The University of Akron; Ph.D., Yale University, 1956.
- ROBERT S. HATHAWAY, *Director of the Computer Center* (1963)  
B.S.Ch.E., Northwestern University, 1954.
- HOWARD D. HAYNES, *Admissions Officer and Director of Housing* (June 1961)  
B.A., Baker University, 1956.
- HERBERT C. HAYWARD, *Associate Professor of Business Administration* (1963)  
B.A., The University of Akron; Ph.D., University of Tennessee, 1956.
- DONALD HENDERSON, *Instructor in Sociology* (1962)  
B.A., M.A., Kent State University, 1959; University of Pittsburgh.
- MRS. ANNABELLE HENRY, *Instructor in Mathematics* (1961)  
B.A., Kent State University; M.A., Ohio State University, 1958.
- RICHARD HENRY, *Instructor in Mechanical Engineering* (1961)  
B.M.E., Ohio State University, 1961.
- ELIZABETH J. HITTLE, *Associate Professor of Speech* (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.
- PATRICIA HUBER, *Assistant Admissions Officer* (August 1964)  
B.A., Western Reserve 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.
- LYMAN HUNT, *Professor of Education* (1962)  
B.S., University of Vermont; M.S., Ed.D., Syracuse University, 1952.
- 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, *Associate Professor of Music* (1957)  
M.B., Lawrence Conservatory of Music; S.M.M., S.M.D., School of Sacred Music, Union Theological Seminary, 1951.
- ROBERT T. ITTNER, *Hilton Professor of Modern Languages* (1950)  
B.A., Ph.D., University of Illinois, 1937.
- DALE L. JACKSON, *Assistant Professor of Biology* (1961)  
B.S., Ph.D., University of Durham (England), 1959.
- 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., *Adviser of Men* (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, 1935.
- DAVID L. JONES, *Assistant Professor of English* (February 1961)  
B.A., M.A., Ph.D., Harvard University, 1958.
- BURT K. KAGEFF, *Instructor in Music* (1962)  
B.A., M.Ed., Wayne State University; M.A., University of Missouri, 1962.

- DON A. KEISTER, *Professor of English* (1931)  
B.A., M.A., The University of Akron; Ph.D., Western Reserve University, 1947.
- \*DUANE R. KELLER, *Professor of Civil Engineering* (1955)  
B.S.C.E., Ohio University; M.S.E., University of Alabama, 1949; P.E., Maryland, Alabama.
- ROGER F. KELLER, JR., *Associate Professor of Biology* (1954)  
B.S., University of New Hampshire; Ph.D., Michigan State University, 1953.
- DAVID KING, *Associate Professor of Political Science* (1927)  
B.A., Maryville College; M.A., University of Chicago, 1925.
- MICHAEL KLEIN, *Scientific Programmer in the Computer Center* (1964)  
B.S., The University of Akron, 1963.
- GEORGE W. KNEPPER, *Dean of Buchtel College of Liberal Arts and Associate Professor of History* (August 1954)  
B.A., The University of Akron; M.A., Ph.D., University of Michigan, 1954.
- ROBERT KOVACH, *Associate Professor of Law* (1963)  
B.B.A., LL.B., Western Reserve University; LL.M., New York University, 1957.
- WARREN F. KUEHL, *Professor of History* (1964)  
B.A., Rollins College; M.A., Ph.D., Northwestern University, 1954.
- MILTON L. KULT, *Associate Professor of Electrical Engineering* (June 1954)  
B.S.E.E., M.S., University of Illinois, 1952; P.E., Illinois, Ohio.
- ROGER A. KVAM, *Assistant Professor of Political Science* (1964)  
B.A., Wheaton College; B.D., Princeton Theological Seminary; M.A., Harvard University, 1964.
- LAURENCE J. LAFLEUR, *Professor of Philosophy* (February 1952)  
B.A., Princeton University; Ph.D., Cornell University, 1931.
- 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, *Adviser of Men and Financial Aids Officer* (August 1958)  
B.S.B.A., The University of Akron, 1946.
- 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, *Instructor in the Community and Technical College and Program Administrator of Informal Courses* (June 1961)  
B.A.Ed., The University of Akron; M.B.A., Kent State University, 1962.
- 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.
- D. G. LEIGH, *Systems Analyst-Programmer in the Computer Center* (November 1963)  
B.S.B.A., Kent State University; M.S.B.A., The University of Akron, 1964.
- ARNO K. LEPKE, *Professor of Modern Languages* (1961)  
University of Greifswald (Germany); Ph.D., University of Marburg (Germany), 1947.
- GERALD H. LEVIN, *Assistant Professor of English* (1960)  
Vanderbilt University; M.A., University of Chicago; Ph.D., University of Michigan, 1956.
- †HUGO LIJERON, *Assistant Professor of Modern Languages* (1963)  
B.A., LaSalle University (Bolivia); LL.D., Universidad San Francisco Xavier de Chuquisaca (Bolivia); M.A., Middlebury College, 1962.
- EDWIN L. LIVELY, *Professor of Sociology* (1963)  
B.A.Ed., Fairmount State College (W. Va.); M.A., Ph.D., Ohio State University, 1947.
- SUSANNE JANE LODGEN, *Instructor in the Community and Technical College* (1964)  
B.A., Radcliffe College; Cornell University.

† Leave of absence, 1964-65.

\* Deceased, July 1964.

- 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, *Instructor in Music* (1959)  
B.M.Ed., Oberlin College; M.A. Musicology, University of Michigan, 1957.
- IAN R. MACGREGOR, *Financial Vice President* (1961)  
B.A., M.S., Ph.D., University of Cincinnati, 1945.
- THEODORE MACKIW, *Assistant Professor of Modern Languages* (1962)  
Ph.D., University of Frankfurt (Germany), 1951; Yale 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.
- FREDERICK A. MANZARA, *Associate Professor of Marketing* (1962)  
B.A., Northwestern University; M.S., Ph.D., University of Illinois, 1961.
- RICHARD C. MARSHALL, *Assistant Professor of Law* (1959)  
LL.B., Akron Law School, 1954.
- MRS. ELIZABETH MATHIAS, *Instructor in the Community and Technical College* (1964)  
B.A., The University of Akron; M.A., Kent State University, 1964.
- MARGARET EVELYN MAUCH, *Professor of Mathematics* (1945)  
B.S., Huron College; M.S., Ph.D., University of Chicago, 1938.
- WILLIAM MAVRIDES, *Director of Television and Instructor in Speech* (July 1960)  
B.A., The University of Akron; M.A., Peabody College for Teachers, 1958.
- STEWART MCKINNON, *Assistant Professor of Commerce* (1949)  
B.A., M.A., University of Wisconsin, 1941.
- 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.
- CHESTER T. McNERNEY, *Dean of the College of Education and Professor of Education* (July 1959)  
B.S., M.S.Ed., Ph.D., Indiana University, 1949.
- CLAUDE Y. MEADE, *Associate Professor of Modern Languages* (1964)  
B.A., M.A., University of Minnesota; Ph.D., University of California, 1957.
- EBERHARD A. MEINECKE, *Assistant Professor of Mechanical Engineering and Research Associate in the Institute of Rubber Research* (October 1963)  
Diploma, D.Eng., Technische Hochschule Carolo-Wilhelmina zu Braunschweig, 1960.
- CARL H. MILLS, *Instructor in English* (1964)  
B.S. Columbia University; M.A., New York University; University of Nebraska.
- ALOYSIUS E. MISKO, *Associate Professor of Secretarial Science* (1962)  
B.S., Central Michigan University; M.S., Ed.D., University of Michigan, 1962.
- MARVIN M. MOORE, *Associate Professor of Law* (July 1960)  
B.A., Wayne State University; LL.B., LL.M., Duke University, 1960.
- FRANK J. MORENO, *Instructor in Modern Languages* (1964)  
Diploma, University of Bordeaux; Diploma, University of Toulouse.
- GERALD ALLAN MORTENSEN, *Instructor in Modern Languages* (1962)  
B.S., Rutgers University; M.A., Middlebury College, 1962.

† Leave of absence, fall semester, 1964.

- MAURICE MORTON, *Professor of Polymer Chemistry and Director of the Institute of Rubber Research* (October 1948)  
B.S., Ph.D., McGill University (Canada), 1945.
- THEODORE MUELLER, *Associate Professor of Modern Languages* (1963)  
Sorbonne; Ph.D., Northwestern University, 1953.
- ARTHUR G. MURPHEY, JR., *Associate Professor of Law* (1962)  
B.A., University of North Carolina; LL.B., University of Mississippi; LL.M., Yale Law School, 1962.
- JEROME MUSHKAT, *Assistant Professor of History* (1962)  
B.A., M.A., D.S.S., Syracuse 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.
- 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.
- HENRY NETTLING, *Assistant to the 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.
- WILLIAM P. NICOLET, *Assistant Professor of English* (1962)  
B.A., Bowdoin College; M.A., Ph.D., Brown University, 1964.
- 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.
- CARMELLA E. NUCCIO, *Assistant Professor in the Community and Technical College* (1964)  
B.B.A., Fenn College; M.A., The Ohio State University, 1961.
- 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.
- MRS. HELEN PAINTER, *Associate Professor of Education* (1945)  
B.A., M.A., Ed.D., Indiana University, 1941.
- WILLIAM I. PAINTER, *Associate Professor of Education* (1945)  
B.A., Oakland City College; M.A., Ph.D., Indiana University, 1933.
- 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, *Adviser of Women* (July 1955)  
B.A., The University of Akron; M.A., Western Reserve University, 1937.
- ROBERT E. PECK, *Controller* (November 1961)  
B.S.B.A., The University of Akron, 1958; C.P.A., Colorado, 1959.
- 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.
- JOHN S. PHILLIPSON, *Assistant Professor of English* (1961)  
B.A., University of Rochester; M.A., Ph.D., University of Wisconsin, 1952.
- FRANK T. PHIPPS, *Associate 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.
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- JOHN A. POPPLESTONE, *Associate Professor of Psychology* (1961)  
B.A., University of Michigan; M.A., Wayne State University; Ph.D., Washington University, 1958.
- 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.
- THOMAS F. POWELL, *Assistant Professor of History and Assistant to the Vice President and Dean of Administration* (1962)  
B.A., Potsdam State Teachers College; M.A., D.S.S., Syracuse University, 1964.
- ALEXANDER PRONIN, *Assistant Professor of Modern Languages* (1963)  
B.A., University of California, 1954; Georgetown University.
- 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.
- 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.
- GEORGE E. RAYMER, *Assistant 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.
- 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, *Professor of Education* (February 1947)  
B.A., Mount Union College; M.A., University of Chicago; Ed.D., Columbia University, Teachers College, 1946.
- 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.
- 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.
- 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.
- 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.
- 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; New York University.

- 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.
- ROBERT S. SARTORIS, *Assistant to the Director of University Relations* (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, *Assistant Professor of Physics* (1962)  
B.S., The University of Akron; M.S., John Carroll University, 1958; Ph.D., Case Institute of Technology, 1964.
- MRS. ANNETTE K. SEERY, *Assistant Professor of Economics* (1951)  
B.A., Mount Holyoke College; M.A., Washington University, 1947.
- SAMUEL SELBY, *Ainsworth 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, *Associate 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.
- 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.
- 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.
- 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., *Assistant Professor of Modern Languages* (1956)  
B.A., Brigham Young University; M.A., Ph.D., University of Wisconsin, 1956.
- LEVI LESTER SMITH, *Assistant Professor in the Community and Technical College and Director of the Institute for Civic Education* (August 1956)  
B.A., Columbia University; M.A., Columbia University, Teachers College, 1947.
- MARGARET J. SMITH, *Assistant 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, *Assistant Professor of Chemistry and Administrative Assistant in the Institute of Rubber Research* (1950)  
B.S., M.S., Ph.D., The University of Akron, 1960.
- WILLIAM J. STEVENS, *Assistant Professor of English* (1950)  
B.A., M.A., Dalhousie University (Halifax, N.S.); Ph.D., Western Reserve University, 1959.
- 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.
- GEORGE L. SZOKE, *Instructor in Mathematics* (1963)  
B.S.M.E., Polytechnical University of Budapest; M.S.E., The University of Akron, 1963.
- ERNEST A. TABLER, *Associate Professor of Mathematics* (1935)  
B.S., Kent State University; M.A., Western Reserve University, 1933.
- MRS. CATHRYN TALIAFERRO, *Instructor in English* (October 1961)  
B.A., The University of Akron; M.A., Radcliffe College, 1940.
- HOWARD L. TAYLOR, *Assistant Professor of Business Administration* (1963)  
B.S., The University of Akron; M.S., Ph.D., Iowa State College, 1958.

§ Leave of absence, 1964-65.

- MRS. PATRICIA TAYLOR, *Instructor in Physical Education* (1962)  
B.S.Ed., The University of Akron, 1963.
- RONALD TAYLOR, *Instructor in Art* (1964)  
B.F.A., M.A., The Ohio State University, 1963.
- STUART M. TERRASS, *Assistant Registrar* (December 1957)  
B.A., B.S., The University of Akron, 1955.
- 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, *Professor of Physics* (1949)  
B.A., M.A., University of Saskatchewan (Canada); Ph.D., University of Wisconsin, 1948.
- ROBERT W. THORBURN, *Evening College Counselor* (August 1964)  
B.A.Ed., The University of Akron, 1960.
- 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.
- JOAN E. WARNER, *Instructor in Secretarial Science* (January 1964)  
B.S., Secretarial Science, The University of Akron, 1956.
- NORMAN F. WASHBURNE, *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, *Associate 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.
- DAVID WESTNEAT, *Associate Professor of Chemistry* (1960)  
B.S., Allegheny College; Ph.D., University of Pittsburgh, 1956.
- ROBERT C. WEYRICK, *Assistant Professor in the Community and Technical College* (February 1965)  
B.E.E., The University of Akron, 1949; Case Institute of Technology.
- JAMES B. WILBUR III, *Associate Professor of Philosophy* (1964)  
B.A., University of Kentucky; M.A., Ph.D., Columbia University, 1952.
- JOHN P. WILLIAMS, *Assistant Dean of the Evening College and Assistant Professor of Education* (August 1963)  
Th.B., Malone College; B.A., Marion College; M.A., Western Reserve University; Ph.D., University of Michigan, 1961.
- MARY H. WILSON, *Assistant Professor of Home Economics* (April 1943)  
B.S., Iowa State College, 1932.
- DARREL E. WITTEBS, *Assistant Professor of Music* (1941)  
B.S.Ed., Bowling Green State University; M.S.Ed., The University of Akron, 1958.
- PEARL MARIE YOUNT, *Instructor in Education* (1963)  
B.S. Ed., M.Ed., Kent State University, 1963.

PART-TIME FACULTY  
(Day and Evening Credit Courses)  
1963-64

- STEVEN MALCOLM AMES, *Lecturer in History*  
B.S., The University of Akron, 1938.
- 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.
- MRS. JOANN BLAIR, *Lecturer in English*  
B.A., The University of Akron, 1953.
- JAMES A. BOGNER, *Lecturer in Chemistry*
- 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.
- RAYMOND R. BROWN, *Lecturer in Sociology*  
B.A., The University of Akron; M.A., New York University, 1956.
- PATRICK D. BURRELL, *Lecturer in English*  
B.A., The University of Akron, 1963.
- JAMES E. CALDWELL, *Lecturer in Accounting*  
B.S.Ed., M.Ed., Kent State University, 1959.
- NATHAN F. CARDARELLI, *Lecturer in Philosophy*  
B.S., B.A., M.S., The University of Akron, 1958.
- JOHN D. CHAPMAN, *Lecturer in General Business*  
B.A., Yale University, 1947.
- 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.
- VERNON F. COOK, *Lecturer in Political Science*
- KENNETH H. COOLEY, *Lecturer in Sociology*  
B.A., M.A., Kent State University, 1961.
- ROGER A. CRAWFORD, *Lecturer in Chemistry*  
B.S., University of Illinois; M.S., Ph.D., Oregon State University, 1959.
- JAMES W. DANNEMILLER, *Lecturer in General Business*  
B.S., The University of Akron, 1952.
- PAUL A. DAUM, *Lecturer in Speech*  
B.F.A., Wesleyan College; M.A., The University of Akron, 1964.
- MARY MALONE DEHAVEN, *Lecturer in English*  
B.A., University of Wisconsin; M.A., The University of Akron, 1963.
- 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.
- JOSEPH DILAURO, *Lecturer in Accounting*  
B.S., The University of Akron, 1955.
- MRS. FLORENCE H. DOUGHERTY, *Lecturer in Education*  
B.E., M.S.Ed., The University of Akron, 1956.
- MRS. ELIZABETH DRUMM, *Lecturer in Art*  
B.F.A., Ohio Wesleyan, 1958.

- PAUL H. DUNHAM, *Lecturer in General Business*  
B.A., Western Reserve University; M.B.A., Kent State University, 1960.
- WILLIAM R. EALY, *Lecturer in Accounting*  
B.S.B.A., Ohio State University, 1943.
- MRS. MARGARET W. EGAR, *Lecturer in Biology*  
B.S.Ed., Concord College; M.S., Ph.D., Emory University, 1960.
- CLINTON B. F. ENSWORTH, *Lecturer in Geography*  
B.S., The University of Akron; M.A., Columbia University, Teaching College, 1951.
- MRS. ALICE M. FLAKSMAN, *Lecturer in Music Education*  
B.A., Hunter College; M.A., Columbia University Teachers College, 1937.
- MRS. JUDITH A. FLASCO, *Lecturer in English*  
B.A.Ed., The University of Akron, 1962.
- JAMES C. 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, 1945.
- HALLECK D. FRY, JR., *Lecturer in Journalism*  
B.A., University of Michigan, 1940.
- MRS. NANCY W. GERSTMAN, *Lecturer in Speech*  
B.S., Northwestern University; M.A., Penn State University, 1963.
- JERRY SANFORD GLAZMAN, *Lecturer in Chemistry*  
B.S., The University of Akron, 1960; The University of Akron.
- SAMUEL GOLDMAN, *Lecturer in Law*  
B.A., Miami University; LL.B., Harvard University, 1948.
- ANDREW B. GRIBLE, *Lecturer in Industrial Management*  
B.S., The University of Akron, 1954.
- MRS. CECILIA R. GROSS, *Lecturer in History*  
B.A., Bryn Mawr College; M.A., The University of Akron, 1962.
- MRS. BARBARA GSELLMAN, *Lecturer in Mechanical Engineering*  
B.M.E., The University of Akron, 1950.
- ROBERT L. GULIAN, *Lecturer in Art*  
B.A., The University of Akron, 1961.
- MRS. S. BONNIE HANKAMMER, *Lecturer in Speech*  
B.S., M.A., Kent State University, 1954.
- JOHN F. HARVEY, *Lecturer in Engineering*  
B.S.C.E., M.C.E., Cornell University, 1938.
- AGNES M. HELMS, *Lecturer in English*  
B.A.Ed., The University of Akron, 1953.
- HARRY BEST HEREFORTH, *Special Instructor in Music*  
Diploma, New England Conservatory of Music, 1941.
- CHARLES A. HILDEBRANDT, *Lecturer in Sociology*  
B.S.Ed., M.A., Kent State University; Ph.D., The Ohio State University, 1962.
- JAMES R. HODGE, *Lecturer in Psychology*  
B.S., Franklin and Marshall College; M.D., Jefferson Medical College of Philadelphia, 1950.
- MRS. ROSALIND IRISH, *Lecturer in English*  
B.S., B.A., The University of Akron; M.A., Columbia University, 1924.
- EDWARD C. KAMINSKI, *Lecturer in Business Law*  
B.A., The University of Akron; LL.B., Western Reserve University, 1959.
- MRS. MARY KAPENEKAS, *Lecturer in Home Economics*  
B.S.Ed., The University of Akron, 1962.
- MRS. MARY J. KAUFMAN  
B.A., The University of Akron, 1964.

- JOHN M. KELLY, *Lecturer in Law*  
B.A., LL.B., University of Notre Dame, 1946.
- JOHN T. KIDNEY, *Lecturer in Industrial Management*  
Retired Manager, Employees Service Division, The Goodyear Tire and Rubber Company.
- ROSE MARY KRAUS, *Lecturer in Education*  
B.E., The University of Akron; M.A., Columbia University, Teachers College, 1926.
- MRS. BEATRICE LAATSCH, *Lecturer in Secretarial Science*  
B.S.Ed., The University of Akron, 1938.
- WILLIAM R. LANTZ, *Lecturer in General Business*  
The University of Akron.
- JOHN C. LEWIS, *Lecturer in Geography*  
B.S.Ed., The University of Akron, 1952.
- CLARENZ LIGHTFRITZ, *Instructor in Piano*  
Bowling Green State University; private instruction with Ernest White and Miss Rena Wills.
- MRS. BARBARA E. LING, *Lecturer in Education*  
B.S.Ed., The University of Akron; M.S., Kent State University, 1957.
- WALTER C. LIPPS, *Lecturer in Physical Education*  
B.E., The University of Akron, 1928.
- CHEN YA LIU, *Lecturer in Mechanical Engineering*  
B.S., Central University (China); M.M.E., D.Eng.S., New York University, 1959.
- WILLIAM J. LONG, *Special Instructor in Percussion*  
B.S. in Music, Eastman School of Music, University of Rochester, 1948.
- D. DON LOWERS, *Lecturer in Business Administration*  
LL.B., The University of Akron, 1961.
- WILLIAM E. MADIGAN, *Lecturer in General Studies*  
B.S., M.Ed., Kent State University, 1960.
- MICHAEL L. MCGOWAN, *Lecturer in Transportation*  
B.S., University of Southern California; LL.B., The University of Akron, 1960.
- EDWARD W. MCGRAW, *Lecturer in Electrical Engineering*  
B.E.E., University of Detroit, 1952.
- HARVEY MCGUIRE, *Special Instructor in Reed Instruments*  
Cleveland Orchestra, 1944-64.
- MRS. MARION MCPHERSON, *Lecturer in Psychology*  
B.A., M.A., University of Maine; Ph.D., Indiana University, 1949.
- MRS. DOROTHY H. MOSES, *Lecturer in Biology*  
B.S., Bates College; M.A., Mount Holyoke College, 1959.
- MARY MOSTENIC, *Lecturer in General Studies*  
B.A., B.E., M.A., The University of Akron, 1951.
- E. EARL MYERS, *Lecturer in Transportation*  
B.A., M.A., Kent State University, 1950.
- HARRY F. NEFF, *Lecturer in Physics*  
B.S., Case Institute of Technology, 1950.
- SARAH EMILY NEWTON, *Lecturer in English*  
B.A., M.A., The University of Akron, 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.
- 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.

- 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.
- PHILIP E. PHILLIPS, *Lecturer in Industrial Management*  
B.S., M.B.A., University of Wisconsin, 1955.
- THOMAS M. POWERS, *Lecturer in General Business*  
B.A., Cornell University; LL.B., Cleveland Law School, 1927.
- 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.
- MRS. TANIA A. RICHARDS, *Lecturer in History*  
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.
- KARL R. ROHRER, *Lecturer in Basic Engineering*  
B.S., The University of Akron, 1950.
- 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 SCHAVONE, *Special Instructor in Saxophone*  
B.S., A.B., Kent State University, 1951.
- FRANCES D. SCHLOSSER, *Lecturer in Speech*  
A.B., Indiana University; M.A., Northwestern University, 1955.
- MRS. LUCY T. SELF, *Assistant Emeritus of Secretarial Science* (February 1933)  
B.A., Ohio Wesleyan University, 1920.
- JAMES E. SHEARER, *Lecturer in Mechanical Engineering*  
B.S.M.E., M.S., University of Tennessee, 1953.
- EMMETT L. SHELLENBERGER, *Lecturer in Biology and Education*  
B.A., The University of Akron; M.Ed., Kent State University, 1959.
- ILIA L. SHRIVER, *Lecturer in Secretarial Science*  
B.S., The University of Akron, 1963.
- ROBERT J. SIMMONS, *Lecturer in Accounting*  
B.S.Ed., The University of Akron; M.Ed., Kent State University, 1953.
- JOHN F. SIMPSON, *Lecturer in Geology*  
B.S., Western Reserve University, 1951.
- ROBERT SMITH, *Lecturer in Economics*  
B.A., M.A., Oberlin, 1934.
- RONALD G. SNIDER, *Lecturer in English*  
B.A., M.A., The University of Akron, 1954.
- LEONA STERLEY, *Lecturer in Secretarial Science*  
B.S., The University of Akron; M.A., New York University, 1942.
- HENRY C. STEVENS, *Lecturer in Chemistry*  
B.S., Columbia University; M.S., Ph.D., Western Reserve University, 1951.
- MARY F. STUNTEBECK, *Lecturer in Secretarial Science*  
B.S., M.A., The University of Akron, 1956.
- FRANKLIN V. THOMPSON, JR., *Lecturer in Industrial Management*  
B.S., The University of Akron; M.B.A., Western Reserve University, 1960.

- CARL W. VOBBE, *Lecturer in Industrial Management*  
B.B.A., University of Toledo, 1932.
- ROY C. WAAS, *Special Instructor in Music*  
B.M.E., Fenn College; M.S., Case Institute of Technology, 1963.
- MRS. JANET WAISBROT, *Lecturer in Modern Languages*  
B.A., Western Reserve University, 1944.
- WILLIAM R. WEISS, *Lecturer in Secretarial Science*  
B.S.Ed., The University of Akron, 1957.
- ROBERT C. WEYRICK, *Lecturer in the Community and Technical College*  
B.E.E., The University of Akron, 1949; Case Institute of Technology.
- NELLIE WHITTAKER, *Special Instructor in Piano*  
B.R., M.Ed., The University of Akron, 1935; Juilliard School of Music.
- WENDELL S. WILLIAMS, *Lecturer in Physics*  
B.A., Swarthmore College; Ph.D., Cornell University, 1956.
- WILLIAM E. WILLIAMS, *Lecturer in Transportation*
- FREDERICK M. WORRELL, *Lecturer in Sociology*  
B.A., M.A., Kent State University, 1958.
- DAVID H. WILSON, *Lecturer in Law*  
B.A., Amherst College; LL.B., Western Reserve University, 1948.
- DAVID W. ZIMMER, *Lecturer in Economics*  
B.S., M.A., The Ohio State University, 1962.

## TEACHING FACULTY BY DEPARTMENTS

1963-64 and 1964-65

(All Colleges)

## ACCOUNTING

Mr. Dennis Gordon, Head; Mr. James Caldwell, Miss Frances Clark, Mr. Joseph DiLauro, Mr. William Ealy, Mr. Robert Katzenmeyer, Mr. Charles Nagy, Mr. Richard Roberts, Mr. Robert Simmons, Miss Mary Slusher.

## ART

Miss Emily Davis, Head; Mr. Malcolm Dashiell, Mrs. Elizabeth Drum, Mr. Robert Gulian, Mr. Ronald Taylor, Mr. Bernard Weiner.

## ASSOCIATE PROGRAMS

Mr. Aloysius Misko, Head; Mr. Robert Collins, Mr. Joseph Latona, Miss Susanne Lodgen, Mrs. Beatrice Laatsch, Mrs. Elizabeth Mathias, Mr. Michael McGowan, Mr. Earl Myers, Miss Carmen Nuccio, Mrs. Betty Oblisk, Mr. Blin Scatterday, Mrs. Lucy Self, Miss Ila Shriver, Mr. L. L. Smith, Miss Leona Sterley, Miss Mary Stuntebeck, Mrs. Audra Tucker, Miss Joan Warner, Mr. William Weiss, Mr. Robert Weyrick, Mr. William Williams.

## BIOLOGY

Mr. Roger Keller, Jr., Head; Mr. Paul Acquarone, Mrs. Margaret Egar, Mr. Eugene Flaumenhaft, Miss Irene Horning, Mr. Dale Jackson, Miss Dorothy Moses, Mr. Richard Nokes (D.V.M.), Mr. Emmett Shellenberger.

## CHEMISTRY

Mr. John Bachmann, Head; Mr. James Bogner, Mr. Gerald Corsaro, Mr. Roger Crawford, Mr. Michael Farona, Mr. William Feldman, Mr. Jerry Glazman, Mr. Vaughn Floutz, Mr. Paul Garn, Mr. James Harwood, Mr. Maurice Morton, Mrs. Irja Piirma, Mr. Brian Ramsey, Mr. Howard Stephens, Mr. Henry Stevens, Mr. Thomas Sumner, Mr. David Westneat.

## ECONOMICS

Mr. Emile Grunberg, Head; Mr. Robert Black, Mr. James McLain, Mrs. Annette Seery, Mr. Robert Smith, Mr. David Zimmer.

## EDUCATION—ADMINISTRATION AND PUPIL PERSONNEL

Mrs. Mabel Reidinger, Head; Mr. James Doverspike, Mr. Kenneth Hoedt, Miss Sarah Orlinoff, Mr. William Painter, Mr. John Williams.

## EDUCATION—ELEMENTARY

Mr. Lyman Hunt, Head; Mrs. Edna Archer, Miss Helen Becker, Mr. William Beisel, Mrs. Marjorie Cann, Mrs. Florence Dougherty, Miss Rose Mary Kraus, Mrs. Barbara Ling, Mr. Jerrold Maben, Mr. Oliver Ocasek, Mrs. Hellen Painter, Miss Pearlmarie Yount.

## EDUCATION—SECONDARY

Mr. John Watt, Head; Mr. Robert Brumbaugh, Mr. James Fox, Mr. D. J. Guzzetta, Mr. Leslie Hardy, Mr. Alfred Johnson, Mr. Chester Mc Nerney, Mr. W. A. Rogers.

## ENGINEERING—CHEMICAL

Mr. Coleman Major, Head; Mr. Michael Rzasa.

## ENGINEERING—CIVIL

Mr. Duane Keller,\* Head; Mr. William Conley, Mr. George Manos, Mr. A. M. Richards, Jr., Mr. David Timmerman.

## ENGINEERING—ELECTRICAL

Mr. Kenneth Sibila, Head; Mr. Joseph Edminister, Mr. Robert Grumbach, Mr. Paul Huss, Mr. Milton Kult, Mr. Edward McGraw.

## ENGINEERING—MECHANICAL

Mr. William Petry, Head; Mr. Michael Bezbatchenko, Mr. H. S. Ghazi, Mrs. Barbara Gsellman, Mr. E. K. Hamlen, Mr. John Harvey, Mr. Richard Henry, Mr. Chen-Ya Liu, Mr. Eberhard Meinecke, Mr. Frank Pake, Mr. Karl Rohrer, Mr. James Shearer.

## ENGLISH

Mr. Charles Duffy, Head; Mr. James Bailey, Mr. Charles Blair, Mrs. Joann Blair, Mr. Patrick Burrell, Miss Mary Dehaven, Mrs. Judith Flasco, Mr. Richard Fletcher, Mr. Halleck Fry, Jr., Miss Agnes Helms, Miss Martha Hoffelt, Mr. John Hull, Mrs. Julia Hull, Mrs. Rosalind Irish, Mr. David Jones, Mrs. Mary Kaufman, Mr. Don Keister, Mr. Walter Lehrman, Mr. Gerald Levin, Mr. John Lotz, Mr. Carl Mills, Miss Mary Mostenic, Miss Sarah Newton, Mr. William Nicolet, Mr. Edward Paul, Mrs. Phyllis Paul, Mr. D'Orsay Pearson, Mr. John Phillipson, Mr. Frank Phipps, Mrs. Mary Pulleyn, Mrs. Ruth Putman, Mr. Edgar Roberts, Mr. Ronald Snider, Mr. William Stevens, Mrs. Cathryn Taliaferro, Mrs. Helen Thackaberry, Mr. Robert Thackaberry.

## GENERAL STUDIES

Mr. Don Keister, Head; Mr. John Hull, Mr. Jerrold Maben, Mr. Andrew Maluke, Mr. Frank Phipps, Mr. Thomas Powell, Mr. Ray Sandefur, Mrs. Ernest Tabler, Mr. John Watt.

## GEOGRAPHY AND GEOLOGY

Mr. Allen Noble, Acting Head; Mr. Clinton Ensworth, Mr. Edward Hanten, Mr. Edward Jones, Mr. John Lewis, Mr. John Simpson.

## HISTORY

Mr. Warren Kuehl, Acting Head; Mr. Malcolm Ames, Mr. Lester Iulsky, Mr. Boris Blick, Mr. Don Gerlach, Mrs. Cecilia Gross, Mr. George Knepper, Mr. Jerome Mushkat, Mr. Thomas Powell, Mrs. Tania Richards, Mr. David Riede, Mr. Edgar Toppin, Mr. Henry Vyverberg.

## HOME ECONOMICS

Miss Irene Bear, Head; Mrs. Mary Kapenekas, Miss Dorothy L. Schacher, Mrs. Johanna Mally, Miss Mary Wilson.

## INDUSTRIAL MANAGEMENT

Mr. Frank Simonetti, Head; Mr. Donald Becker, Mr. Andrew Griple, Mr. Herbert Hayward, Mr. John Kidney, Mr. Philip Phillips, Mr. Thomas Sharkey, Mr. Howard Taylor, Mr. Franklin Thompson, Jr., Mr. C. W. Vobbe.

## LATIN AND GREEK

Mr. Theodore Duke, Head; Mr. Robert McNeil.

\* Deceased, July 1964.

## LAW

Mr. Stanley Samad, Dean; Mr. James France, Mr. William Freeman, Mr. Samuel Goldman, Mrs. Gertrude Johnson, Mr. John Kelly, Mr. Robert Kovach, Mr. Richard Marshall, Mr. Marvin Moore, Mr. Arthur Murphy, Jr., Mr. Charles Parke, Mr. Robert Remweber, Mr. David Wilson.

## MARKETING AND FINANCE

Mr. Charles Poston, Head; Mr. Franklin Banks, Mr. John Chapman, Mr. James Dannemiller, Mr. Paul Dunham, Mr. James Dunlap, Mr. Edward Kaminski, Mr. William Lantz, Mr. Don Lowers, Mr. Frederick Manzara, Mr. Stewart McKinnon, Mr. Thomas Powers, Mr. Richard Reidenbach, Mrs. Margaret Rogler.

## MATHEMATICS

Mr. Samuel Selby, Head; Mr. Rodney Angotti, Mr. William Beyer, Mr. Robert Carson, Mr. Ernest Cherrington, Jr., Mr. Stanley Dengler, Mr. Joseph Egar, Mrs. Annabelle Henry, Mr. William Madigan, Mrs. Margaret Mauch, Mr. Louis Rodabaugh, Mr. Louis Ross, Mr. Leonard Sweet, Mr. George Szoke, Mr. Ernest Tabler.

## MODERN LANGUAGES

Mr. Arno Lepke, Head; Mr. Robert Ittner, Mr. Hugu Lijeron, Mr. Theodore Mackiw, Mr. Claude Meade, Mr. Frank Moreno, Mr. Gerald Mortensen, Mr. Theodore Mueller, Mr. Chris Nacci, Mr. Alexander Pronin, Mr. John Pulleyn, Mr. Herbert Smith, Jr., Mrs. Janet Waisbrot.

## MUSIC

Mr. Farley Hutchins, Head; Mr. Frank Bradshaw, Mr. Robert Cole, Mr. Nicholas Constantinidas, Mr. Raymond DeMattia, Mrs. Alice Flaksman, Mr. Harry Hereforth, Mr. Burt Kageff, Mr. Clarenz Lightfritz, Mr. William Long, Mr. John MacDonald, Mr. Harvey McGuire, Mr. Robert Paolucci, Mr. Arthur Reginald, Mrs. Grace Reginald, Mr. Lawrence Scarpitti, Mr. Joseph Schiavone, Mr. Henry Smith, Mr. Roy Waas, Miss Nellie Whittaker, Mr. Darrel Witters.

## NURSING EDUCATION

Miss Evelyn Tovey, Head.

## PHILOSOPHY

Mr. James Wilbur, III, Acting Head; Mr. Nathan Cardarelli, Mr. Tad Clements, Mr. Laurence Lafleur.

## PHYSICAL EDUCATION

Mr. Kenneth Cochrane, Head; Mr. David Adolph, Mr. Ambrose Brazelton, Mr. Thomas Evans, Mr. James Ewers, Mr. Gordon Larson, Mr. Anthony Laterza, Mr. Walter Lipps, Mr. Andrew Maluke, Miss Wilma Ruman, Mrs. Patricia Taylor.

## PHYSICS

Mr. Ernest Thackeray, Head; Mr. Arnold Benton, Mr. Omer Fouts, Mr. Alan Gent, Mr. Harry Pinnick, Mr. Harry Neff, Mr. Ronald Schneider, Mr. Wendell Williams.

## POLITICAL SCIENCE

Mr. Paul Weidner, Acting Head; Mr. N. P. Auburn, Mr. Vernon Cook, Mrs. Bette Fox, Mr. David King, Mr. Roger Kv̄n, Mr. Roy Sherman.

## PSYCHOLOGY

Mr. Howard Maher, Head; Mr. Peter Hampton, Mr. Robert Harris, Mr. James Hodge (M.D.), Mrs. Marion McPherson, Mr. John Popplestone, Miss Margaret Smith, Mr. Paul Twining, Mr. Edwin Wagner, Mr. Francis Werner.

## SOCIOLOGY

Mr. Edwin Lively, Head; Mr. Raymond Brown, Mr. Kenneth Cooley, Mr. Donald Henderson, Mr. Charles Hildebrandt, Mr. Samuel Newman, Mr. Vernon Odom, Mr. Charles Rogler, Mrs. Julius Saltman, Mr. Norman Washburne, Mr. Frederick Worrell.

## SPEECH

Mr. Ray Sandefur, Head; Mr. John Auston, Mr. Paul Daum, Mr. James Dunlap, Mr. Hubert Gerstman, Mrs. Nancy Gerstman, Mrs. Bonnie Hankammer, Mrs. Phyllis Hardenstein, Miss Elizabeth Hittle, Mr. William Mavides, Miss Frances Schlosser, Mr. Donald Varian.

## LIBRARY STAFF 1964-65

- DOROTHY HAMLIN, *Librarian and Professor of Bibliography* (February 1937)  
B.A., The University of Akron; B.S.L.S., Western Reserve University, 1942.
- JOHN B. ARMSTRONG, *Assistant Librarian—Technical Processes, and Assistant Professor of Bibliography* (June 1955)  
B.S., University of Pittsburgh; M.L.S., Carnegie Institute of Technology, 1950.
- MRS. HELEN ARNETT, *Educational 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.), 1952.
- 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.
- PAULINE FRANKS, *Assistant Librarian—Public Service, and Assistant Professor of Bibliography* (1950)  
B.S.Ed., Kent State University; B.S.L.W., Western Reserve University, 1940.
- VIRGINIA GARDNER, *General Reference and Periodicals Librarian* (March 1961)  
B.A., The University of Akron, 1953.
- MRS. MARY E. GLAZMAN, *Librarian for the Division of Rubber Chemistry Library and Information Service* (July 1963)  
B.S., The University of Akron, 1963.
- 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. SARA JENKINS, *Cataloger and Instructor in Bibliography* (May 1961)  
B.Ed., The University of Akron; M.A.L.S., University of Denver, 1960.
- MRS. AGNES L. MARTIN, *Senior Cataloger 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.
- H. P. SCHIRANK, JR., *Assistant Librarian and Assistant Professor of Bibliography* (January 1965)  
B.S., The Ohio State University; M.S., University of Illinois, 1963.
- 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

VICE PRESIDENT D. J. GUZZETTA, *Civilian Coordinator*

1964-65

## ARMY

- BENTON R. DUCKWORTH II, *Professor of Military Science* (August 1962)  
B.S., United States Military Academy, 1939; B.S.E.E., Illinois Institute of Technology, 1948; Lieutenant Colonel, Infantry.
- EITEL F. BANKS, *Assistant Professor of Military Science* (August 1962)  
B.S.E.E., University of Puerto Rico, 1950; Major, Artillery.
- MARVIN A. BIHN, *Assistant Professor of Military Science* (October 1964)  
B.S.Ed., Bowling Green State University, 1958; Captain, Artillery.
- CHARLES L. CARPENTER, *Assistant Professor of Military Science* (December 1963)  
Commissioned, U. S. Army Ordinance School, 1952; Graduate Defense Department Atomic Energy School, 1957; Major, Ordinance Nuclear Weapons Officer.

- PHILIP L. CLARK, *Assistant Professor of Military Science* (August 1964)  
B.S.Ed., North West State College; M.S.Ed., Lady of Lake San Antonio College, 1961; Major, Quartermaster Corps.
- FREDERICK H. CREED, JR., *Supply Sergeant* (July 1964)  
Staff Sergeant
- ALLEN D. DAVIS, *Instructor in Military Science* (September 1962)  
Staff Sergeant.
- FRANKLIN A. FLESHER, *Assistant Professor of Military Science* (May 1963)  
B.S., The University of Akron, 1958; Captain, Infantry.
- WILLIAM A. MARSHALL, *Instructor in Military Science* (1963)  
Sergeant
- CLARENCE E. METZ, *Assistant Professor of Military Science* (August 1963)  
B.A., Morris Harvey College, 1955; Major, Quartermaster Corps.
- GARLIN SMITH, *Administrative NCOIC* (August 1962)  
Sergeant First Class.

### AIR FORCE

- TIMOTHY W. DONOHUE, *Professor of Air Science* (June 1961)  
B.A., St. John's University; LL.B., Columbus University, 1955; Lieutenant Colonel, USAF.
- GEORGE T. BURCH, *Administrative Assistant* (July 1963)  
Airman First Class.
- CHARLES J. CROKER, *Assistant Professor of Air Science* (June 1962)  
B.S., B.A., University of Pittsburgh, 1950; Major, USAF.
- JOHN B. CARLOCK, JR., *Assistant Professor of Air Science* (August 1964)  
Captain, USAF.
- RICHARD W. FLATER, *Administrative Assistant* (October 1962)  
Staff Sergeant, USAF.
- CHARLES G. NOE, *Assistant Professor of Air Science* (April 1963)  
B.S., Ohio University, 1956; Captain, USAF.
- WESLEY T. STEWART, *Assistant Professor of Air Science* (June 1963)  
B.S., Kent State University, 1947; Major, USAF.
- LEON J. TESTAS, JR., *Assistant Professor of Air Science* (April 1963)  
B.S., Davis & Elkins College, 1957; Captain, USAF.

### INSTITUTE OF RUBBER RESEARCH

1964-65

- MAURICE MORTON, *Director of the Institute of Rubber Research 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, 1939; LL.D., Mount Allison University, New Brunswick, 1932; D.Sc., The University of Akron, 1958.
- ALAN N. GENT, *Assistant Director of the Institute of Rubber Research and Professor of Polymer Physics* (April 1961)  
B.Sc., B.Sc. (Special), Ph.D., University of London, 1955.
- H. JAMES HARWOOD, *Research Associate and Assistant Professor of Chemistry* (October 1959)  
B.S., The University of Akron; Ph.D., Yale University, 1956.
- EBERHARD A. MEINECKE, *Research Associate and Assistant Professor of Mechanical Engineering* (October, 1963)  
Diploma, D.Eng., Technische Hochschule Carolo-Wilhelmina zu Braunschweig, 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.

- KRISHNA C. BARANWAL, *Cabot Fellow* 1963-64 (September, 1962)  
B.Sc., M.Sc., University of Allahabad; M. Tech., Indian Institute of Technology, 1960.
- KENNETH C. BENTON, NSF Fellow, 1964-65 (September, 1963)  
B.S., Worcester Polytechnic Institute, 1963.
- WILLIAM B. BROWN, *General Tire Fellow* 1963-64 (September, 1962)  
B.S., University of Wisconsin, 1958.
- CHARLES A. BIALOUS, *Research Fellow*, 1964-65  
B.S., University of the State of New York College at Albany, 1962.
- DOUGLAS BIRD, *Research Chemist* (September, 1964)  
B.S., M.S., University of Manchester (England), 1954.
- ALFREDO C. CAUSA, *Research Fellow* 1964-65 (September, 1964)  
B.Sc., School of Chemistry, Montevideo; M.S. Case Institute of Technology, 1962.
- BALBHADRA DAS, *Research Chemist* (June, 1964)  
B.S., M.S., Banaras Hindu University, 1961.
- MINOO N. DASTOOR, *Research Fellow (N.S.F. Grant)*, 1963-64  
B.Sc., B.Sc. (Tech.), University of Bombay, 1962.
- GERALD R. DEVER, *Research Fellow*, 1964-65 (September, 1964)  
B.A., American International College, 1964.
- JOHN F. FELLERS, *Phillips Fellow for* 1963-64 (September, 1963)  
B.S., Bowling Green State University, 1963.
- ALFRED E. FIELDS, *Research Chemist* (September, 1963)  
B.S., St. John Fisher; M.S., Howard University, 1963.
- HAIM GOLDMAN, *Research Fellow (N.S.F. Grant)*, 1963-64 (September, 1963)  
B.S., Philadelphia College of Textiles and Sciences, 1963.
- NELSON N. HSU, *Research Chemist* (February, 1963)  
B.S., Massachusetts Institute of Technology; M.S., The University of Akron, 1960.
- NORMAN W. JOHNSTON, *Research Fellow* 1964-65 (September, 1964)  
B.S., Clarion State College, 1964.
- JAMES G. KREINER, *Research Fellow (N.S.F. Grant)* 1964-65 (September, 1964)  
B.S., M.S., University of Akron, 1962.
- ROBERT A. PETT, *Research Fellow (N.S.F. Grant)* 1964-65 (September, 1962)  
B.S., South Dakota School of Mines and Technology, 1962.
- KENNETH C. RUSCH, *Mobay Fellow*, 1963-64 (September, 1962)  
B.S., University of Wisconsin, 1961.
- GERALD O. SCHULZ, *Research Fellow (N.S.F. Grant)* 1964-65 (September, 1962)  
B.S., University of Florida, 1958.
- RICHARD J. STEIN, *Research Fellow (N.I.H. Grant)* 1963-64 (October, 1963)  
B.S., Pennsylvania State University; M.S., The University of Akron, 1960.
- CARL E. TREWILER, *Research Chemist* (March 1964)  
B.A., Alfred University, 1956.
- VIRGIL V. VICKROY, JR., *Research Chemist* (July, 1963)  
B.S., Alabama Polytechnic Institute; M.S., The University of Akron, 1962.
- RONALD N. YOUNG, *Research Chemist* (Postdoctoral) (October, 1963)  
B.Sc., Ph.D., University of Aberdeen (Scotland), 1963.

#### INSTITUTE FOR CIVIC EDUCATION

- L. L. SMITH, *Director of the Institute for Civic Education and Assistant Professor* (August 1956)  
B.A., Columbia University; M.A., Columbia University, Teachers College, 1947.
- RICHARD A. CALKINS, *Program Administrator in the Department of Special Programs of the Community and Technical College* (1961)  
B.A., Westminster College (Pa.), 1961.
- JOSEPH LATONA, *Instructor in the Community and Technical College and Program Administrator of Informal Courses* (June 1961)  
B.A.Ed., The University of Akron; M.B.A., Kent State University, 1962.

## SPEECH AND HEARING CLINIC

- 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.
- 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.
- HUBERT L. GERSTMAN, *Assistant Professor of Speech* (1963)  
B.S., State University of New York at Geneseo; M.Ed., Ed.D., Pennsylvania State University, 1962.

## TESTING AND COUNSELING BUREAU

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(August 1954)  
B.A., M.A., University of Manitoba; Ph.D., Western Reserve University, 1950.
- THOMAS BROWN, *Assistant Director—Counselor* (July 1964)  
B.S., M.Ed., Mississippi State University, 1958; University of Missouri.
- 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., *University Physician* (1963)  
B.S., The University of Akron; M.D., The Ohio State University, 1959.
- Mrs. EMMA HENRY, R.N., *University Nurse* (1935) (1950) (1959)  
Akron City Hospital, 1931.

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| *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 |
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| *Parke R. Kolbe, Ph.D., LL.D. ....          | 1913-1914 |

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*Frederic E. Ayer, C.E., D.Eng.	1914-1946
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Michael J. Rzasa, B.E., M.S., Ph.D.	1964-

## THE COLLEGE OF EDUCATION

*W. J. Bankes, M.A.	1921-1931
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Ernest H. Cherrington, Jr., Ph.D. (Dean of the Division)	1960-

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Alumni members have shown their loyalty to their Alma Mater by making generous financial contributions to campus funds, attending campus functions, and supporting University projects. Alumni representatives on committees and boards help determine and carry out the philosophies of the University.

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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; Tau Kappa Epsilon (N) Chartered 1948; Theta Chi (N) Chartered 1942; Chi Sigma Nu (N) (Evening Session) Chartered 1932.

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## UNIVERSITY CALENDAR

### FALL SEMESTER, 1964

September 18, Friday	Day Class Registration Closes
September 16-18, Wednesday-Friday	Orientation Classes
September 21, Monday	Day Classes Begin
September 24, Thursday	Evening Class Registration Closes
September 28, Monday	Evening Classes Begin
November 2, Monday	Deadline for Degree Applications—1965
November 16, Monday, 9:00 a.m.	Mid-Semester Grades Due
November 25, Wednesday, 5:00 p.m.	Thanksgiving Recess Begins
November 26, Thursday	Thanksgiving—Holiday
November 30, Monday	Classes Resume
December 9, Wednesday	Founders Day
December 19, Saturday, noon	Christmas Recess Begins
January 4, Monday	Classes Resume
January 18-23 Monday-Saturday	Final Examination Week
January 23, Saturday	End of Semester

### SPRING SEMESTER, 1965

January 25, 26, Monday & Tuesday	Orientation Classes
January 29, Friday	Day Class Registration Closes
February 1, Monday	Day Classes Begin
February 3, Wednesday	Evening Class Registration Closes
February 8, Monday	Evening Classes Begin
February 22, Monday	Washington's Birthday—Holiday
March 29, Monday, 9:00 a.m.	Mid-Semester Grades Due
April 10, Saturday, 5 p.m.	Easter Recess Begins
April 18, Sunday	Easter
April 19, Monday	Classes Resume
May 7, Friday	May Day
May 14, Friday	Honors Convocation
May 26-June 1, Wednesday-Tuesday	Final Examination Week
June 1, Tuesday	End of Semester
June 6, Sunday	Baccalaureate
June 7, Monday	Commencement and Commissioning

### SUMMER SESSIONS, 1965

June 14, Monday	First Six Weeks and Eight Weeks Day and Evening Classes Begin
July 5, Monday	Independence Day Holiday Observed
July 23, Friday	End of First Six Weeks Day Session
July 26, Monday	Second Six Weeks Classes Begin
August 6, Friday	End of Eight Weeks Session
September 3, Friday	End of Second Six Weeks Session
(September 6, Monday)	(Labor Day)